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ANALYTICAL REPORT

Tronox LLC, Henderson

SDG: 8304611

Lot #s: D9G080289, D9G100272, D9G100274, D9G110152, D9G110155, and
D9G110159

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TestAmerica Laboratories, Inc.

Michael P. Phillips

Michael P. Phillips
Project Manager

July 29, 2009

Case Narrative

SDG 8304611

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 4.8°C on July 8, 2009, and was logged under lot D9G080289. One sample was received under chain of custody at a temperature of 4.3°C on July 10, 2009, and was logged under lot D9G100272. One sample was received under chain of custody at a temperature of 2.7°C on July 10, 2009, and was logged under lot D9G100274. Two samples were received under chain of custody at a temperature of 3.9°C on July 11, 2009, and were logged under lot D9G110152. One sample was received under chain of custody at a temperature of 3.9°C on July 11, 2009, and was logged under lot D9G110155. One sample was received under chain of custody at temperatures of 4.3°C and 2.4°C on July 11, 2009, and was logged under lot D9G110159. These lots are reported here under SDG 8304611.

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. With the exception of sample D9G080289-001 (M-117B), all of the samples analyzed for Total Arsenic, Total Selenium, Dissolved Arsenic or Dissolved Selenium were diluted by a factor of 10X 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 9190110 using sample D9G080289-001 (M-117B) and all results were in control.

The method required MS/MSD was performed for Total Metals QC batch 9194272 using sample D9G100272-001 (M-120B) and all results were in control. Due to the high concentration of Arsenic in the parent sample and the possibility of the MS and MSD percent recoveries being outside the control limits, the results for Arsenic have been flagged with 'MSB'. However, as previously noted all results were within control.

The method required MS/MSD was performed for Dissolved Metals QC batch 9194274 using sample D9G110152-002 (M-10BDISS) and all results were in control.

Quality Control Definitions of Terms

Term	Definition
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

8304611 : D9G080289

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-117B 07/06/09 10:37 001				
Arsenic	45	5.0	ug/L	SW846 6020
Selenium	1.8 B	5.0	ug/L	SW846 6020

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

8304611 : D9G100272

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-120B 07/07/09 08:45 001				
Arsenic	200	50	ug/L	SW846 6020

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

8304611 : D9G100274

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-103B 07/08/09 09:05 001				
Arsenic	110	50	ug/L	SW846 6020

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

8304611 : D9G110152

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-10B 07/10/09 11:45 001				
Arsenic	140	50	ug/L	SW846 6020
M-10BDISS 07/10/09 11:45 002				
Arsenic - DISSOLVED	100	50	ug/L	SW846 6020

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

8304611 : D9G110155

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-121B 07/10/09 07:45 001				
Arsenic	86	50	ug/L	SW846 6020

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

8304611 : D9G110159

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-118B 07/09/09 08:45 001				
Arsenic	57	50	ug/L	SW846 6020

METHODS SUMMARY

8304611

<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

8304611

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
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

8304611 : D9G080289

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT</u>	<u>SAMPLE ID</u>	<u>SAMPLED</u>	<u>SAMP</u>
				<u>DATE</u>	<u>TIME</u>
LF7HF	001	M-117B		07/06/09	10:37

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

8304611 : D9G100272

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT</u>	<u>SAMPLE ID</u>	<u>SAMPLED</u> <u>DATE</u>	<u>SAMP</u> <u>TIME</u>
LGCN3	001	M-120B		07/07/09	08:45

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

8304611 : D9G100274

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT</u>	<u>SAMPLE ID</u>	<u>SAMPLED</u> <u>DATE</u>	<u>SAMP</u> <u>TIME</u>
LGCQK	001	M-103B		07/08/09	09:05

NOTE (S) :

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- 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

8304611 : D9G110152

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LGDJV	001	M-10B	07/10/09	11:45
LGDJW	002	M-10BDISS	07/10/09	11:45

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

8304611 : D9G110155

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT</u>	<u>SAMPLE ID</u>	<u>SAMPLED</u>	<u>SAMP</u>
				<u>DATE</u>	<u>TIME</u>
LGDJ3	001	M-121B		07/10/09	07:45

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

8304611 : D9G110159

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LGDKR	001	M-118B	07/09/09	08:45

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.

QC DATA ASSOCIATION SUMMARY

D9G080289

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	WATER	SW846 6020		9190110	9190071

QC DATA ASSOCIATION SUMMARY

D9G100272

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	WATER	SW846 6020		9194272	9194161

QC DATA ASSOCIATION SUMMARY

D9G100274

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	WATER	SW846 6020		9194272	9194161

QC DATA ASSOCIATION SUMMARY

D9G110152

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	WATER	SW846 6020		9194272	9194161
002	WATER	SW846 6020		9194274	9194163

QC DATA ASSOCIATION SUMMARY

D9G110155

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	WATER	SW846 6020		9194272	9194161

QC DATA ASSOCIATION SUMMARY

D9G110159

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	WATER	SW846 6020		9194272	9194161

TestAmerica
Total Metals
CLP-Like Forms

Lot ID: D9G080289

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 001

Total Metals Analysis
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9G080289

Lab Code: _____ Case No.: _____

SAS No.: _____

SOW No.: _____

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>M-117B</u>	<u>D9G080289-001</u>
<u>M-117B MS</u>	<u>D9G080289-001S</u>
<u>M-117B MSD</u>	<u>D9G080289-001SD</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: 7/15/09

Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G080289
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9190110
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID: M-117B
Lab Sample ID: D9G080289-001
Lab WorkOrder: LF7HF
Date/Time Collected: 07/06/09 10:37
Date/Time Received: 07/08/09 08:30
Date Leached:
Date/Time Extracted: 07/09/09 12:00
Date/Time Analyzed: 07/09/09 20:58
Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	45	0.21	5.0	
7782-49-2	Selenium	1.8	0.70	5.0	B

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G080289

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	49.1	98.2	49.2	98.4	M
Selenium	40.0	41.8	104.5	50.0	51.8	103.6	49.1	98.2	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.: D9G080289

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	48.8	97.6	M
Selenium				50.0	49.0	98.0	48.4	96.8	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.: D9G080289

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	0.997	99.7		
Selenium				1.00	0.824	82.4		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G080289
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9190110
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G090000-110B
Lab WorkOrder: LF73C
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/09/09 12:00
Date/Time Analyzed: 07/09/09 20:52
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.: D9G080289

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	U	M
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.: D9G080289

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		
Arsenic		0.210	U						M
Selenium		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.: D9G080289

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	0.12	99.21	99.2			
Selenium	0.0	100.0	0.00	107.00	107.0			

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G080289
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9190110
MS Sample Aliquot: 50 mL
MS Dilution Factor: 1

Client Sample ID: M-117B
MS Lab Sample ID: D9G080289-001S
MS Lab WorkOrder: LF7HF
Date/Time Collected: 07/06/09 10:37
Date/Time Received: 07/08/09 08:30
Date Leached:
Date/Time Extracted: 07/09/09 12:00
Date/Time Analyzed: 07/09/09 21:06
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	45		84.2		99		85 - 117
Selenium	40.0	1.8	B	42.0		101		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G080289
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9190110
MSD Sample Aliquot: 50 mL
MSD Dilution Factor: 1

Client Sample ID: M-117B
MSD Lab Sample ID: D9G080289-001D
MSD Lab WorkOrder: LF7HF
Date/Time Collected: 07/06/09 10:37
Date/Time Received: 07/08/09 08:30
Date Leached:
Date/Time Extracted: 07/09/09 12:00
Date/Time Analyzed: 07/09/09 21:09
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	45		79.9		88		5.2		85 - 117	20
Selenium	40.0	1.8	B	38.0		91		9.8		77 - 122	20

Total Metals Analysis

-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

M-117B PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G080289

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	232.400	44.510	200.00	93.9		M
Selenium	75 - 125	200.500	1.779 B	200.00	99.4		M

Comments: _____

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G080289
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9190110
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G090000-110C
Lab WorkOrder: LF73C
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/09/09 12:00
Date/Time Analyzed: 07/09/09 20:55
Instrument ID: 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	38.9	97		85 - 117
Selenium	40.0	39.5	99		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

M-117B SER

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G080289

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	44.510		43.430		2.4		M
Selenium	1.779	B	3.500	U	100.0		M

Comments: _____

Total Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G080289

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.: D9G080289

ICP ID Number: Agilent 7500 Date: 7/7/2009

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.: D9G080289

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
M-117B	7/9/2009	50.0	50.0
M-117B MS	7/9/2009	50.0	50.0
M-117B MSD	7/9/2009	50.0	50.0
MB9190110	7/9/2009	50.0	50.0
Check Sample	7/9/2009	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.: D9G080289

Instrument ID Number: Agilent 7500 Method: M

Start Date: 7/9/2009 End Date: 7/9/2009

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	19:27				X															X								
100 PPB	1.00	19:30				X															X								
ICV	1.00	19:32				X															X								
ICB	1.00	19:38				X															X								
RL STD	1.00	19:41				X															X								
ICSA	1.00	19:49				X															X								
RINSE	1.00	19:54				X															X								
LR	1.00	19:57				X															X								
RINSE	1.00	20:00				X															X								
CCV	1.00	20:02				X															X								
CCB	1.00	20:05				X															X								
ICSAB	1.00	20:11				X															X								
RINSE	1.00	20:13				X															X								
CCV	1.00	20:16				X															X								
CCB	1.00	20:19				X															X								
CCV	1.00	20:44				X															X								
CCB	1.00	20:47				X															X								
MB9190110	1.00	20:52				X															X								
Check Sample	1.00	20:55				X															X								
M-117B	1.00	20:58				X															X								
M-117B SER	5.00	21:00				X															X								
M-117B PDS	1.00	21:03				X															X								
M-117B MS	1.00	21:06				X															X								
M-117B MSD	1.00	21:09				X															X								
CCV	1.00	21:11				X															X								
CCB	1.00	21:14				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: D9G100272

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 001

Total Metals Analysis
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.
Lab Code: _____ Case No.: _____
SOW No.: _____

SDG No.: D9G100272
SAS No.: _____

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>M-120B</u>	<u>D9G100272-001</u>
<u>M-120B MS</u>	<u>D9G100272-001S</u>
<u>M-120B MSD</u>	<u>D9G100272-001SD</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
Date: 7/22/09

Name: Janice Collins
Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100272
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 10

Client Sample ID: M-120B
Lab Sample ID: D9G100272-001
Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:44
Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	200	2.1	50	
7782-49-2	Selenium	7.0	7.0	50	U

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G100272

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	50.2	100.4	49.3	98.6	M
Selenium	40.0	41.7	104.2	50.0	50.2	100.4	49.4	98.8	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.: D9G100272

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	50.2	100.4	50.1	100.2	M
Selenium				50.0	50.2	100.4	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.: D9G100272

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	1.038	103.8		
Selenium				1.00	0.816	81.6		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100272
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272B
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:39
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.: D9G100272

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.: D9G100272

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							M
Selenium			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.: D9G100272

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	0.41	100.30	100.3			
Selenium	0.0	100.0	0.21	108.70	108.7			

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100272
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MS Sample Aliquot: 50 mL
MS Dilution Factor: 10

Client Sample ID: M-120B
MS Lab Sample ID: D9G100272-001S
MS Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:52
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	200		234	MSB	91		85 - 117
Selenium	40.0	7.0	U	44.3		98		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100272
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MSD Sample Aliquot: 50 mL
MSD Dilution Factor: 10

Client Sample ID: M-120B
MSD Lab Sample ID: D9G100272-001D
MSD Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 19:03
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	200		238	MSB	99		1.4		85 - 117	20
Selenium	40.0	7.0	U	48.4		109		8.8		77 - 122	20

Total Metals Analysis
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

M-120B PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G100272

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	221.600	19.810	200.00	100.9		M
Selenium	75 - 125	205.800	0.700 U	200.00	102.9		M

Comments: _____

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100272
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272C
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:41
Instrument ID: 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	41.3	103		85 - 117
Selenium	40.0	40.2	101		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

M-120B SER

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G100272

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	19.810		19.490	B	1.6		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.: D9G100272

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.: D9G100272

ICP ID Number: Agilent 7500 Date: 7/7/2009

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.: D9G100272

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
M-120B	7/14/2009	50.0	50.0
M-120B MS	7/14/2009	50.0	50.0
M-120B MSD	7/14/2009	50.0	50.0
MB9194272	7/14/2009	50.0	50.0
Check Sample	7/14/2009	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.: D9G100272

Instrument ID Number: Agilent 7500 Method: M

Start Date: 7/21/2009 End Date: 7/21/2009

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	17:28				X															X								
100 PPB	1.00	17:31				X															X								
ICV	1.00	17:33				X															X								
ICB	1.00	17:39				X															X								
RL STD	1.00	17:42				X															X								
ICSA	1.00	17:50				X															X								
ICSAB	1.00	17:53				X															X								
RINSE	1.00	17:55				X															X								
LR	1.00	17:58				X															X								
RINSE	1.00	18:00				X															X								
CCV	1.00	18:03				X															X								
CCB	1.00	18:06				X															X								
CCV	1.00	18:30				X															X								
CCB	1.00	18:33				X															X								
MB9194272	1.00	18:39				X															X								
Check Sample	1.00	18:41				X															X								
M-120B	10.00	18:44				X															X								
M-120B SER	50.00	18:47				X															X								
M-120B PDS	1.00	18:50				X															X								
M-120B MS	10.00	18:52				X															X								
CCV	1.00	18:55				X															X								
CCB	1.00	18:58				X															X								
M-120B MSD	10.00	19:03				X															X								
CCV	1.00	19:17				X															X								
CCB	1.00	19:20				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: D9G100274

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 001

Total Metals Analysis
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9G100274

Lab Code: _____ Case No.: _____

SAS No.: _____

SOW No.: _____

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>M-103B</u>	<u>D9G100274-001</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: 7/22/09

Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100274
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 10

Client Sample ID: M-103B
Lab Sample ID: D9G100274-001
Lab WorkOrder: LGCOK
Date/Time Collected: 07/08/09 09:05
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 19:06
Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	110	2.1	50	
7782-49-2	Selenium	7.0	7.0	50	U

Total Metals Analysis
 -2A-
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G100274

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	50.2	100.4	49.3	98.6	M
Selenium	40.0	41.7	104.2	50.0	50.2	100.4	49.4	98.8	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.: D9G100274

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	50.2	100.4	50.1	100.2	M
Selenium				50.0	50.2	100.4	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.: D9G100274

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	1.038	103.8		
Selenium				1.00	0.816	81.6		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100274
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272B
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:39
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.: D9G100274

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		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.: D9G100274

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							M
Selenium			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.: D9G100274

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	0.41	100.30	100.3			
Selenium	0.0	100.0	0.21	108.70	108.7			

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100274
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MS Sample Aliquot: 50 mL
MS Dilution Factor: 10

Client Sample ID: LAB MS/MSD
MS Lab Sample ID: D9G100272-001S
MS Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:52
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	200		234	MSB	91		85 - 117
Selenium	40.0	7.0	U	44.3		98		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100274
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MSD Sample Aliquot: 50 mL
MSD Dilution Factor: 10

Client Sample ID: LAB MS/MSD
MSD Lab Sample ID: D9G100272-001D
MSD Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 19:03
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	200		238	MSB	99		1.4		85 - 117	20
Selenium	40.0	7.0	U	48.4		109		8.8		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.: D9G100274

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	221.600	19.810	200.00	100.9		M
Selenium	75 - 125	205.800	0.700 U	200.00	102.9		M

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G100274
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272C
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:41
Instrument ID: 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	41.3	103		85 - 117
Selenium	40.0	40.2	101		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.: D9G100274

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	19.810		19.490	B	1.6		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.: D9G100274

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.: D9G100274

ICP ID Number: Agilent 7500 Date: 7/7/2009

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.: D9G100274

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
INTRA-LAB QC	7/14/2009	50.0	50.0
LAB MS/MSD MS	7/14/2009	50.0	50.0
LAB MS/MSD MSD	7/14/2009	50.0	50.0
M-103B	7/14/2009	50.0	50.0
MB9194272	7/14/2009	50.0	50.0
Check Sample	7/14/2009	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.: D9G100274

Instrument ID Number: Agilent 7500 Method: M

Start Date: 7/21/2009 End Date: 7/21/2009

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	17:28				X															X								
100 PPB	1.00	17:31				X															X								
ICV	1.00	17:33				X															X								
ICB	1.00	17:39				X															X								
RL STD	1.00	17:42				X															X								
ICSA	1.00	17:50				X															X								
ICSAB	1.00	17:53				X															X								
RINSE	1.00	17:55				X															X								
LR	1.00	17:58				X															X								
RINSE	1.00	18:00				X															X								
CCV	1.00	18:03				X															X								
CCB	1.00	18:06				X															X								
CCV	1.00	18:30				X															X								
CCB	1.00	18:33				X															X								
MB9194272	1.00	18:39				X															X								
Check Sample	1.00	18:41				X															X								
INTRA-LAB QC	10.00	18:44				X															X								
INTRA-LAB QC SER	50.00	18:47				X															X								
INTRA-LAB QC PDS	1.00	18:50				X															X								
LAB MS/MSD MS	10.00	18:52				X															X								
CCV	1.00	18:55				X															X								
CCB	1.00	18:58				X															X								
LAB MS/MSD MSD	10.00	19:03				X															X								
M-103B	10.00	19:06				X															X								
CCV	1.00	19:17				X															X								
CCB	1.00	19:20				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: D9G110152

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 001

Total Metals Analysis
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9G110152

Lab Code: _____ Case No.: _____

SAS No.: _____

SOW No.: _____

Sample ID.

Lab Sample No.

M-10B

D9G110152-001

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: 7/23/09

Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	<u>TESTAMERICA DENVER</u>	Client Sample ID:	<u>M-10B</u>
Lot/SDG Number:	<u>D9G110152</u>	Lab Sample ID:	<u>D9G110152-001</u>
Matrix:	<u>WATER</u>	Lab WorkOrder:	<u>LGDJV</u>
% Moisture:	<u>N/A</u>	Date/Time Collected:	<u>07/10/09 11:45</u>
Basis:	<u>Wet</u>	Date/Time Received:	<u>07/11/09 08:30</u>
Analysis Method:	<u>6020</u>	Date Leached:	
Unit:	<u>ug/L</u>	Date/Time Extracted:	<u>07/14/09 12:00</u>
QC Batch ID:	<u>9194272</u>	Date/Time Analyzed:	<u>07/21/09 19:09</u>
Sample Aliquot:	<u>50 mL</u>	Instrument ID:	<u>024</u>
Dilution Factor:	<u>10</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	140	2.1	50	
7782-49-2	Selenium	7.0	7.0	50	U

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G110152

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	50.2	100.4	49.3	98.6	M
Selenium	40.0	41.7	104.2	50.0	50.2	100.4	49.4	98.8	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.: D9G110152

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	50.2	100.4	50.1	100.2	M
Selenium				50.0	50.2	100.4	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.: D9G110152

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	1.038	103.8		
Selenium				1.00	0.816	81.6		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272B
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:39
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.: D9G110152

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	0.210	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.: D9G110152

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							M
Selenium		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.: D9G110152

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	0.41	100.30	100.3			
Selenium	0.0	100.0	0.21	108.70	108.7			

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MS Sample Aliquot: 50 mL
MS Dilution Factor: 10

Client Sample ID: LAB MS/MSD
MS Lab Sample ID: D9G100272-001S
MS Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:52
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	200		234	MSB	91		85 - 117
Selenium	40.0	7.0	U	44.3		98		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MSD Sample Aliquot: 50 mL
MSD Dilution Factor: 10

Client Sample ID: LAB MS/MSD
MSD Lab Sample ID: D9G100272-001D
MSD Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 19:03
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	200		238	MSB	99		1.4		85 - 117	20
Selenium	40.0	7.0	U	48.4		109		8.8		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.: D9G110152

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	221.600	19.810	200.00	100.9		M
Selenium	75 - 125	205.800	0.700 U	200.00	102.9		M

Comments: _____

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272C
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:41
Instrument ID: 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	41.3	103		85 - 117
Selenium	40.0	40.2	101		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.: D9G110152

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	19.810		19.490	B	1.6		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.: D9G110152

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.: D9G110152

ICP ID Number: Agilent 7500 Date: 7/7/2009

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.: D9G110152

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
INTRA-LAB QC	7/14/2009	50.0	50.0
LAB MS/MSD MS	7/14/2009	50.0	50.0
LAB MS/MSD MSD	7/14/2009	50.0	50.0
M-10B	7/14/2009	50.0	50.0
MB9194272	7/14/2009	50.0	50.0
Check Sample	7/14/2009	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.: D9G110152

Instrument ID Number: Agilent 7500 Method: M

Start Date: 7/21/2009 End Date: 7/21/2009

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	17:28				X															X								
100 PPB	1.00	17:31				X															X								
ICV	1.00	17:33				X															X								
ICB	1.00	17:39				X															X								
RL STD	1.00	17:42				X															X								
ICSA	1.00	17:50				X															X								
ICSAB	1.00	17:53				X															X								
RINSE	1.00	17:55				X															X								
LR	1.00	17:58				X															X								
RINSE	1.00	18:00				X															X								
CCV	1.00	18:03				X															X								
CCB	1.00	18:06				X															X								
CCV	1.00	18:30				X															X								
CCB	1.00	18:33				X															X								
MB9194272	1.00	18:39				X															X								
Check Sample	1.00	18:41				X															X								
INTRA-LAB QC	10.00	18:44				X															X								
INTRA-LAB QC SER	50.00	18:47				X															X								
INTRA-LAB QC PDS	1.00	18:50				X															X								
LAB MS/MSD MS	10.00	18:52				X															X								
CCV	1.00	18:55				X															X								
CCB	1.00	18:58				X															X								
LAB MS/MSD MSD	10.00	19:03				X															X								
M-10B	10.00	19:09				X															X								
CCV	1.00	19:17				X															X								
CCB	1.00	19:20				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: D9G110152

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.
Lab Code: _____ Case No.: _____
SOW No.: _____

SDG No.: D9G110152
SAS No.: _____

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>M-10BDISS</u>	<u>D9G110152-002</u>
<u>M-10BDISS MS</u>	<u>D9G110152-002S</u>
<u>M-10BDISS MSD</u>	<u>D9G110152-002SD</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
Date: 7/23/09

Name: Janice Collins
Title: Metals Analyst

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194274
Sample Aliquot: 50 mL
Dilution Factor: 10

Client Sample ID: M-10BDISS
Lab Sample ID: D9G110152-002
Lab WorkOrder: LGDJW
Date/Time Collected: 07/10/09 11:45
Date/Time Received: 07/11/09 08:30
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:17
Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	100	2.1	50	
7782-49-2	Selenium	7.0	7.0	50	U

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G110152

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	50.2	100.4	49.3	98.6	M
Selenium	40.0	41.7	104.2	50.0	50.2	100.4	49.4	98.8	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.: D9G110152

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	1.038	103.8		
Selenium				1.00	0.816	81.6		

Comments:

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194274
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-274B
Lab WorkOrder: LGEE4
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:11
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.: D9G110152

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			
			1	C	2	C	3	C	C	U	M	
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:

Dissolved Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G110152

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	0.41	100.30	100.3			
Selenium	0.0	100.0	0.21	108.70	108.7			

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194274
MS Sample Aliquot: 50 mL
MS Dilution Factor: 10

Client Sample ID: M-10BDISS
MS Lab Sample ID: D9G110152-002S
MS Lab WorkOrder: LGDJW
Date/Time Collected: 07/10/09 11:45
Date/Time Received: 07/11/09 08:30
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:25
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	100		146		110		85 - 117
Selenium	40.0	7.0	U	42.8		93		77 - 122

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194274
MSD Sample Aliquot: 50 mL
MSD Dilution Factor: 10

Client Sample ID: M-10BDISS
MSD Lab Sample ID: D9G110152-002D
MSD Lab WorkOrder: LGDJW
Date/Time Collected: 07/10/09 11:45
Date/Time Received: 07/11/09 08:30
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:28
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	100		143		103		1.9		85 - 117	20
Selenium	40.0	7.0	U	50.0		111		16		77 - 122	20

Dissolved Metals Analysis
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

M-10BDISS PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G110152

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	214.900	10.210	200.00	102.3		M
Selenium	75 - 125	210.200	0.700 U	200.00	105.1		M

Comments: _____

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110152
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194274
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-274C
Lab WorkOrder: LGEE4
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:14
Instrument ID: 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	43.8	110		85 - 117
Selenium	40.0	43.3	108		77 - 122

Dissolved Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

M-10BDISS SER

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G110152

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	10.210		10.140	B	0.7		M
Selenium	0.700	U	3.500	U			M

Comments: _____

Dissolved Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G110152

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.: D9G110152

ICP ID Number: Agilent 7500 Date: 7/7/2009

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.: D9G110152

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
M-10BDISS	7/14/2009	50.0	50.0
M-10BDISS MS	7/14/2009	50.0	50.0
M-10BDISS MSD	7/14/2009	50.0	50.0
MB9194274	7/14/2009	50.0	50.0
Check Sample	7/14/2009	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.: D9G110152

Instrument ID Number: Agilent 7500 Method: M

Start Date: 7/21/2009 End Date: 7/21/2009

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	17:28			X															X									
100 PPB	1.00	17:31			X															X									
ICV	1.00	17:33			X															X									
ICB	1.00	17:39			X															X									
RL STD	1.00	17:42			X															X									
ICSA	1.00	17:50			X															X									
ICSAB	1.00	17:53			X															X									
RINSE	1.00	17:55			X															X									
LR	1.00	17:58			X															X									
RINSE	1.00	18:00			X															X									
CCV	1.00	18:03			X															X									
CCB	1.00	18:06			X															X									
MB9194274	1.00	18:11			X															X									
Check Sample	1.00	18:14			X															X									
M-10BDISS	10.00	18:17			X															X									
M-10BDISS SER	50.00	18:20			X															X									
M-10BDISS PDS	1.00	18:22			X															X									
M-10BDISS MS	10.00	18:25			X															X									
M-10BDISS MSD	10.00	18:28			X															X									
CCV	1.00	18:30			X															X									
CCB	1.00	18:33			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: D9G110155

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 001

Total Metals Analysis
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9G110155

Lab Code: _____ Case No.: _____

SAS No.: _____

SOW No.: _____

Sample ID.

Lab Sample No.

M-121B

D9G110155-001

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: 7/23/09

Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110155
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 10

Client Sample ID: M-121B
Lab Sample ID: D9G110155-001
Lab WorkOrder: LGDJ3
Date/Time Collected: 07/10/09 07:45
Date/Time Received: 07/11/09 08:30
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 19:11
Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	86	2.1	50	
7782-49-2	Selenium	7.0	7.0	50	U

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G110155

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	50.2	100.4	49.3	98.6	M
Selenium	40.0	41.7	104.2	50.0	50.2	100.4	49.4	98.8	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.: D9G110155

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	50.2	100.4	50.1	100.2	M
Selenium				50.0	50.2	100.4	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.: D9G110155

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	1.038	103.8		
Selenium				1.00	0.816	81.6		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110155
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272B
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:39
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.: D9G110155

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.: D9G110155

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		
Arsenic			0.210	U					M
Selenium			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.: D9G110155

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	0.41	100.30	100.3			
Selenium	0.0	100.0	0.21	108.70	108.7			

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110155
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MS Sample Aliquot: 50 mL
MS Dilution Factor: 10

Client Sample ID: LAB MS/MSD
MS Lab Sample ID: D9G100272-001S
MS Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:52
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	200		234	MSB	91		85 - 117
Selenium	40.0	7.0	U	44.3		98		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110155
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MSD Sample Aliquot: 50 mL
MSD Dilution Factor: 10

Client Sample ID: LAB MS/MSD
MSD Lab Sample ID: D9G100272-001D
MSD Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 19:03
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	200		238	MSB	99		1.4		85 - 117	20
Selenium	40.0	7.0	U	48.4		109		8.8		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.: D9G110155

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	221.600	19.810	200.00	100.9		M
Selenium	75 - 125	205.800	0.700 U	200.00	102.9		M

Comments: _____

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110155
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272C
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:41
Instrument ID: 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	41.3	103		85 - 117
Selenium	40.0	40.2	101		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.: D9G110155

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	19.810		19.490	B	1.6		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.: D9G110155

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.: D9G110155

ICP ID Number: Agilent 7500 Date: 7/7/2009

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.: D9G110155

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
INTRA-LAB QC	7/14/2009	50.0	50.0
LAB MS/MSD MS	7/14/2009	50.0	50.0
LAB MS/MSD MSD	7/14/2009	50.0	50.0
M-121B	7/14/2009	50.0	50.0
MB9194272	7/14/2009	50.0	50.0
Check Sample	7/14/2009	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.: D9G110155

Instrument ID Number: Agilent 7500 Method: M

Start Date: 7/21/2009 End Date: 7/21/2009

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	17:28				X															X										
100 PPB	1.00	17:31				X															X										
ICV	1.00	17:33				X															X										
ICB	1.00	17:39				X															X										
RL STD	1.00	17:42				X															X										
ICSA	1.00	17:50				X															X										
ICSAB	1.00	17:53				X															X										
RINSE	1.00	17:55				X															X										
LR	1.00	17:58				X															X										
RINSE	1.00	18:00				X															X										
CCV	1.00	18:03				X															X										
CCB	1.00	18:06				X															X										
CCV	1.00	18:30				X															X										
CCB	1.00	18:33				X															X										
MB9194272	1.00	18:39				X															X										
Check Sample	1.00	18:41				X															X										
INTRA-LAB QC	10.00	18:44				X															X										
INTRA-LAB QC SER	50.00	18:47				X															X										
INTRA-LAB QC PDS	1.00	18:50				X															X										
LAB MS/MSD MS	10.00	18:52				X															X										
CCV	1.00	18:55				X															X										
CCB	1.00	18:58				X															X										
LAB MS/MSD MSD	10.00	19:03				X															X										
M-121B	10.00	19:11				X															X										
CCV	1.00	19:17				X															X										
CCB	1.00	19:20				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: D9G110159

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 001

Total Metals Analysis
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9G110159

Lab Code: _____

Case No.: _____

SAS No.: _____

SOW No.: _____

Sample ID.

Lab Sample No.

M-118B

D9G110159-001

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: 7/23/09

Title: Metals Analyst

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110159
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 10

Client Sample ID: M-118B
Lab Sample ID: D9G110159-001
Lab WorkOrder: LGDKR
Date/Time Collected: 07/09/09 08:45
Date/Time Received: 07/11/09 08:30
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 19:14
Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	57	2.1	50	
7782-49-2	Selenium	7.0	7.0	50	U

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G110159

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	50.2	100.4	49.3	98.6	M
Selenium	40.0	41.7	104.2	50.0	50.2	100.4	49.4	98.8	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.: D9G110159

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	50.2	100.4	50.1	100.2	M
Selenium				50.0	50.2	100.4	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.: D9G110159

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	1.038	103.8		
Selenium				1.00	0.816	81.6		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110159
Matrix: WATER
% Moisture:
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272B
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:39
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.: D9G110159

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	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.: D9G110159

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		
Arsenic			0.210	U					M
Selenium			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.: D9G110159

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	0.41	100.30	100.3			
Selenium	0.0	100.0	0.21	108.70	108.7			

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110159
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MS Sample Aliquot: 50 mL
MS Dilution Factor: 10

Client Sample ID: LAB MS/MSD
MS Lab Sample ID: D9G100272-001S
MS Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:52
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	200		234	MSB	91		85 - 117
Selenium	40.0	7.0	U	44.3		98		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110159
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
MSD Sample Aliquot: 50 mL
MSD Dilution Factor: 10

Client Sample ID: LAB MS/MSD
MSD Lab Sample ID: D9G100272-001D
MSD Lab WorkOrder: LGCN3
Date/Time Collected: 07/07/09 08:45
Date/Time Received: 07/10/09 08:45
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 19:03
Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	200		238	MSB	99		1.4		85 - 117	20
Selenium	40.0	7.0	U	48.4		109		8.8		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.: D9G110159

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	221.600	19.810	200.00	100.9		M
Selenium	75 - 125	205.800	0.700 U	200.00	102.9		M

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER
Lot/SDG Number: D9G110159
Matrix: WATER
% Moisture: N/A
Basis: Wet
Analysis Method: 6020
Unit: ug/L
QC Batch ID: 9194272
Sample Aliquot: 50 mL
Dilution Factor: 1

Client Sample ID:
Lab Sample ID: D9G130000-272C
Lab WorkOrder: LGEER
Date/Time Collected:
Date/Time Received:
Date Leached:
Date/Time Extracted: 07/14/09 12:00
Date/Time Analyzed: 07/21/09 18:41
Instrument ID: 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	41.3	103		85 - 117
Selenium	40.0	40.2	101		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.: D9G110159

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	19.810		19.490	B	1.6		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.: D9G110159

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.: D9G110159

ICP ID Number: Agilent 7500 Date: 7/7/2009

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.: D9G110159

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
INTRA-LAB QC	7/14/2009	50.0	50.0
LAB MS/MSD MS	7/14/2009	50.0	50.0
LAB MS/MSD MSD	7/14/2009	50.0	50.0
M-118B	7/14/2009	50.0	50.0
MB9194272	7/14/2009	50.0	50.0
Check Sample	7/14/2009	50.0	50.0

Comments:

Total Metals Analysis
-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

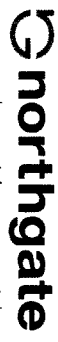
Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9G110159

Instrument ID Number: Agilent 7500 Method: M

Start Date: 7/21/2009 End Date: 7/21/2009

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	17:28			X															X											
100 PPB	1.00	17:31			X															X											
ICV	1.00	17:33			X															X											
ICB	1.00	17:39			X															X											
RL STD	1.00	17:42			X															X											
ICSA	1.00	17:50			X															X											
ICSAB	1.00	17:53			X															X											
RINSE	1.00	17:55			X															X											
LR	1.00	17:58			X															X											
RINSE	1.00	18:00			X															X											
CCV	1.00	18:03			X															X											
CCB	1.00	18:06			X															X											
CCV	1.00	18:30			X															X											
CCB	1.00	18:33			X															X											
MB9194272	1.00	18:39			X															X											
Check Sample	1.00	18:41			X															X											
INTRA-LAB QC	10.00	18:44			X															X											
INTRA-LAB QC SER	50.00	18:47			X															X											
INTRA-LAB QC PDS	1.00	18:50			X															X											
LAB MS/MSD MS	10.00	18:52			X															X											
CCV	1.00	18:55			X															X											
CCB	1.00	18:58			X															X											
LAB MS/MSD MSD	10.00	19:03			X															X											
M-118B	10.00	19:14			X															X											
CCV	1.00	19:17			X															X											
CCB	1.00	19:20			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. 2027.001.00197
Page: 1 of 1
Cooler # 1

Required Ship to Lab: TestAmerica
Required Project Information: TRONOX LLC, HENDERSON
Required Invoice Information: Susan Crowley, Tornox LLC

Lab Name: TestAmerica
Address: 4955 Yarrow Street
Project #: 2027.001
Site ID #: TRONOX LLC, HENDERSON
Send Invoice to: Susan Crowley, Tornox LLC

Arvada, CO 80002
Project # 2027.001
Site Address 560 W. Lake Mead Drive
City/State Henderson, NV 89009
Phone #: (949)260-9293

Lab PM: Michael P. Phillips
City Henderson
Reimbursement project?
Non-reimbursement project?
Mark one

Phone/Fax: 303-736-0157
Site PM Name Derrick Willis
Send EDD to frank.hagar@ngem.com
MA MCP Cert?
CT RCP Cert?
Mark One

Lab PM email: mitcherl@ngem.com
Phone/Fax: 949-375-7004
CC Hardcopy report to PDF Electronic Version Only
Lab Project ID (lab use)

Applicable Lab Quote #:
Site PM Email: derrick.willis@ngem.com
CC Hardcopy report to see additional comments below

Table with columns: ITEM #, SAMPLE ID, MATRIX CODE, SAMPLE TYPE, SAMPLE DATE, SAMPLE TIME, #OF CONTAINERS, FIELD FILTERED?, Preservatives, Requested Analyses, Comments/Lab Sample ID.

Main data table with columns: ITEM #, SAMPLE ID, MATRIX CODE, SAMPLE TYPE, SAMPLE DATE, SAMPLE TIME, #OF CONTAINERS, FIELD FILTERED?, Preservatives, Requested Analyses, Comments/Lab Sample ID, Date, Time, Date, Time, Sample Receipt Conditions, Temp in OC, Samples on Ice?, Sample intact?, Trip Blank?

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

Sample Receiving Checklist

Lot #: D9G080289 ^{7/8} Date/Time Received: 7-8-09/0930

Company Name & Sampling Site: Northgate - Tronox

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

Quote #: 8310

Special Instructions: arr 1/8
93046

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

Unpacking Checks:

Cooler #(s): _____
Temperatures (°C): 4.8 _____

- | N/A | Yes | No | Initials |
|-------------------------------------|-------------------------------------|--------------------------|------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>Cur</u> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
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| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

TestAmerica Denver
Sample Receiving Checklist

D9G080289

Lot # ~~D9G080289~~ cur 7/9

Login Checks:

Initials

N/A Yes No

cur

- 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?

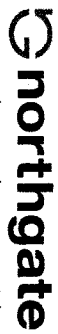
Labeling and Storage Checks:

Initials

cur

- 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.

7/10/09

IRZ

COC No. 2027.001.00199
 Page: 1 of 1
 Cooler # 1 of 1

Required Ship to Lab: **TestAmerica** Required Project Information: **TRONOX LLC, HENDERSON** Required Invoice Information: **Send Invoice to: Susan Crowley, Tronox LLC**

Address: **4955 Yarrow Street** Project # **2027.001** Address: **PO Box 55** City/State: **Henderson, NV 89009** Phone #: **(949)260-9293** TAT: Standard 30 day Rush Mark One

Arvada, 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** Reimbursement project? Non-reimbursement project? Mark one

Phone/Fax: **303-736-0157** Site PM Name: **Derrick Willis** Send EDD to: **Frank Hagar Northgate Environmental Management, Inc** Mark MCP Cert? CT RCP Cert? Mark One

Lab PM email: **mtcharc@pmhps.com** Phone/Fax: **949-375-7004** CC Hardcopy report to: **PDF Electronic Version Only** Lab Project ID (lab use)

Applicable Lab Quote #: Site PM Email: **derrick.willis@ngem.com** CC Hardcopy report to: **see additional comments below** Requested Analyses: **EPA 8020 Collision Cor. EPA 8141A OPP Pest**

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	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-120B	WG	G	7/7/2009	8:45	1	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	500 ml Plastic
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

REMOVED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
<i>Don Oll</i>	7/7/09	13:00	<i>[Signature]</i>	7/7/09	13:00		Y/N	Y/N	Y/N
<i>[Signature]</i>	7/7/09	15:50	<i>[Signature]</i>	7/8/09	15:00		Y/N	Y/N	Y/N
<i>[Signature]</i>	7/8/09	11:20	<i>[Signature]</i>	7/8/09	11:20		Y/N	Y/N	Y/N
<i>[Signature]</i>	7/10/09	16:30	<i>[Signature]</i>	7/10/09	08:45		Y/N	Y/N	Y/N

SHIPPING METHOD (marks approved):
 UPS COURIER FEDEX
 SIGNATURE OF SAMPLER: *[Signature]*
 DATE SIGNED: 7-7-09 Time: 13:00

TestAmerica Denver
Sample Receiving Checklist

Lot #: D9G100272 Date/Time Received: 7/10/09 0845

Company Name & Sampling Site: Northgate - TRONOX

PM to Complete This Section: Yes No Quarantined: Yes No

Residual chlorine check required:

Quote #: 83046

Special Instructions:

Time Zone:

• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

Unpacking Checks:

Cooler #(s): _____

Temperatures (°C): 4.3 _____

N/A Yes No

Initials

- | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR. | <u>CSA</u> |
| <input checked="" type="checkbox"/> | <input 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 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 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 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"/> | <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"/> | <input type="checkbox"/> | 10. Were VOA samples without headspace? If no, document on CUR. | |
| <input checked="" type="checkbox"/> | <input 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 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"/> | <input type="checkbox"/> | 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR. | |
| <input checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input 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 # D99100272

Login Checks:

Initials

N/A Yes No

LM

- 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) 260-9233

CHAIN-OF-CUSTODY / Analytical Request Document

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

COC No. 2027.001.00198
Page: 1 of 1
Cooler # 1 of 1

2.1
7/10/09
IRZ

Required Ship to Lab:		Required Project Information:		Required Invoice Information:		TAT: Standard 30 day		X		Rush		Mark One										
Lab Name:	TestAmerica	Site ID #:	TRONOX LLC, HENDERSON	Send Invoice to:	Susan Crowley	PO Box 55	Tronox LLC	Phone #:	(949)260-9233	QC level Required: Standard	Special	EPA Stage 4	Mark one									
Address:	4955 Yarrow Street	Project #:	2027.001	City/State:	Henderson, NV 89009	Reimbursement project?	X	Non-reimbursement project?		MA MCP Cert?	CT RCP Cert?	Mark One										
Arvada, CO 80002		Site Address:	560 W. Lake Mead Drive	Reimbursement report to:	Frank Hagar Northgate Environmental Management, Inc	CC Hardcopy report to:	PDF Electronic Version Only	CC Hardcopy report to:	see additional comments below	Lab Project ID (lab use):												
Lab P.M.:	Michael P. Phillips	City:	Henderson	State:	NV	Mark one																
Phone/Fax:	303-736-0157	Site P.M. Name:	Derrick Willis	Site P.M. Email:	derrick.willis@ngem.com																	
Lab P.M. email:	michael.phillips@testamericainc.com	Phone/Fax:	949-375-7004																			
Applicable Lab Quote #:																						
ITEM #	M-103B	SAMPLE ID One Character per box. (A-Z, 0-9 / -)	Samples IDs MUST BE UNIQUE	Matrix Codes WATER, SOIL, SLUDGE, OTHER, AIR, GAS, ANALYT, SEDIMENT, BIOLOGICAL	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.				
											Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3			Methanol	Other	EPA 6020/Comstat-Gel	
													X								EPA 8171A OPP-Post	

REINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
<i>[Signature]</i>	7-8	14:15	<i>[Signature]</i>	7/8	16:00		Y/N	Y/N	Y/N
<i>[Signature]</i>	7/9	10:30	<i>[Signature]</i>	7/9	10:30		Y/N	Y/N	Y/N
<i>[Signature]</i>	7/10	08:45	<i>[Signature]</i>	7/10	08:45		Y/N	Y/N	Y/N

SHIPPING METHOD (mark as appropriate):
 UPS COURIER FEDEX PRINT Name of SAMPLER: SIGNATURE of SAMPLER: DATE Signed: 7-8-09 Time: 14:15

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

TestAmerica Denver
Sample Receiving Checklist

Lot #: D96100274 Date/Time Received: 7/10/09

Company Name & Sampling Site: NorThgate - Ironox

PM to Complete This Section: *Yes*

Residual chlorine check required:

No

Quarantined:

Yes

Quote #: 83046

Special Instructions:

Time Zone:

• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

Unpacking Checks:

Cooler #(s): _____

Temperatures (°C): 2.7 _____

N/A Yes No

Initials

- 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR. CHK
- 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 # D9G100274

Login Checks:

N/A Yes No

Initials
Am

- 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).

ATG
7/11/09

CHAIN-OF-CUSTODY / Analytical Request Document

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

COC No. 2027.001.00221
Page: 1 of 1
Cooler # 1

Required Ship to Lab:

Lab Name: TestAmerica	Site ID #: TRONOX LLC, HENDERSON	Send Invoice to: Susan Crowley Tronox LLC	TAT: Standard 30 day	<input checked="" type="checkbox"/> Rush	Mark One
Address: 4955 Yarrow Street	Project #: 2027.001	Address: PO Box 55	If Rush, Date due		
Arvada, CO 80002	Site Address: 560 W. Lake Mead Drive	City/State: Henderson, NV 89009	QC level Required: Standard	Special: EPA Stage 4	Mark one
Lab P.M.I.: Michael P. Phillips	City: Henderson	Phone #: (949)260-9293	Reimbursement project? <input checked="" type="checkbox"/>	NJ Reduced Deliverable Package? <input type="checkbox"/>	
Phone/Fax: 303-736-0157	State: NV	Send EDD to: frank.hagar@ngem.com	Non-reimbursement project? <input type="checkbox"/>	MA MCP Cert? <input type="checkbox"/>	CT RCP Cert? <input type="checkbox"/>
Lab P.M. email: mitchrabi.primms@testamericainc.com	Site P.M. Name: Derrick Willis	CC Hardcopy report to: PDF Electronic Version Only	CC Hardcopy report to: see additional comments below	Lab Project ID (lab use)	Mark One
Applicable Lab Quote #:	Site P.M. Email: derrick.willis@ngem.com				

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 ID.
								Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol		
1	M-10B	WG	G	7/10/2009	11:45 AM	1	N		X							500 ml Plastic
2	M-10BDISS	WG	G	7/10/2009	11:45 AM	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 labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

DATE	TIME	ACQUIRED BY	DATE	TIME	Sample Receipt Conditions
7-10	14:30	[Signature]	7/10	14:30	Temp in OC Y/N Samples on Ice? Y/N Sample intact? Y/N Trip Blank? Y/N
7/10	16:00	[Signature]	7/10	08:30	

SHIP TO: 1100 QUAIL STREET, SUITE 102, NEWPORT BEACH, CA 92660
SHIP VIA: UPS COURIER (FEDEX)
PRINT NAME OF SAMPLER: DERRICK WILLIS
SIGNATURE OF SAMPLER: [Signature]
DATE SIGNED: 7-10-09
TIME: 14:30

TestAmerica Denver
Sample Receiving Checklist

Lot #: D9G110152 Date/Time Received: 7/11/9 0830

Company Name & Sampling Site: Northgate - Tronox

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

Quote #: 83046 - water.

Special Instructions:

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

Unpacking Checks:

Cooler #(s): 1

Temperatures (°C): 3.9

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 # D9G110152

Login Checks:

N/A Yes No

Initials


- 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



- 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

AK
FRP
7/11/19

CHAIN-OF-CUSTODY / Analytical Request Document

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

COC No. 2027.001.00212
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:

Lab Name: TestAmerica	Site ID #:	TRONOX LLC, HENDERSON	Send Invoice to:	Susan Crowley Tonox LLC	TAT: Standard 30 day	<input checked="" type="checkbox"/>	Rush	Mark One
Address: 4955 Yarrow Street	Project #:	2027.001	Address: PO Box 55	Henderson, NV 89009	If Rush, Date due		QC level Required: Standard	Special EPA Stage 4
Arvada, CO 80002	Site Address:	560 W. Lake Mead Drive	City/State:	Henderson, NV 89009	Phone #:	(949)260-9293	MA MCP Cert?	CT RCP Cert?
Lab PM: Michael P. Phillips	City:	Henderson	State:	NV	Reimbursement project?	<input checked="" type="checkbox"/>	Non-reimbursement project?	Mark one
Phone/Fax: 303-736-0157	Site PM Name:	Derrick Willis	Send EDD to:	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com	CC Hardcopy report to:	PDF Electronic Version Only	Lab Project ID (lab use)	
Lab PM email: michael.p.phillips@testamericainc.com	Phone/Fax:	949-575-7004	CC Hardcopy report to:	see additional comments below	Requested Analyses	<input checked="" type="checkbox"/>	EPA 8020 Collision Cell EPA 8141A OFF PEST	Comments/Lab Sample I.D.
Applicable Lab Quote #:	Site PM Email:	derrick.willis@ngem.com						

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								Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?	
								Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other					
1	M-121B	WG	G	7/10/2009	7:45 AM	1	N													
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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Sample Receipt Conditions
<i>[Signature]</i>	7-10	14:30	<i>[Signature]</i>	7/10	14:30	Y/N Y/N Y/N
<i>[Signature]</i>	7/10	11:30	<i>[Signature]</i>	7/11	08:30	Y/N Y/N Y/N

Shipping Method: UPS COURIER FEDEX SIGNATURE OF SAMPLER: Dana Brown DATE SIGNED: 7-10-09 TIME: 14:30

TestAmerica Denver
Sample Receiving Checklist

Lot #: D9G110155 Date/Time Received: 7/11/9 0830

Company Name & Sampling Site: Northgate

PM to Complete This Section: Yes No Quarantined: Yes No

Quote #: 83040

Special Instructions:

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

Unpacking Checks:

Cooler #(s): 1

Temperatures (°C): 3.9

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 SG

TestAmerica Denver
Sample Receiving Checklist

Lot # D9G110155

Login Checks:

Initials
AL

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

AL

- 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).

TestAmerica Denver
Sample Receiving Checklist

Lot #: D9G110159 Date/Time Received: 7/11/9 0830

Company Name & Sampling Site: 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): 2

Temperatures (°C): 4.3 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
AC

TestAmerica Denver
Sample Receiving Checklist

Lot # D96110159

Login Checks:

Initials
LC

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
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).

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: DA6080289

Client: Northgate (Tronox)

Batch(es) #: 9190110

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: LRD 07/10/2009

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>
D9G080289	1 D	SE	LF7HF1AH	20090709	6020TOTA	9190110	AG070909B	024
D9G080289	1 S	SE	LF7HF1AG	20090709	6020TOTA	9190110	AG070909B	024
D9G080289	1 D	AS	LF7HF1AF	20090709	6020TOTA	9190110	AG070909B	024
D9G080289	1 S	AS	LF7HF1AE	20090709	6020TOTA	9190110	AG070909B	024
D9G080289	1	SE	LF7HF1AC	20090709	6020TOTA	9190110	AG070909B	024
D9G080289	1	AS	LF7HF1AA	20090709	6020TOTA	9190110	AG070909B	024

**METALS
PREPARATION LOGS
ICP-MS**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: 9190110

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

<u>Lot</u>	<u>Work Order</u>		Prep Date: 07/09/09 Due Date: 07/20/09	<u>Initial Weight/Volume</u>
D9G090000 Water	LF73C B	Due Date: SDG:	✓	<u>50 mL</u>
D9G090000 Water	LF73C C	Due Date: SDG:		<u>50 mL</u>
D9G080289 Water	LF7HF Total	Due Date: 07/20/09 SDG:		<u>50 mL</u>
D9G080289 Water	LF7HF S	Due Date: 07/20/09 SDG:		<u>50 mL</u>
D9G080289 Water	LF7HF D	Due Date: 07/20/09 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

LED
7/10/09

✓
Z
7/13/09

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9190110
PREP DATE: 7.9.2009

ALLIQUOTTED BY: JKH
DIGESTED BY: JRW

CONSUMABLES USED

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS267

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-2636-09	7/1/10	100uL	15
2008Cal-2	STD-2635-09	7/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO ₃	JT Baker	H12022	3

TEMPERATURE CYCLES

Thermometer ID: 4110 Block & Cup #: 3/22

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1200	45	1615	26
HNO3	1630	46	1700	44
HNO3				

Samples and QC revolved to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: *[Signature]*

Date: 7/9/09

**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

Jul-09-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD4841-08, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-ZN02045 Vendor's Expiration Date: 10-01-2009
Solvent: 2% HNO3
Date Prep./Opened: 09-04-2008 Date Received: 09-04-2008
Date Expires(1): 10-01-2009 (None)
Date Expires(2): 10-01-2009 (None)
(METALS)-Inventory ID: 779

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

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

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Se	1,000.0	1.0000

STD3611-09, ICP-MS 1ppm Sn/Zn Analyst: DIAZL
 Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 10.000
 Date Prep./Opened: 06-16-2009
 Date Expires(1): 10-01-2009 (1 Year)

Parent Std No.: STD3609-09, ICP-MS 10 ppm Zn Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 10-01-2009 Parent Date Expires(2): 10-01-2009

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	10.000	1.0000

Parent Std No.: STD3610-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	10.000	1.0000

STD4008-09, ICP-MS (024) INT STD BRC-HIGH Analyst: LILLT
 Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 250.00
 Date Prep./Opened: 07-02-2009
 Date Expires(1): 11-10-2009 (1 Year)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 1.2000
 Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ge	1,000.0	4,800.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.5000
 Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Lithium6	1,000.0	6,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.4000
 Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
In	1,000.0	1,600.0

Parent Std No.: STD6317-08, Scandium Stock Aliquot Amount (ml): 0.4000
 Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sc	1,000.0	1,600.0

Parent Std No.: STD6318-08, Holmium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,600.0

STD4101-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water

Volume (ml): 1,000.0

Date Prep./Opened: 07-09-2009

Date Expires(1): 08-09-2009 (1 Month)

Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD4100-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD4102-09, ICP-MS 10 ppm Sn

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 10.000

Date Prep./Opened: 07-09-2009

Date Expires(1): 07-10-2009 (1 Day)

Date Expires(2): 03-01-2010 (None)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 21 and Met 8

Parent Std No.: STD1198-09, 1000 mg/L Sn

Aliquot Amount (ml): 0.1000

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	1,000.0	10.000

STD4103-09, ICP-MS 100 ppb cal

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 50.000

Date Prep./Opened: 07-09-2009

Date Expires(1): 07-10-2009 (1 Day)

Date Expires(2): 07-10-2009 (1 Day)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20

Parent Std No.: STD2636-09, ICPMS 2008CAL-1 Inorganic Ventures

Aliquot Amount (ml): 0.2500

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>
Mo	20.000	100.00
Sb	20.000	100.00

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures

Aliquot Amount (ml): 0.2500

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>
------------------	----------------------------	--------------------------

V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3862-09, Iron Stock

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Fe	1,000.0	5,000.0

Parent Std No.: STD4102-09, ICP-MS 10 ppm Sn

Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 07-10-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4104-09, ICP-MS CCV

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 100.00

Date Prep./Opened: 07-09-2009

Date Expires(1): 07-10-2009 (1 Day)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20

Parent Std No.: STD2636-09, ICPMS 2008CAL-1 Inorganic Ventures

Aliquot Amount (ml): 0.2500

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>
Mo	20.000	50.000
Sb	20.000	50.000

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures

Aliquot Amount (ml): 0.2500

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>
V	20.000	50.000
Zn	20.000	50.000
Ag	20.000	50.000
Al	20.000	50.000
As	20.000	50.000

Ba	20.000	50.000
Be	20.000	50.000
Cd	20.000	50.000
Co	20.000	50.000
Cr	20.000	50.000
Cu	20.000	50.000
Mn	20.000	50.000
Ni	20.000	50.000
Pb	20.000	50.000
Se	20.000	50.000
Th	20.000	50.000
Tl	20.000	50.000
U	20.000	50.000

Parent Std No.: STD3862-09, Iron Stock

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Fe	1,000.0	2,500.0

Parent Std No.: STD4102-09, ICP-MS 10 ppm Sn

Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 07-10-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	50.000

STD4105-09, ICP-MS RL STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 10.000

Date Prep./Opened: 07-09-2009

Date Expires(1): 07-10-2009 (1 Day)

pipettes: Met 21 and Met 8

Parent Std No.: STD3611-09, ICP-MS 1ppm Sn/Zn

Aliquot Amount (ml): 0.0900

<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.: STD4103-09, ICP-MS 100 ppb cal

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 07-10-2009 Parent Date Expires(2): 07-10-2009

<u>Component</u>	<u>Initial Conc (ug/L)</u>	<u>Final Conc (mg/L)</u>
Mo	100.00	0.0010
Sb	100.00	0.0010
V	100.00	0.0010
Zn	100.00	0.0010
Ag	100.00	0.0010
Al	100.00	0.0010
As	100.00	0.0010
Ba	100.00	0.0010
Be	100.00	0.0010
Cd	100.00	0.0010
Co	100.00	0.0010

Cr	100.00	0.0010
Cu	100.00	0.0010
Mn	100.00	0.0010
Ni	100.00	0.0010
Pb	100.00	0.0010
Se	100.00	0.0010
Th	100.00	0.0010
Tl	100.00	0.0010
U	100.00	0.0010
Fe	5,000.0	0.0500
Sn	100.00	0.0010

STD4106-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-09-2009
 Date Expires(1): 07-10-2009 (2 Days)
 pipettes: Met 20 and Met 8

Volume (ml): 10.000

Parent Std No.: STD4105-09, 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
Mo	0.0010	0.0002
Sb	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Ag	0.0010	0.0002
Al	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
Fe	0.0500	0.0100
Sn	0.0010	0.0002

STD4107-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-09-2009
 Date Expires(1): 08-09-2009 (1 Month)
 Date Expires(2): 02-01-2010 (None)
 pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD0664-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000
 Parent Date Expires(1): 02-01-2010 Parent Date Expires(2): 02-01-2010

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

STD4108-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-09-2009
 Date Expires(1): 07-10-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21, Met 20, and Met 8

Volume (ml): 10.000

Parent Std No.: STD1978-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 04-01-2010 Parent Date Expires(2): 04-01-2010

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

Parent Std No.: STD2636-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.0500
 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>
Mo	20.000	100.00
Sb	20.000	100.00

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.0500
 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>
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD4102-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.1000
 Parent Date Expires(1): 07-10-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4109-09, ICPMS LR STD 1000 ppb

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-09-2009
 Date Expires(1): 07-10-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID:0)
 pipettes: Met 20 and Met 8

Volume (ml): 10.000

Parent Std No.: STD2636-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.5000
 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>
Mo	20.000	1,000.0
Sb	20.000	1,000.0

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.5000
 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>
------------------	----------------------------	--------------------------

V	20.000	1,000.0
Zn	20.000	1,000.0
Ag	20.000	1,000.0
Al	20.000	1,000.0
As	20.000	1,000.0
Ba	20.000	1,000.0
Be	20.000	1,000.0
Cd	20.000	1,000.0
Co	20.000	1,000.0
Cr	20.000	1,000.0
Cu	20.000	1,000.0
Mn	20.000	1,000.0
Ni	20.000	1,000.0
Pb	20.000	1,000.0
Se	20.000	1,000.0
Th	20.000	1,000.0
Tl	20.000	1,000.0
U	20.000	1,000.0

Parent Std No.: STD4102-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 07-10-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	1,000.0

STD4110-09, ICPMS ICV

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 10.000

Date Prep./Opened: 07-09-2009

Date Expires(1): 07-10-2009 (1 Day)

Date Expires(2): 02-27-2010 (None)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 21 and Met 8

Parent Std No.: STD1213-09, ICPMS ICV SOLUTION A (High Purity)

Aliquot Amount (ml): 0.0400

Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Al	10.000	40.000
As	10.000	40.000
Ba	10.000	40.000
Be	10.000	40.000
Cd	10.000	40.000
Co	10.000	40.000
Cr	10.000	40.000
Cu	10.000	40.000
Fe	250.00	1,000.0
Li	10.000	40.000
Mn	10.000	40.000
Ni	10.000	40.000
Pb	10.000	40.000
Se	10.000	40.000
Th	10.000	40.000

Tl	10.000	40.000
U	10.000	40.000
V	10.000	40.000
Zn	10.000	40.000

Parent Std No.: STD1214-09, ICPMS ICV SOLUTION B (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
Ag	10.000	40.000
Mo	10.000	40.000
Sb	10.000	40.000
Sn	10.000	40.000
Zr	10.000	40.000

STD4111-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-09-2009
 Date Expires(1): 07-10-2009 (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

STD4112-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-09-2009
 Date Expires(1): 07-10-2009 (1 Day)
 Date Expires(2): 05-01-2010 (None)
 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

Reviewed By: LRD 07/09/2009

Denver

RUN SUMMARY

Method: 6020 (ICP/MS)

ICPMS_024 (024)

Reported: 07/10/09 08:29:48

File ID: **AG070909B**

Analyst: **LRD**

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
2	Cal Blank			1.0	07/09/09 19:24		<input type="checkbox"/>
3	Cal Blank			1.0	07/09/09 19:27		<input type="checkbox"/>
4	100 ppb			1.0	07/09/09 19:30		<input type="checkbox"/>
5	ICV			1.0	07/09/09 19:32		<input type="checkbox"/>
6	RLIV			1.0	07/09/09 19:35		<input type="checkbox"/>
7	ICB			1.0	07/09/09 19:38		<input type="checkbox"/>
8	RL STD			1.0	07/09/09 19:41		<input type="checkbox"/>
9	AFCEE RL			1.0	07/09/09 19:43		<input type="checkbox"/>
10	ALTSe			1.0	07/09/09 19:46		<input type="checkbox"/>
11	ICSA			1.0	07/09/09 19:49		<input type="checkbox"/>
12	ICSAB			1.0	07/09/09 19:52		<input type="checkbox"/>
13	RINSE			1.0	07/09/09 19:54		<input type="checkbox"/>
14	LR			1.0	07/09/09 19:57		<input type="checkbox"/>
15	RINSE			1.0	07/09/09 20:00		<input type="checkbox"/>
16	CCV			1.0	07/09/09 20:02		<input type="checkbox"/>
17	CCB			1.0	07/09/09 20:05		<input type="checkbox"/>
18	RLCV			1.0	07/09/09 20:08		<input type="checkbox"/>
19	ICSAB			1.0	07/09/09 20:11		<input type="checkbox"/>
20	RINSE			1.0	07/09/09 20:13		<input type="checkbox"/>
21	CCV			1.0	07/09/09 20:16		<input type="checkbox"/>
22	CCB			1.0	07/09/09 20:19		<input type="checkbox"/>
23	RLCV			1.0	07/09/09 20:22		<input type="checkbox"/>
24	IDL 1			1.0	07/09/09 20:24		<input type="checkbox"/>
25	IDL 2			1.0	07/09/09 20:27		<input type="checkbox"/>
26	IDL 3			1.0	07/09/09 20:30		<input type="checkbox"/>
27	IDL 4			1.0	07/09/09 20:33		<input type="checkbox"/>
28	IDL 5			1.0	07/09/09 20:35		<input type="checkbox"/>
29	IDL 6			1.0	07/09/09 20:38		<input type="checkbox"/>
30	IDL 7			1.0	07/09/09 20:41		<input type="checkbox"/>
31	CCV			1.0	07/09/09 20:44		<input type="checkbox"/>
32	CCB			1.0	07/09/09 20:47		<input type="checkbox"/>
33	RLCV			1.0	07/09/09 20:49		<input type="checkbox"/>
34	LF73CB	D9G090000	9190110	MS	1.0	07/09/09 20:52	<input type="checkbox"/>
35	LF73CC	D9G090000	9190110	MS	1.0	07/09/09 20:55	<input type="checkbox"/>
36	LF7HF	D9G080289-1	9190110	MS	1.0	07/09/09 20:58	<input type="checkbox"/>
37	LF7HFP5	D9G080289	9190110		5.0	07/09/09 21:00	<input type="checkbox"/>
38	LF7HFZ	D9G080289-1	9190110		1.0	07/09/09 21:03	<input type="checkbox"/>
39	LF7HFS	D9G080289-1	9190110	MS	1.0	07/09/09 21:06	<input type="checkbox"/>
40	LF7HFD	D9G080289-1	9190110	MS	1.0	07/09/09 21:09	<input type="checkbox"/>
41	CCV			1.0	07/09/09 21:11		<input type="checkbox"/>
42	CCB			1.0	07/09/09 21:14		<input type="checkbox"/>
43	RLCV			1.0	07/09/09 21:17		<input type="checkbox"/>
44	LF4LLB	D9G070000	9188047	46	1.0	07/09/09 21:20	<input type="checkbox"/>
45	LF4LLC	D9G070000	9188047	46	1.0	07/09/09 21:22	<input type="checkbox"/>
46	LF4C9	D9G060149-1	9188047	46	1.0	07/09/09 21:25	<input type="checkbox"/>
47	LF4C9P5	D9G060149	9188047		5.0	07/09/09 21:28	<input type="checkbox"/>

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 07/10/09 08:29:48

File ID: AG070909B

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
48	LF4C9Z	D9G060149-1	9188047		1.0 07/09/09 21:31		<input type="checkbox"/>
49	LF4C9S	D9G060149-1	9188047	46	1.0 07/09/09 21:33		<input type="checkbox"/>
50	LF4C9D	D9G060149-1	9188047	46	1.0 07/09/09 21:36		<input type="checkbox"/>
51	LF4DE	D9G060149-2	9188047	46	1.0 07/09/09 21:39		<input type="checkbox"/>
52	CCV				1.0 07/09/09 21:41		<input type="checkbox"/>
53	CCB				1.0 07/09/09 21:44		<input type="checkbox"/>
54	RLCV				1.0 07/09/09 21:47		<input type="checkbox"/>
55	RINSE				1.0 07/09/09 21:50		<input type="checkbox"/>
56	RINSE				1.0 07/09/09 21:52		<input type="checkbox"/>
57	RINSE				1.0 07/09/09 21:55		<input type="checkbox"/>
58	RINSE				1.0 07/09/09 21:58		<input type="checkbox"/>
59	RINSE				1.0 07/09/09 22:01		<input type="checkbox"/>
60	RINSE				1.0 07/09/09 22:03		<input type="checkbox"/>
61	Cal Blank				1.0 07/09/09 22:06		<input type="checkbox"/>
62	Cal Blank				1.0 07/09/09 22:09		<input type="checkbox"/>
63	100 ppb				1.0 07/09/09 22:12		<input type="checkbox"/>
64	CCV				1.0 07/09/09 22:14		<input type="checkbox"/>
65	CCB				1.0 07/09/09 22:17		<input type="checkbox"/>
66	RLCV				1.0 07/09/09 22:20		<input type="checkbox"/>
67	LF72LB	D9G090000	9190097	MS	1.0 07/09/09 22:23		<input type="checkbox"/>
68	LF72LC	D9G090000	9190097	MS	1.0 07/09/09 22:25		<input type="checkbox"/>
69	LF72LL	D9G090000	9190097	MS	1.0 07/09/09 22:28		<input type="checkbox"/>
70	LF6XM	D9G080199-1	9190097	MS	1.0 07/09/09 22:31		<input type="checkbox"/>
71	LF6X2	D9G080199-2	9190097	MS	1.0 07/09/09 22:34		<input type="checkbox"/>
72	LF6X3	D9G080199-3	9190097	MS	1.0 07/09/09 22:36		<input type="checkbox"/>
73	LF6X5	D9G080199-4	9190097	MS	1.0 07/09/09 22:39		<input type="checkbox"/>
74	CCV				1.0 07/09/09 22:42		<input type="checkbox"/>
75	CCB				1.0 07/09/09 22:45		<input type="checkbox"/>
76	RLCV				1.0 07/09/09 22:47		<input type="checkbox"/>
77	LF6X6	D9G080199-5	9190097	MS	1.0 07/09/09 22:50		<input type="checkbox"/>
78	LF6X7	D9G080199-6	9190097	MS	1.0 07/09/09 22:53		<input type="checkbox"/>
79	LF6X8	D9G080199-7	9190097	MS	1.0 07/09/09 22:56		<input type="checkbox"/>
80	LF60A	D9G080199-8	9190097	MS	1.0 07/09/09 22:58		<input type="checkbox"/>
81	LF60C	D9G080199-9	9190097	MS	1.0 07/09/09 23:01		<input type="checkbox"/>
82	LF60D	D9G080199-10	9190097	MS	1.0 07/09/09 23:04		<input type="checkbox"/>
83	LF6WE	D9G080211-1	9190097	MS	1.0 07/09/09 23:07		<input type="checkbox"/>
84	LF6WEP5	D9G080211	9190097		5.0 07/09/09 23:09		<input type="checkbox"/>
85	CCV				1.0 07/09/09 23:12		<input type="checkbox"/>
86	CCB				1.0 07/09/09 23:15		<input type="checkbox"/>
87	CCB				1.0 07/09/09 23:18		<input type="checkbox"/>
88	RLCV				1.0 07/09/09 23:21		<input type="checkbox"/>
89	RINSE				1.0 07/09/09 23:23		<input type="checkbox"/>
90	RINSE				1.0 07/09/09 23:26		<input type="checkbox"/>
91	RINSE				1.0 07/09/09 23:29		<input type="checkbox"/>
92	RINSE				1.0 07/09/09 23:33		<input type="checkbox"/>
93	RINSE				1.0 07/09/09 23:36		<input type="checkbox"/>

DNU
LRD
07-10-2009

Denver

RUN SUMMARY

Method: 6020 (ICP/MS)

ICPMS_024 (024)

Reported: 07/10/09 08:29:48

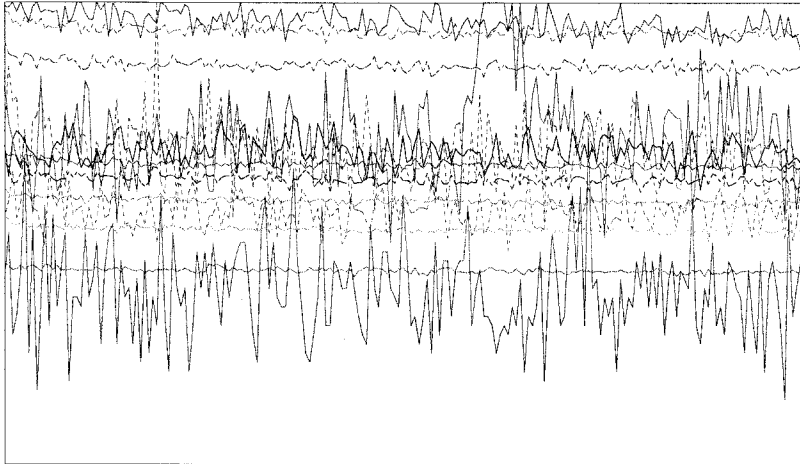
File ID: AG070909B

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
94	RINSE				1.0 07/09/09 23:39	DNU	<input type="checkbox"/>
95	Cal Blank				1.0 07/09/09 23:41	LRD 7-10-2009	<input type="checkbox"/>
96	Cal Blank				1.0 07/09/09 23:44		<input type="checkbox"/>
97	100 ppb				1.0 07/09/09 23:47		<input type="checkbox"/>
98	CCV				1.0 07/09/09 23:49		<input type="checkbox"/>
99	CCB				1.0 07/09/09 23:52		<input type="checkbox"/>
100	RLCV				1.0 07/09/09 23:55		<input type="checkbox"/>
101	LF72LB	D9G090000	9190097	MS	1.0 07/09/09 23:58		<input type="checkbox"/>
102	LF72LC	D9G090000	9190097	MS	1.0 07/10/09 00:00		<input type="checkbox"/>
103	LF72LL	D9G090000	9190097	MS	1.0 07/10/09 00:03		<input type="checkbox"/>
104	LF6XM 2X	D9G080199-1	9190097	MS	2.0 07/10/09 00:06		<input type="checkbox"/>
105	LF6X2 2X	D9G080199-2	9190097	MS	2.0 07/10/09 00:09		<input type="checkbox"/>
106	LF6X3 2X	D9G080199-3	9190097	MS	2.0 07/10/09 00:11		<input type="checkbox"/>
107	LF6X5 2X	D9G080199-4	9190097	MS	2.0 07/10/09 00:14		<input type="checkbox"/>
108	CCV				1.0 07/10/09 00:17		<input type="checkbox"/>
109	CCB				1.0 07/10/09 00:20		<input type="checkbox"/>
110	RLCV				1.0 07/10/09 00:23		<input type="checkbox"/>
111	LF6X6 2X	D9G080199-5	9190097	MS	2.0 07/10/09 00:25		<input type="checkbox"/>
112	LF6X7 2X	D9G080199-6	9190097	MS	2.0 07/10/09 00:28		<input type="checkbox"/>
113	LF6X8 2X	D9G080199-7	9190097	MS	2.0 07/10/09 00:31		<input type="checkbox"/>
114	LF60A	D9G080199-8	9190097	MS	1.0 07/10/09 00:34		<input type="checkbox"/>
115	LF60C 2X	D9G080199-9	9190097	MS	2.0 07/10/09 00:36		<input type="checkbox"/>
116	LF60D 2X	D9G080199-10	9190097	MS	2.0 07/10/09 00:39		<input type="checkbox"/>
117	LF6WE 2X	D9G080211-1	9190097	MS	2.0 07/10/09 00:42		<input type="checkbox"/>
118	LF6WEP10	D9G080211	9190097		10.0 07/10/09 00:45		<input type="checkbox"/>
119	CCV				1.0 07/10/09 00:48		<input type="checkbox"/>
120	CCB				1.0 07/10/09 00:50		<input type="checkbox"/>
121	RLCV				1.0 07/10/09 00:53		<input type="checkbox"/>
122	LF6WEZ	D9G080211-1	9190097		1.0 07/10/09 00:56		<input type="checkbox"/>
123	LF6WES 2X	D9G080211-1	9190097	MS	2.0 07/10/09 00:59		<input type="checkbox"/>
124	LF6WED 2X	D9G080211-1	9190097	MS	2.0 07/10/09 01:01		<input type="checkbox"/>
125	LF6WK 2X	D9G080211-2	9190097	MS	2.0 07/10/09 01:04		<input type="checkbox"/>
126	LF6WP 2X	D9G080211-3	9190097	MS	2.0 07/10/09 01:07		<input type="checkbox"/>
127	LF6WW 2X	D9G080211-4	9190097	MS	2.0 07/10/09 01:10		<input type="checkbox"/>
128	LF7L3 2X	D9G080305-1	9190097	MS	2.0 07/10/09 01:12		<input type="checkbox"/>
129	LF7L5 2X	D9G080305-2	9190097	MS	2.0 07/10/09 01:15		<input type="checkbox"/>
130	CCV				1.0 07/10/09 01:18		<input type="checkbox"/>
131	CCB				1.0 07/10/09 01:21		<input type="checkbox"/>
132	RLCV				1.0 07/10/09 01:24		<input type="checkbox"/>

Tune Report

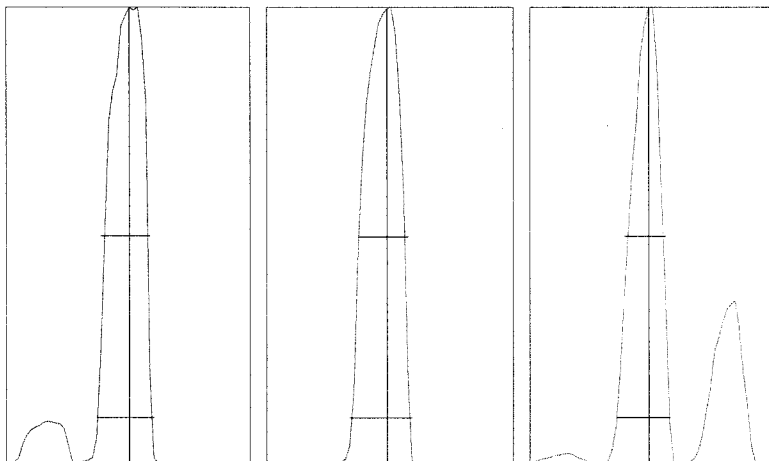
Tune File : NORM.U
 Comment : AG070909



Integration Time: 0.1000 sec
 Sampling Period: 1.5300 sec
 n: 200
 Oxide: 156/140 2.347%
 Doubly Charged: 70/140 1.266%



m/z	Range	Count	Mean	RSD%	Background
6	2,000	1911.0	1917.1	2.68	0.50
7	50,000	20671.0	20922.0	1.22	0.30
59	50,000	29064.0	28517.9	1.15	0.40
63	100	66.0	71.9	14.91	0.60
70	1,000	731.0	679.8	4.33	0.80
75	50	19.0	18.9	26.49	0.80
78	500	298.0	274.3	6.50	0.70
89	50,000	47146.0	46927.4	1.15	0.30
115	100,000	51281.0	50779.3	1.18	0.90
118	200	123.0	136.2	10.37	1.50
137	10,000	6122.0	6171.7	1.71	1.10
205	50,000	42734.0	43182.3	1.25	1.80
238	100,000	65235.0	64900.0	1.17	2.50
156/140	5	2.378%	2.398%	3.89	
70/140	2	1.389%	1.274%	4.40	



m/z:	7	89	205
Height:	21,302	47,055	43,853
Axis:	7.05	89.00	205.00
W-50%:	0.60	0.60	0.50
W-10%:	0.700	0.7500	0.6500



Integration Time: 0.1000 sec
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U
Comment : AG070909

Tuning Parameters

```
===Plasma Condition===
RF Power : 1550 W
RF Matching : 1.7 V
Smpl Depth : 7.5 mm
Torch-H : -0.8 mm
Torch-V : -0.3 mm
Carrier Gas : 0.83 L/min
Makeup Gas : 0.2 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 : -175 V
Omega Bias-ce : -30 V
Omega Lens-ce : -0.2 V
Cell Entrance : -30 V
QP Focus : 5 V
Cell Exit : -30 V

===Q-Pole Parameters===
AMU Gain : 133
AMU Offset : 123
Axis Gain : 1.0005
Axis Offset : -0.01
QP Bias : -10 V

===Detector Parameters===
Discriminator : 8 mV
Analog HV : 1720 V
Pulse HV : 1390 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: Jul 9 2009 07:04 pm

Mass[amu]	Element	P/A Factor
6	Li	0.059981
7	(Li)	Sensitivity too low
9	Be	0.067873
45	Sc	0.082584
51	V	0.084310
52	Cr	0.087548
53	(Cr)	Sensitivity too low
55	Mn	0.089495
59	Co	0.092879
60	Ni	0.094545
63	Cu	0.097113
66	Zn	0.096553
72	Ge	0.095074
75	As	0.094172
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
95	Mo	0.095099
98	(Mo)	0.095223
99	(Mo)	0.096796
106	(Cd)	0.101161
107	Ag	Sensitivity too low
108	(Cd)	0.101583
111	Cd	0.102100
114	Cd	0.102122
115	In	0.101398
118	Sn	0.101144
121	Sb	0.100917
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
205	Tl	0.110883
206	(Pb)	0.109876
207	(Pb)	0.110067
208	Pb	0.109680
232	Th	0.108203
238	U	0.108348

===Detector Parameters===

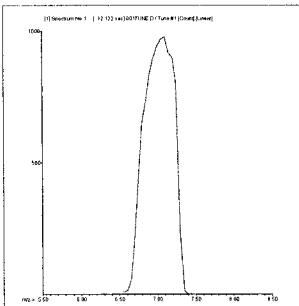
Discriminator: 8.0 mV
Analog HV: 1720 V
Pulse HV: 1390 V

200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG070909B.B\001TUNE.D
 Date Acquired: Jul 9 2009 07:21 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

RSD (%)

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	19144	19212	19228	19124	18925	19230	2.34	5.00	
9 Be	2168	2189	2180	2155	2195	2116	4.23	5.00	
24 Mg	8596	8665	8699	8712	8624	8278	0.79	5.00	
59 Co	59133	60831	58545	58838	59932	57518	3.42	5.00	
115 In	926453	926260	921780	929015	929023	926184	1.19	5.00	
208 Pb	67972	68486	67856	68574	68187	66754	1.65	5.00	
238 U	142554	145017	143923	142923	143081	137821	2.69	5.00	



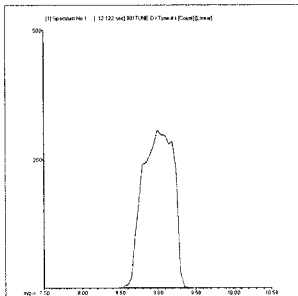
7 Li

Mass Calib.

Actual: 7.10
 Required: 6.90 - 7.10
 Flag:

Peak Width

Actual: 0.60
 Required: 0.90
 Flag:



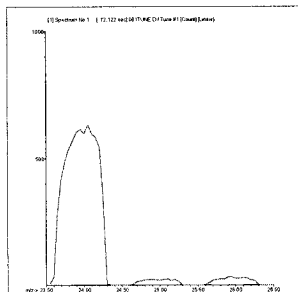
9 Be

Mass Calib.

Actual: 9.10
 Required: 8.90 - 9.10
 Flag:

Peak Width

Actual: 0.55
 Required: 0.90
 Flag:



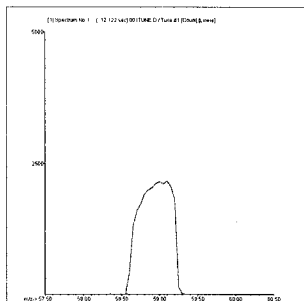
24 Mg

Mass Calib.

Actual: 24.00
 Required: 23.90 - 24.10
 Flag:

Peak Width

Actual: 0.60
 Required: 0.90
 Flag:



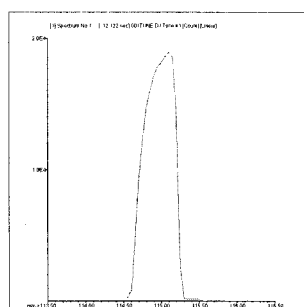
59 Co

Mass Calib.

Actual: 59.05
 Required: 58.90 - 59.10
 Flag:

Peak Width

Actual: 0.60
 Required: 0.90
 Flag:



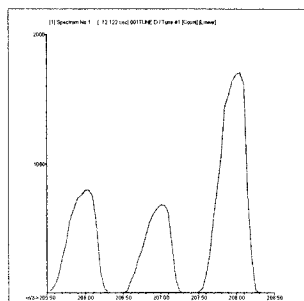
115 In

Mass Calib.

Actual: 115.05
 Required: 114.90 - 115.10
 Flag:

Peak Width

Actual: 0.60
 Required: 0.90
 Flag:



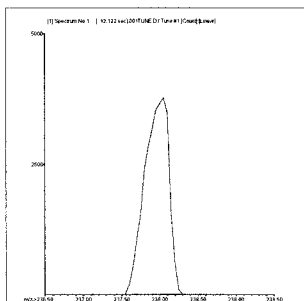
208 Pb

Mass Calib.

Actual: 208.00
 Required: 207.90 - 208.10
 Flag:

Peak Width

Actual: 0.55
 Required: 0.90
 Flag:



238 U

Mass Calib.

Actual: 238.00
 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\AG070909B.B\002CALB.D\002CALB.D#
 Date Acquired: Jul 9 2009 07:24 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: Jul 09 2009 07:25 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	75	53.26
52	Cr	72	1	1663	10.17
55	Mn	72	1	157	20.52
59	Co	72	1	73	20.83
60	Ni	72	1	113	28.36
63	Cu	72	1	280	12.88
66	Zn	72	1	167	4.83
75	As	72	1	26	30.77
78	Se	72	1	37	41.66
95	Mo	72	1	47	32.73
107	Ag	115	1	43	35.25
111	Cd	115	1	13	58.05
118	Sn	115	1	3337	34.02
121	Sb	115	1	38	44.41
137	Ba	115	1	19	10.19
205	Tl	165	1	203	4.92
208	Pb	165	1	303	23.08
232	Th	165	1	773	11.73
238	U	165	1	133	18.88

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	370025	0.09
45	Sc	1	953043	1.28
72	Ge	1	560318	0.19
115	In	1	1789206	1.15
165	Ho	1	4066845	1.33

Tune File# 1 c:\icpchem\1\7500\he.u
 Tune File# 2 C:\ICPCHEM\1\7500\
 Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG070909B.B\003CALB.D\003CALB.D#
 Date Acquired: Jul 9 2009 07:27 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: Jul 09 2009 07:25 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	8	534.66
52	Cr	72	1	1764	4.18
55	Mn	72	1	150	20.00
59	Co	72	1	40	50.00
60	Ni	72	1	73	77.54
63	Cu	72	1	207	26.65
66	Zn	72	1	255	9.98
75	As	72	1	29	22.43
78	Se	72	1	70	14.29
95	Mo	72	1	47	44.61
107	Ag	115	1	43	93.27
111	Cd	115	1	4	112.71
118	Sn	115	1	2654	22.99
121	Sb	115	1	41	16.88
137	Ba	115	1	21	50.76
205	Tl	165	1	100	12.02
208	Pb	165	1	303	2.91
232	Th	165	1	627	17.58
238	U	165	1	44	22.91

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	371452	0.34
45	Sc	1	968611	0.27
72	Ge	1	564811	0.38
115	In	1	1813857	0.59
165	Ho	1	4072608	1.36

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\AG070909B.B\004ICAL.D\004ICAL.D#
 Date Acquired: Jul 9 2009 07:30 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: Jul 09 2009 07:28 pm
 Sample Type: ICAL

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	41620	1.30
51	V	72	1	618896	2.27
52	Cr	72	1	718622	1.08
55	Mn	72	1	657752	0.56
59	Co	72	1	1048922	1.13
60	Ni	72	1	250804	0.93
63	Cu	72	1	618876	1.11
66	Zn	72	1	113272	0.91
75	As	72	1	71050	0.50
78	Se	72	1	10628	1.83
95	Mo	72	1	291695	0.39
107	Ag	115	1	971027	0.97
111	Cd	115	1	165785	1.05
118	Sn	115	1	417154	0.86
121	Sb	115	1	449501	1.13
137	Ba	115	1	180485	1.19
205	Tl	165	1	2209059	0.42
208	Pb	165	1	3021112	0.58
232	Th	165	1	2849635	2.86
238	U	165	1	3462625	1.02

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	359243	0.59	371452	96.7	30 - 120
45	Sc	1	943804	1.05	968611	97.4	30 - 120
72	Ge	1	550621	1.18	564811	97.5	30 - 120
115	In	1	1789392	0.70	1813857	98.7	30 - 120
165	Ho	1	4085911	0.57	4072608	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\AG070909B.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\AG070909B.B\005_ICV.D\005_ICV.D#
 Date Acquired: Jul 9 2009 07:32 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: Jul 09 2009 07:30 pm
 Sample Type: ICV
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	39.14	ppb	2.87	40	97.9	90 - 110
51	V	72	1	40.60	ppb	0.83	40	101.5	90 - 110
52	Cr	72	1	40.85	ppb	0.21	40	102.1	90 - 110
55	Mn	72	1	41.25	ppb	1.07	40	103.1	90 - 110
59	Co	72	1	40.05	ppb	0.65	40	100.1	90 - 110
60	Ni	72	1	40.97	ppb	1.04	40	102.4	90 - 110
63	Cu	72	1	40.80	ppb	0.26	40	102.0	90 - 110
66	Zn	72	1	41.15	ppb	0.75	40	102.9	90 - 110
75	As	72	1	40.10	ppb	0.60	40	100.3	90 - 110
78	Se	72	1	41.82	ppb	3.65	40	104.6	90 - 110
95	Mo	72	1	40.27	ppb	0.92	40	100.7	90 - 110
107	Ag	115	1	39.85	ppb	1.98	40	99.6	90 - 110
111	Cd	115	1	40.61	ppb	1.82	40	101.5	90 - 110
118	Sn	115	1	39.33	ppb	2.67	40	98.3	90 - 110
121	Sb	115	1	38.56	ppb	1.54	40	96.4	90 - 110
137	Ba	115	1	39.84	ppb	2.45	40	99.6	90 - 110
205	Tl	165	1	40.85	ppb	1.02	40	102.1	90 - 110
208	Pb	165	1	40.96	ppb	0.75	40	102.4	90 - 110
232	Th	165	1	46.06	ppb	2.32	40	115.2	90 - 110
238	U	165	1	41.22	ppb	0.97	40	103.1	90 - 110

Fail *NR*

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	357860	0.49	371452	96.3	30 - 120
45	Sc	1	936644	0.33	968611	96.7	30 - 120
72	Ge	1	538752	0.33	564811	95.4	30 - 120
115	In	1	1774140	1.61	1813857	97.8	30 - 120
165	Ho	1	4065105	0.36	4072608	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\AG070909B.B\003CALB.D\003CALB.D#

1 :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\AG070909B.B\006WASH.D\006WASH.D#
 Date Acquired: Jul 9 2009 07:35 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: Jul 09 2009 07:30 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	0.950 ppb	8.47	1.30	
51 V	72	1	5.176 ppb	2.26	6.50	
52 Cr	72	1	2.081 ppb	2.64	2.60	
55 Mn	72	1	1.072 ppb	7.32	1.30	
59 Co	72	1	1.010 ppb	2.41	1.30	
60 Ni	72	1	2.094 ppb	3.69	2.60	
63 Cu	72	1	2.069 ppb	5.36	2.60	
66 Zn	72	1	10.200 ppb	0.49	13.00	
75 As	72	1	5.084 ppb	2.18	6.50	
78 Se	72	1	4.845 ppb	17.55	6.50	
95 Mo	72	1	2.074 ppb	2.66	2.60	
107 Ag	115	1	5.183 ppb	3.14	6.50	
111 Cd	115	1	1.040 ppb	0.27	1.30	
118 Sn	115	1	10.090 ppb	2.82	13.00	
121 Sb	115	1	2.176 ppb	2.96	2.60	
137 Ba	115	1	1.043 ppb	7.92	1.30	
205 Tl	165	1	1.137 ppb	0.79	1.30	
208 Pb	165	1	1.065 ppb	0.62	1.30	
232 Th	165	1	3.306 ppb	4.85	2.60	
238 U	165	1	1.115 ppb	2.10	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	363150	0.59	371452	97.8	30 - 120	
45 Sc	1	942723	2.52	968611	97.3	30 - 120	
72 Ge	1	544294	0.34	564811	96.4	30 - 120	
115 In	1	1781311	0.50	1813857	98.2	30 - 120	
165 Ho	1	4003626	0.98	4072608	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\AG070909B.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\AG070909B.B\007_ICB.D\007_ICB.D#
 Date Acquired: Jul 9 2009 07:38 pm **QC Summary:**
 Operator: LRD **Analytes: Pass**
 Sample Name: ICB **ISTD: Pass**
 Misc Info:
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 09 2009 07:30 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	148.32	1.00
52	Cr	72	1	0.01	ppb	132.14	1.00
55	Mn	72	1	0.00	ppb	70.09	1.00
59	Co	72	1	0.00	ppb	1081.20	1.00
60	Ni	72	1	0.01	ppb	43.19	1.00
63	Cu	72	1	0.01	ppb	9.99	1.00
66	Zn	72	1	-0.09	ppb	10.10	1.00
75	As	72	1	0.01	ppb	132.51	1.00
78	Se	72	1	-0.30	ppb	49.15	1.00
95	Mo	72	1	0.00	ppb	364.59	1.00
107	Ag	115	1	0.00	ppb	16.74	1.00
111	Cd	115	1	-0.01	ppb	182.81	1.00
118	Sn	115	1	-0.28	ppb	33.54	1.00
121	Sb	115	1	0.09	ppb	10.23	1.00
137	Ba	115	1	-0.01	ppb	57.72	1.00
205	Tl	165	1	0.02	ppb	5.58	1.00
208	Pb	165	1	0.00	ppb	37.26	1.00
232	Th	165	1	0.36	ppb	11.30	1.00
238	U	165	1	0.00	ppb	28.14	1.00

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	359517	0.74	371452	96.8	30 - 120
45	Sc	1	938760	1.45	968611	96.9	30 - 120
72	Ge	1	549800	0.63	564811	97.3	30 - 120
115	In	1	1776383	0.80	1813857	97.9	30 - 120
165	Ho	1	4000481	0.15	4072608	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\AG070909B.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\AG070909B.B\008RLST.D\008RLST.D#
 Date Acquired: Jul 9 2009 07:41 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: Jul 09 2009 07:30 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	1.16 ppb	1.23	1	116.1	50 - 150
51	V	72	1	0.96 ppb	5.16	1	95.7	50 - 150
52	Cr	72	1	0.97 ppb	2.55	1	96.8	50 - 150
55	Mn	72	1	0.99 ppb	3.09	1	99.2	50 - 150
59	Co	72	1	0.98 ppb	3.02	1	97.7	50 - 150
60	Ni	72	1	0.96 ppb	4.26	1	96.2	50 - 150
63	Cu	72	1	1.01 ppb	6.03	1	101.0	50 - 150
66	Zn	72	1	10.02 ppb	1.59	10	100.2	50 - 150
75	As	72	1	1.00 ppb	1.97	1	99.7	50 - 150
78	Se	72	1	0.82 ppb	18.17	1	82.4	50 - 150
95	Mo	72	1	1.02 ppb	6.33	1	101.9	50 - 150
107	Ag	115	1	1.00 ppb	3.51	1	100.2	50 - 150
111	Cd	115	1	0.99 ppb	3.50	1	98.6	50 - 150
118	Sn	115	1	9.79 ppb	2.36	10	97.9	50 - 150
121	Sb	115	1	1.03 ppb	1.46	1	103.2	50 - 150
137	Ba	115	1	0.98 ppb	7.00	1	98.5	50 - 150
205	Tl	165	1	1.03 ppb	1.57	1	103.0	50 - 150
208	Pb	165	1	1.03 ppb	1.81	1	102.5	50 - 150
232	Th	165	1	1.14 ppb	1.31	1	114.4	50 - 150
238	U	165	1	1.06 ppb	1.13	1	105.5	50 - 150

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	361715	1.35	371452	97.4	30 - 120
45	Sc	1	959618	1.83	968611	99.1	30 - 120
72	Ge	1	555591	0.47	564811	98.4	30 - 120
115	In	1	1787863	0.84	1813857	98.6	30 - 120
165	Ho	1	4055202	0.77	4072608	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\AG070909B.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\AG070909B.B\009AFCE.D\009AFCE.D#
 Date Acquired: Jul 9 2009 07:43 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: Jul 09 2009 07:30 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	0.17 ppb	20.08	0	74.8	80 - 120	
51	V	72	0.20 ppb	12.09	0	106.1	80 - 120	
52	Cr	72	0.18 ppb	9.50	0	91.2	80 - 120	
55	Mn	72	0.21 ppb	8.23	0	107.9	80 - 120	
59	Co	72	0.18 ppb	5.81	0	91.7	80 - 120	
60	Ni	72	0.18 ppb	10.77	0	94.1	80 - 120	
63	Cu	72	0.21 ppb	2.82	0	105.4	80 - 120	
66	Zn	72	1.87 ppb	6.68	2	93.3	80 - 120	
75	As	72	0.21 ppb	11.45	0	106.6	80 - 120	
78	Se	72	-0.05 ppb	355.01	0	-33.3	80 - 120	
95	Mo	72	0.19 ppb	27.08	0	95.2	80 - 120	
107	Ag	115	0.20 ppb	3.64	0	100.8	80 - 120	
111	Cd	115	0.21 ppb	5.02	0	104.2	80 - 120	
118	Sn	115	1.66 ppb	4.48	2	84.9	80 - 120	
121	Sb	115	0.20 ppb	4.07	0	97.2	80 - 120	
137	Ba	115	0.20 ppb	3.16	0	100.9	80 - 120	
205	Tl	165	0.21 ppb	3.35	0	101.4	80 - 120	
208	Pb	165	0.20 ppb	1.97	0	97.3	80 - 120	
232	Th	165	0.29 ppb	5.69	0	124.6	80 - 120	
238	U	165	0.21 ppb	0.79	0	97.3	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364107	0.85	371452	98.0	30 - 120
45	Sc	1	959804	0.57	968611	99.1	30 - 120
72	Ge	1	558315	0.28	564811	98.8	30 - 120
115	In	1	1801250	0.61	1813857	99.3	30 - 120
165	Ho	1	4083788	0.78	4072608	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\AG070909B.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\AG070909B.B\010SMPL.D\010SMPL.D#
 Date Acquired: Jul 9 2009 07:46 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: Jul 09 2009 07:30 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	-0.04	-0.04	ppb	82.47	3600	
52 Cr	72	1	-0.02	-0.02	ppb	87.10	3600	
55 Mn	72	1	0.00	0.00	ppb	98.92	3600	
59 Co	72	1	0.00	0.00	ppb	199.63	3600	
60 Ni	72	1	0.01	0.01	ppb	43.65	3600	
63 Cu	72	1	0.01	0.01	ppb	29.85	3600	
66 Zn	72	1	-0.06	-0.06	ppb	4.69	3600	
75 As	72	1	-0.01	-0.01	ppb	209.03	3600	
78 Se	72	1	2.07	2.07	ppb	9.66	3600	
95 Mo	72	1	0.00	0.00	ppb	190.65	3600	
107 Ag	115	1	0.00	0.00	ppb	516.81	3600	
111 Cd	115	1	-0.01	-0.01	ppb	122.70	3600	
118 Sn	115	1	-0.33	-0.33	ppb	10.68	3600	
121 Sb	115	1	0.01	0.01	ppb	15.35	3600	
137 Ba	115	1	0.00	0.00	ppb	375.85	3600	
205 Tl	165	1	0.00	0.00	ppb	25.88	3600	
208 Pb	165	1	0.00	0.00	ppb	431.40	3600	
232 Th	165	1	0.03	0.03	ppb	23.78	1000	
238 U	165	1	0.00	0.00	ppb	104.08	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	365128	0.22	371452	98.3	30 - 120	
45 Sc	1	964565	1.57	968611	99.6	30 - 120	
72 Ge	1	564149	0.67	564811	99.9	30 - 120	
115 In	1	1816410	0.82	1813857	100.1	30 - 120	
165 Ho	1	4076628	0.47	4072608	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\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG070909B.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\AG070909B.B\011ICSA.D\011ICSA.D#
 Date Acquired: Jul 9 2009 07:49 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: Jul 09 2009 07:30 pm
 Sample Type: ICSA
 Dilution Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.04 ppb	86.61	1.00
51	V	72	1	-0.04 ppb	14.04	1.00
52	Cr	72	1	0.99 ppb	7.78	1.00
55	Mn	72	1	2.11 ppb	5.98	1.00
59	Co	72	1	0.05 ppb	8.04	1.00
60	Ni	72	1	0.73 ppb	6.57	1.00
63	Cu	72	1	0.29 ppb	11.23	1.00
66	Zn	72	1	2.54 ppb	3.17	10.00
75	As	72	1	0.12 ppb	22.94	1.00
78	Se	72	1	0.00 ppb	6243.40	1.00
95	Mo	72	1	2038.00 ppb	0.39	2000.00
107	Ag	115	1	0.07 ppb	23.06	1.00
111	Cd	115	1	0.25 ppb	64.11	1.00
118	Sn	115	1	-0.18 ppb	35.76	10.00
121	Sb	115	1	0.25 ppb	3.53	1.00
137	Ba	115	1	1.59 ppb	7.67	1.00
205	Tl	165	1	0.05 ppb	21.81	1.00
208	Pb	165	1	0.13 ppb	3.17	1.00
232	Th	165	1	0.10 ppb	19.01	1.00
238	U	165	1	0.02 ppb	3.26	1.00

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	317135	1.81	371452	85.4	30 - 120
45	Sc	1	764732	0.73	968611	79.0	30 - 120
72	Ge	1	428631	0.56	564811	75.9	30 - 120
115	In	1	1436592	0.87	1813857	79.2	30 - 120
165	Ho	1	3496711	0.64	4072608	85.9	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\AG070909B.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\AG070909B.B\012ICSB.D\012ICSB.D#
 Date Acquired: Jul 9 2009 07:52 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: Jul 09 2009 07:30 pm
 Sample Type: ICSAB
 Dilution Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	92.06	1.14	100	92.1	80 - 120	
51 V	72	1	101.00	0.49	100	101.0	80 - 120	
52 Cr	72	1	99.95	0.74	100	100.0	80 - 120	
55 Mn	72	1	101.90	1.10	100	101.9	80 - 120	
59 Co	72	1	93.55	0.48	100	93.6	80 - 120	
60 Ni	72	1	89.82	0.49	100	89.8	80 - 120	
63 Cu	72	1	87.74	0.29	100	87.7	80 - 120	
66 Zn	72	1	99.59	0.70	100	99.6	80 - 120	
75 As	72	1	98.79	0.68	100	98.8	80 - 120	
78 Se	72	1	107.60	7.07	100	107.6	80 - 120	
95 Mo	72	1	2126.00	1.07	2100	101.2	80 - 120	
107 Ag	115	1	79.51	1.11	100	79.5	80 - 120	
111 Cd	115	1	93.14	0.26	100	93.1	80 - 120	
118 Sn	115	1	100.20	0.34	100	100.2	80 - 120	
121 Sb	115	1	100.40	0.48	100	100.4	80 - 120	
137 Ba	115	1	102.30	0.68	100	102.3	80 - 120	
205 Tl	165	1	94.39	1.18	100	94.4	80 - 120	
208 Pb	165	1	93.47	0.25	100	93.5	80 - 120	
232 Th	165	1	111.50	1.56	100	111.5	80 - 120	
238 U	165	1	102.40	0.65	100	102.4	80 - 120	

*Fail OK ✓
7/13/09*

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	342834	1.33	371452	92.3	30 - 120	
45 Sc	1	764577	0.75	968611	78.9	30 - 120	
72 Ge	1	428588	1.02	564811	75.9	30 - 120	
115 In	1	1467004	0.55	1813857	80.9	30 - 120	
165 Ho	1	3626612	0.17	4072608	89.0	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\AG070909B.B\003CALB.D\003CALB.D#

1 :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\AG070909B.B\013SMPL.D\013SMPL.D#
 Date Acquired: Jul 9 2009 07:54 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: Jul 09 2009 07:30 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	100.44	3600
51	V	72	1	-0.01	-0.01	ppb	63.18	3600
52	Cr	72	1	-0.03	-0.03	ppb	57.07	3600
55	Mn	72	1	0.01	0.01	ppb	52.11	3600
59	Co	72	1	0.01	0.01	ppb	43.58	3600
60	Ni	72	1	0.01	0.01	ppb	104.64	3600
63	Cu	72	1	0.02	0.02	ppb	45.29	3600
66	Zn	72	1	-0.05	-0.05	ppb	8.64	3600
75	As	72	1	0.01	0.01	ppb	90.29	3600
78	Se	72	1	-0.21	-0.21	ppb	145.61	3600
95	Mo	72	1	1.37	1.37	ppb	6.78	3600
107	Ag	115	1	0.01	0.01	ppb	45.62	3600
111	Cd	115	1	0.00	0.00	ppb	277.55	3600
118	Sn	115	1	-0.31	-0.31	ppb	9.75	3600
121	Sb	115	1	0.05	0.05	ppb	22.50	3600
137	Ba	115	1	0.01	0.01	ppb	92.84	3600
205	Tl	165	1	0.01	0.01	ppb	34.19	3600
208	Pb	165	1	0.01	0.01	ppb	15.08	3600
232	Th	165	1	0.82	0.82	ppb	13.57	1000
238	U	165	1	0.02	0.02	ppb	3.93	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	380418	0.72	371452	102.4	30 - 120
45	Sc	1	878923	1.34	968611	90.7	30 - 120
72	Ge	1	517911	0.40	564811	91.7	30 - 120
115	In	1	1721647	0.65	1813857	94.9	30 - 120
165	Ho	1	4031480	1.12	4072608	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\AG070909B.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\AG070909B.B\014_LR.D\014_LR.D#
 Date Acquired: Jul 9 2009 07:57 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: LR
 Misc Info:
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	958.00 ppb	0.72	1000	95.8	90 - 110	
51 V	72	1	944.80 ppb	1.02	1000	94.5	90 - 110	
52 Cr	72	1	949.60 ppb	0.88	1000	95.0	90 - 110	
55 Mn	72	1	974.30 ppb	0.28	1000	97.4	90 - 110	
59 Co	72	1	933.10 ppb	1.25	1000	93.3	90 - 110	
60 Ni	72	1	967.60 ppb	0.71	1000	96.8	90 - 110	
63 Cu	72	1	936.00 ppb	1.00	1000	93.6	90 - 110	
66 Zn	72	1	1022.00 ppb	0.42	1000	102.2	90 - 110	
75 As	72	1	970.40 ppb	0.52	1000	97.0	90 - 110	
78 Se	72	1	1004.00 ppb	0.86	1000	100.4	90 - 110	
95 Mo	72	1	990.30 ppb	0.72	1000	99.0	90 - 110	
107 Ag	115	1	916.50 ppb	0.87	1000	91.7	90 - 110	
111 Cd	115	1	975.40 ppb	0.66	1000	97.5	90 - 110	
118 Sn	115	1	968.70 ppb	1.38	1000	96.9	90 - 110	
121 Sb	115	1	957.40 ppb	0.75	1000	95.7	90 - 110	
137 Ba	115	1	987.10 ppb	0.93	1000	98.7	90 - 110	
205 Tl	165	1	967.70 ppb	1.06	1000	96.8	90 - 110	
208 Pb	165	1	963.80 ppb	1.50	1000	96.4	90 - 110	
232 Th	165	1	1074.00 ppb	1.75	1000	107.4	90 - 110	
238 U	165	1	995.70 ppb	1.15	1000	99.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	361861	0.51	371452	97.4	30 - 120	
45 Sc	1	883070	1.31	968611	91.2	30 - 120	
72 Ge	1	513438	0.68	564811	90.9	30 - 120	
115 In	1	1740051	1.04	1813857	95.9	30 - 120	
165 Ho	1	4079027	0.90	4072608	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\AG070909B.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\AG070909B.B\015SMPL.D\015SMPL.D#
 Date Acquired: Jul 9 2009 08:00 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: Jul 09 2009 07:30 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	0.09	0.09	ppb	66.41	3600
51	V	72	1	0.07	0.07	ppb	12.19	3600
52	Cr	72	1	0.05	0.05	ppb	23.76	3600
55	Mn	72	1	0.07	0.07	ppb	36.20	3600
59	Co	72	1	0.08	0.08	ppb	23.19	3600
60	Ni	72	1	0.08	0.08	ppb	32.28	3600
63	Cu	72	1	0.12	0.12	ppb	26.70	3600
66	Zn	72	1	0.03	0.03	ppb	62.32	3600
75	As	72	1	0.12	0.12	ppb	17.82	3600
78	Se	72	1	0.02	0.02	ppb	664.52	3600
95	Mo	72	1	0.76	0.76	ppb	10.53	3600
107	Ag	115	1	0.08	0.08	ppb	30.13	3600
111	Cd	115	1	0.08	0.08	ppb	22.60	3600
118	Sn	115	1	1.09	1.09	ppb	8.82	3600
121	Sb	115	1	0.61	0.61	ppb	5.10	3600
137	Ba	115	1	0.07	0.07	ppb	32.25	3600
205	Tl	165	1	0.12	0.12	ppb	19.29	3600
208	Pb	165	1	0.08	0.08	ppb	26.74	3600
232	Th	165	1	5.28	5.28	ppb	19.77	1000
238	U	165	1	0.14	0.14	ppb	10.37	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	375391	1.11	371452	101.1	30 - 120
45	Sc	1	927611	1.66	968611	95.8	30 - 120
72	Ge	1	543595	0.25	564811	96.2	30 - 120
115	In	1	1781913	2.05	1813857	98.2	30 - 120
165	Ho	1	4090868	0.43	4072608	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\AG070909B.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\AG070909B.B\016_CCV.D\016_CCV.D#
 Date Acquired: Jul 9 2009 08:02 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: Jul 09 2009 07:30 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	48.44 ppb	1.86	50	96.9	90 - 110	
51	V	72	49.34 ppb	0.79	50	98.7	90 - 110	
52	Cr	72	49.58 ppb	0.49	50	99.2	90 - 110	
55	Mn	72	49.86 ppb	0.34	50	99.7	90 - 110	
59	Co	72	48.32 ppb	1.08	50	96.6	90 - 110	
60	Ni	72	48.48 ppb	0.76	50	97.0	90 - 110	
63	Cu	72	49.40 ppb	0.71	50	98.8	90 - 110	
66	Zn	72	49.59 ppb	0.60	50	99.2	90 - 110	
75	As	72	49.10 ppb	0.79	50	98.2	90 - 110	
78	Se	72	51.76 ppb	6.79	50	103.5	90 - 110	
95	Mo	72	49.30 ppb	0.71	50	98.6	90 - 110	
107	Ag	115	48.69 ppb	1.54	50	97.4	90 - 110	
111	Cd	115	49.30 ppb	0.99	50	98.6	90 - 110	
118	Sn	115	49.70 ppb	1.34	50	99.4	90 - 110	
121	Sb	115	49.31 ppb	0.96	50	98.6	90 - 110	
137	Ba	115	49.34 ppb	1.54	50	98.7	90 - 110	
205	Tl	165	49.55 ppb	1.86	50	99.1	90 - 110	
208	Pb	165	50.39 ppb	0.18	50	100.8	90 - 110	
232	Th	165	52.02 ppb	3.65	50	104.0	90 - 110	
238	U	165	50.91 ppb	0.75	50	101.8	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	370834	0.30	371452	99.8	30 - 120
45	Sc	1	933785	0.88	968611	96.4	30 - 120
72	Ge	1	539608	0.52	564811	95.5	30 - 120
115	In	1	1798609	0.85	1813857	99.2	30 - 120
165	Ho	1	4123260	0.88	4072608	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\AG070909B.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\AG070909B.B\017_CCB.D\017_CCB.D#
 Date Acquired: Jul 9 2009 08:05 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: Jul 09 2009 07:30 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

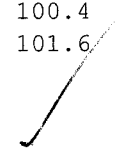
QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.008	ppb	173.22	1.00	
51 V	72	1	-0.028	ppb	113.84	1.00	
52 Cr	72	1	-0.012	ppb	100.08	1.00	
55 Mn	72	1	-0.002	ppb	110.60	1.00	
59 Co	72	1	0.003	ppb	31.54	1.00	
60 Ni	72	1	0.001	ppb	1941.60	1.00	
63 Cu	72	1	0.023	ppb	50.48	1.00	
66 Zn	72	1	-0.087	ppb	24.42	1.00	
75 As	72	1	0.019	ppb	130.61	1.00	
78 Se	72	1	-0.395	ppb	27.37	1.00	
95 Mo	72	1	0.137	ppb	16.90	1.00	
107 Ag	115	1	0.020	ppb	32.82	1.00	
111 Cd	115	1	0.012	ppb	37.28	1.00	
118 Sn	115	1	-0.007	ppb	610.59	1.00	
121 Sb	115	1	0.122	ppb	6.27	1.00	
137 Ba	115	1	0.004	ppb	50.89	1.00	
205 Tl	165	1	0.034	ppb	14.64	1.00	
208 Pb	165	1	0.003	ppb	37.09	1.00	
232 Th	165	1	1.381	ppb	15.50	1.00	Fail
238 U	165	1	0.017	ppb	4.24	1.00	

MR

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	373874	0.73	371452	100.7	30 - 120	
45 Sc	1	945270	0.85	968611	97.6	30 - 120	
72 Ge	1	552606	0.40	564811	97.8	30 - 120	
115 In	1	1821881	0.39	1813857	100.4	30 - 120	
165 Ho	1	4138346	0.46	4072608	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\AG070909B.B\003CALB.D\003CALB.D#

1 :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\AG070909B.B\018WASH.D\018WASH.D#
Date Acquired: Jul 9 2009 08:08 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: Jul 09 2009 07:30 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	0.916 ppb	23.53	1.30	
51 V	72	1	5.123 ppb	2.24	6.50	
52 Cr	72	1	2.081 ppb	1.68	2.60	
55 Mn	72	1	1.066 ppb	0.81	1.30	
59 Co	72	1	1.016 ppb	2.30	1.30	
60 Ni	72	1	2.054 ppb	3.70	2.60	
63 Cu	72	1	2.052 ppb	3.73	2.60	
66 Zn	72	1	10.130 ppb	1.21	13.00	
75 As	72	1	4.893 ppb	0.33	6.50	
78 Se	72	1	4.736 ppb	18.54	6.50	
95 Mo	72	1	2.011 ppb	2.11	2.60	
107 Ag	115	1	5.200 ppb	0.85	6.50	
111 Cd	115	1	1.010 ppb	6.91	1.30	
118 Sn	115	1	10.150 ppb	1.93	13.00	
121 Sb	115	1	1.972 ppb	4.04	2.60	
137 Ba	115	1	1.069 ppb	4.72	1.30	
205 Tl	165	1	1.085 ppb	0.91	1.30	
208 Pb	165	1	1.064 ppb	1.05	1.30	
232 Th	165	1	2.600 ppb	1.15	2.60	
238 U	165	1	1.102 ppb	0.33	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	377469	0.68	371452	101.6	30 - 120	
45 Sc	1	965547	1.32	968611	99.7	30 - 120	
72 Ge	1	558611	0.13	564811	98.9	30 - 120	
115 In	1	1815992	0.35	1813857	100.1	30 - 120	
165 Ho	1	4114352	0.60	4072608	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\AG070909B.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\AG070909B.B\019ICSB.D\019ICSB.D#
 Date Acquired: Jul 9 2009 08:11 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: Jul 09 2009 07:30 pm
 Sample Type: ICSAB
 Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

*DNU
 LRD
 7/10/2009*

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	90.63	3.14	100	90.6	80 - 120	
51 V	72	1	99.86	0.51	100	99.9	80 - 120	
52 Cr	72	1	98.64	0.48	100	98.6	80 - 120	
55 Mn	72	1	99.82	0.09	100	99.8	80 - 120	
59 Co	72	1	92.61	0.46	100	92.6	80 - 120	
60 Ni	72	1	89.30	0.50	100	89.3	80 - 120	
63 Cu	72	1	86.63	0.26	100	86.6	80 - 120	
66 Zn	72	1	98.09	0.56	100	98.1	80 - 120	
75 As	72	1	99.21	0.60	100	99.2	80 - 120	
78 Se	72	1	107.00	4.02	100	107.0	80 - 120	
95 Mo	72	1	2095.00	1.20	2100	99.8	80 - 120	
107 Ag	115	1	82.18	2.34	100	82.2	80 - 120	
111 Cd	115	1	92.44	1.83	100	92.4	80 - 120	
118 Sn	115	1	98.94	1.93	100	98.9	80 - 120	
121 Sb	115	1	100.30	2.30	100	100.3	80 - 120	
137 Ba	115	1	102.00	1.92	100	102.0	80 - 120	
205 Tl	165	1	93.26	0.75	100	93.3	80 - 120	
208 Pb	165	1	91.55	0.38	100	91.6	80 - 120	
232 Th	165	1	108.30	1.35	100	108.3	80 - 120	
238 U	165	1	100.60	0.28	100	100.6	80 - 120	

ISTD Elements

Element	Tune	CFS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	349082	0.44	371452	94.0	30 - 120	
45 Sc	1	806033	1.06	968611	83.2	30 - 120	
72 Ge	1	447848	1.20	564811	79.3	30 - 120	
115 In	1	1510608	1.28	1813857	83.3	30 - 120	
165 Ho	1	3712403	0.29	4072608	91.2	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\AG070909B.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\AG070909B.B\020SMPL.D\020SMPL.D#
 Date Acquired: Jul 9 2009 08:13 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: Jul 09 2009 07:30 pm
 Sample Type: SA
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

*DNU
 LRD
 7/10/2009*

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	683.28	3600	
52 Cr	72	1	0.00	0.00	ppb	626.77	3600	
55 Mn	72	1	0.02	0.02	ppb	25.70	3600	
59 Co	72	1	0.01	0.01	ppb	42.91	3600	
60 Ni	72	1	0.00	0.00	ppb	131.20	3600	
63 Cu	72	1	0.02	0.02	ppb	33.77	3600	
66 Zn	72	1	-0.05	-0.05	ppb	19.56	3600	
75 As	72	1	0.02	0.02	ppb	90.04	3600	
78 Se	72	1	0.04	0.04	ppb	1062.50	3600	
95 Mo	72	1	1.19	1.19	ppb	11.58	3600	
107 Ag	115	1	0.01	0.01	ppb	21.97	3600	
111 Cd	115	1	0.02	0.02	ppb	88.68	3600	
118 Sn	115	1	-0.28	-0.28	ppb	23.24	3600	
121 Sb	115	1	0.07	0.07	ppb	3.53	3600	
137 Ba	115	1	0.01	0.01	ppb	74.28	3600	
205 Tl	165	1	0.01	0.01	ppb	17.79	3600	
208 Pb	165	1	0.01	0.01	ppb	23.17	3600	
232 Th	165	1	0.98	0.98	ppb	13.49	1000	
238 U	165	1	0.02	0.02	ppb	2.45	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	372618	1.21	371452	100.3	30 - 120	
45 Sc	1	901389	0.80	968611	93.1	30 - 120	
72 Ge	1	530681	0.47	564811	94.0	30 - 120	
115 In	1	1755329	1.14	1813857	96.8	30 - 120	
165 Ho	1	4056355	0.25	4072608	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\AG070909B.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\AG070909B.B\021_CC.V.D\021_CC.V.D#
 Date Acquired: Jul 9 2009 08:16 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: Jul 09 2009 07:30 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	48.38 ppb	1.82	50	96.8	90 - 110
51	V	72	1	48.86 ppb	0.96	50	97.7	90 - 110
52	Cr	72	1	49.00 ppb	0.77	50	98.0	90 - 110
55	Mn	72	1	49.58 ppb	0.40	50	99.2	90 - 110
59	Co	72	1	48.15 ppb	0.54	50	96.3	90 - 110
60	Ni	72	1	48.62 ppb	0.64	50	97.2	90 - 110
63	Cu	72	1	48.29 ppb	0.37	50	96.6	90 - 110
66	Zn	72	1	49.39 ppb	0.83	50	98.8	90 - 110
75	As	72	1	49.17 ppb	0.77	50	98.3	90 - 110
78	Se	72	1	49.13 ppb	2.75	50	98.3	90 - 110
95	Mo	72	1	48.99 ppb	0.67	50	98.0	90 - 110
107	Ag	115	1	48.36 ppb	1.26	50	96.7	90 - 110
111	Cd	115	1	48.73 ppb	0.85	50	97.5	90 - 110
118	Sn	115	1	49.47 ppb	0.86	50	98.9	90 - 110
121	Sb	115	1	49.28 ppb	0.35	50	98.6	90 - 110
137	Ba	115	1	49.33 ppb	0.73	50	98.7	90 - 110
205	Tl	165	1	50.78 ppb	1.27	50	101.6	90 - 110
208	Pb	165	1	50.55 ppb	0.77	50	101.1	90 - 110
232	Th	165	1	51.57 ppb	2.44	50	103.1	90 - 110
238	U	165	1	50.88 ppb	1.60	50	101.8	90 - 110

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	371040	1.36	371452	99.9	30 - 120
45	Sc	1	946405	2.60	968611	97.7	30 - 120
72	Ge	1	548357	0.57	564811	97.1	30 - 120
115	In	1	1835859	0.45	1813857	101.2	30 - 120
165	Ho	1	4185510	0.85	4072608	102.8	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\AG070909B.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\AG070909B.B\022_CCB.D\022_CCB.D#
 Date Acquired: Jul 9 2009 08:19 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: Jul 09 2009 07:30 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

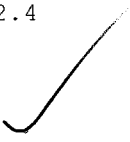
QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.015	ppb	86.59	1.00	
51 V	72	1	0.022	ppb	155.27	1.00	
52 Cr	72	1	-0.006	ppb	68.76	1.00	
55 Mn	72	1	0.003	ppb	178.90	1.00	
59 Co	72	1	0.006	ppb	48.35	1.00	
60 Ni	72	1	0.012	ppb	136.62	1.00	
63 Cu	72	1	0.011	ppb	103.48	1.00	
66 Zn	72	1	-0.090	ppb	30.89	1.00	
75 As	72	1	0.001	ppb	124.39	1.00	
78 Se	72	1	-0.118	ppb	318.36	1.00	
95 Mo	72	1	0.132	ppb	7.65	1.00	
107 Ag	115	1	0.008	ppb	18.76	1.00	
111 Cd	115	1	0.005	ppb	161.40	1.00	
118 Sn	115	1	-0.187	ppb	12.73	1.00	
121 Sb	115	1	0.070	ppb	5.46	1.00	
137 Ba	115	1	-0.002	ppb	191.93	1.00	
205 Tl	165	1	0.022	ppb	12.54	1.00	
208 Pb	165	1	0.002	ppb	33.89	1.00	
232 Th	165	1	1.156	ppb	17.21	1.00	Fail
238 U	165	1	0.009	ppb	4.30	1.00	

ML

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag
6 Li	1	374198	0.72	371452	100.7	30 - 120	
45 Sc	1	961838	1.08	968611	99.3	30 - 120	
72 Ge	1	559480	0.33	564811	99.1	30 - 120	
115 In	1	1837458	0.26	1813857	101.3	30 - 120	
165 Ho	1	4170732	0.49	4072608	102.4	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\AG070909B.B\003CALB.D\003CALB.D#

1 :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\AG070909B.B\023WASH.D\023WASH.D#
 Date Acquired: Jul 9 2009 08:22 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: Jul 09 2009 07:30 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	1.371 ppb	8.72	1.30	
51 V	72	1	5.126 ppb	3.24	6.50	
52 Cr	72	1	2.056 ppb	2.63	2.60	
55 Mn	72	1	1.030 ppb	2.11	1.30	
59 Co	72	1	0.976 ppb	3.41	1.30	
60 Ni	72	1	2.112 ppb	3.33	2.60	
63 Cu	72	1	1.997 ppb	0.64	2.60	
66 Zn	72	1	10.120 ppb	2.07	13.00	
75 As	72	1	5.012 ppb	2.82	6.50	
78 Se	72	1	5.520 ppb	5.25	6.50	
95 Mo	72	1	2.059 ppb	2.28	2.60	
107 Ag	115	1	5.098 ppb	1.32	6.50	
111 Cd	115	1	1.053 ppb	0.46	1.30	
118 Sn	115	1	10.080 ppb	0.39	13.00	
121 Sb	115	1	1.919 ppb	0.96	2.60	
137 Ba	115	1	1.066 ppb	0.73	1.30	
205 Tl	165	1	1.095 ppb	1.35	1.30	
208 Pb	165	1	1.066 ppb	0.75	1.30	
232 Th	165	1	2.459 ppb	0.63	2.60	
238 U	165	1	1.104 ppb	0.09	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	375667	0.38	371452	101.1	30 - 120	
45 Sc	1	976276	1.49	968611	100.8	30 - 120	
72 Ge	1	569448	0.08	564811	100.8	30 - 120	
115 In	1	1858307	0.71	1813857	102.5	30 - 120	
165 Ho	1	4210629	0.24	4072608	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\AG070909B.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\AG070909B.B\024SMPL.D\024SMPL.D#
 Date Acquired: Jul 9 2009 08:24 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: IDL 1
 Misc Info: IDL 1
 Vial Number: 2201
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	5802.60	3600	
52	Cr	72	1	0.02	0.02	ppb	28.81	3600	
55	Mn	72	1	0.00	0.00	ppb	91.50	3600	
59	Co	72	1	0.00	0.00	ppb	247.44	3600	
60	Ni	72	1	-0.01	-0.01	ppb	257.68	3600	
63	Cu	72	1	0.04	0.04	ppb	37.58	3600	
66	Zn	72	1	0.05	0.05	ppb	33.99	3600	
75	As	72	1	0.00	0.00	ppb	507.59	3600	
78	Se	72	1	-0.25	-0.25	ppb	128.67	3600	
95	Mo	72	1	0.04	0.04	ppb	25.81	3600	
107	Ag	115	1	0.01	0.01	ppb	54.30	3600	
111	Cd	115	1	0.01	0.01	ppb	325.20	3600	
118	Sn	115	1	-0.46	-0.46	ppb	5.97	3600	
121	Sb	115	1	0.04	0.04	ppb	9.87	3600	
137	Ba	115	1	0.01	0.01	ppb	32.85	3600	
205	Tl	165	1	0.01	0.01	ppb	31.69	3600	
208	Pb	165	1	0.00	0.00	ppb	68.00	3600	
232	Th	165	1	0.25	0.25	ppb	13.93	1000	
238	U	165	1	0.00	0.00	ppb	44.27	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	374974	0.39	371452	100.9	30 - 120
45	Sc	1	980798	1.41	968611	101.3	30 - 120
72	Ge	1	570443	0.20	564811	101.0	30 - 120
115	In	1	1860003	0.88	1813857	102.5	30 - 120
165	Ho	1	4209249	0.46	4072608	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\AG070909B.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\AG070909B.B\025SMPL.D\025SMPL.D#
 Date Acquired: Jul 9 2009 08:27 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: IDL 2
 Misc Info: IDL 2
 Vial Number: 2202
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	-0.01	-0.01	ppb	290.58	3600
52	Cr	72	1	0.07	0.07	ppb	10.17	3600
55	Mn	72	1	0.00	0.00	ppb	1205.20	3600
59	Co	72	1	0.00	0.00	ppb	89.02	3600
60	Ni	72	1	0.00	0.00	ppb	658.84	3600
63	Cu	72	1	0.02	0.02	ppb	33.52	3600
66	Zn	72	1	0.01	0.01	ppb	270.46	3600
75	As	72	1	0.00	0.00	ppb	2338.50	3600
78	Se	72	1	-0.28	-0.28	ppb	32.33	3600
95	Mo	72	1	0.04	0.04	ppb	23.33	3600
107	Ag	115	1	0.01	0.01	ppb	34.15	3600
111	Cd	115	1	0.00	0.00	ppb	198.50	3600
118	Sn	115	1	-0.49	-0.49	ppb	3.92	3600
121	Sb	115	1	0.02	0.02	ppb	26.00	3600
137	Ba	115	1	-0.01	-0.01	ppb	80.45	3600
205	Tl	165	1	0.01	0.01	ppb	22.38	3600
208	Pb	165	1	0.00	0.00	ppb	51.13	3600
232	Th	165	1	0.09	0.09	ppb	11.59	1000
238	U	165	1	0.00	0.00	ppb	37.55	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	379756	0.97	371452	102.2	30 - 120
45	Sc	1	989350	0.24	968611	102.1	30 - 120
72	Ge	1	573316	0.13	564811	101.5	30 - 120
115	In	1	1861164	1.10	1813857	102.6	30 - 120
165	Ho	1	4218186	0.65	4072608	103.6	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\AG070909B.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\AG070909B.B\026SMPL.D\026SMPL.D#
 Date Acquired: Jul 9 2009 08:30 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: IDL 3
 Misc Info: IDL 3
 Vial Number: 2203
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	499.13	3600	
52 Cr	72	1	0.02	0.02	ppb	92.39	3600	
55 Mn	72	1	0.01	0.01	ppb	66.11	3600	
59 Co	72	1	0.00	0.00	ppb	63.94	3600	
60 Ni	72	1	0.00	0.00	ppb	1545.20	3600	
63 Cu	72	1	0.03	0.03	ppb	29.00	3600	
66 Zn	72	1	0.07	0.07	ppb	26.24	3600	
75 As	72	1	0.00	0.00	ppb	2710.50	3600	
78 Se	72	1	-0.16	-0.16	ppb	129.36	3600	
95 Mo	72	1	0.02	0.02	ppb	11.75	3600	
107 Ag	115	1	0.00	0.00	ppb	146.93	3600	
111 Cd	115	1	0.00	0.00	ppb	1586.30	3600	
118 Sn	115	1	-0.50	-0.50	ppb	6.68	3600	
121 Sb	115	1	0.01	0.01	ppb	45.22	3600	
137 Ba	115	1	0.00	0.00	ppb	1046.50	3600	
205 Tl	165	1	0.00	0.00	ppb	18.95	3600	
208 Pb	165	1	0.00	0.00	ppb	218.20	3600	
232 Th	165	1	0.04	0.04	ppb	22.04	1000	
238 U	165	1	0.00	0.00	ppb	193.04	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	379873	0.83	371452	102.3	30 - 120	
45 Sc	1	987950	1.11	968611	102.0	30 - 120	
72 Ge	1	574137	0.18	564811	101.7	30 - 120	
115 In	1	1871771	0.37	1813857	103.2	30 - 120	
165 Ho	1	4206436	0.71	4072608	103.3	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\AG070909B.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\AG070909B.B\027SMPL.D\027SMPL.D#
 Date Acquired: Jul 9 2009 08:33 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: IDL 4
 Misc Info: IDL 4
 Vial Number: 2204
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	-0.07	-0.07	ppb	24.64	3600	
52 Cr	72	1	0.00	0.00	ppb	664.22	3600	
55 Mn	72	1	0.01	0.01	ppb	284.20	3600	
59 Co	72	1	0.00	0.00	ppb	244.55	3600	
60 Ni	72	1	0.00	0.00	ppb	1585.00	3600	
63 Cu	72	1	0.03	0.03	ppb	35.25	3600	
66 Zn	72	1	0.03	0.03	ppb	47.63	3600	
75 As	72	1	0.00	0.00	ppb	248.76	3600	
78 Se	72	1	-0.34	-0.34	ppb	61.23	3600	
95 Mo	72	1	0.02	0.02	ppb	50.18	3600	
107 Ag	115	1	0.00	0.00	ppb	375.54	3600	
111 Cd	115	1	0.00	0.00	ppb	425.12	3600	
118 Sn	115	1	-0.49	-0.49	ppb	4.20	3600	
121 Sb	115	1	0.01	0.01	ppb	8.25	3600	
137 Ba	115	1	0.00	0.00	ppb	1126.70	3600	
205 Tl	165	1	0.00	0.00	ppb	176.64	3600	
208 Pb	165	1	0.00	0.00	ppb	262.52	3600	
232 Th	165	1	0.02	0.02	ppb	35.20	1000	
238 U	165	1	0.00	0.00	ppb	177.20	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	376237	0.50	371452	101.3	30 - 120	
45 Sc	1	998363	1.13	968611	103.1	30 - 120	
72 Ge	1	575791	0.39	564811	101.9	30 - 120	
115 In	1	1873839	0.57	1813857	103.3	30 - 120	
165 Ho	1	4228217	0.27	4072608	103.8	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\AG070909B.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\AG070909B.B\028SMPL.D\028SMPL.D#
 Date Acquired: Jul 9 2009 08:35 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: IDL 5
 Misc Info: IDL 5
 Vial Number: 2205
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	14894.00	3600	
52 Cr	72	1	0.02	0.02	ppb	169.77	3600	
55 Mn	72	1	0.01	0.01	ppb	55.26	3600	
59 Co	72	1	0.00	0.00	ppb	83.71	3600	
60 Ni	72	1	0.00	0.00	ppb	328.56	3600	
63 Cu	72	1	0.04	0.04	ppb	9.85	3600	
66 Zn	72	1	0.17	0.17	ppb	21.86	3600	
75 As	72	1	0.01	0.01	ppb	140.06	3600	
78 Se	72	1	-0.19	-0.19	ppb	164.39	3600	
95 Mo	72	1	0.01	0.01	ppb	118.05	3600	
107 Ag	115	1	0.01	0.01	ppb	19.41	3600	
111 Cd	115	1	0.00	0.00	ppb	588.81	3600	
118 Sn	115	1	-0.49	-0.49	ppb	0.22	3600	
121 Sb	115	1	0.01	0.01	ppb	43.90	3600	
137 Ba	115	1	0.00	0.00	ppb	166.95	3600	
205 Tl	165	1	0.00	0.00	ppb	50.27	3600	
208 Pb	165	1	0.00	0.00	ppb	8502.10	3600	
232 Th	165	1	0.01	0.01	ppb	11.17	1000	
238 U	165	1	0.00	0.00	ppb	125.19	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	374700	0.54	371452	100.9	30 - 120	
45 Sc	1	978899	1.65	968611	101.1	30 - 120	
72 Ge	1	572831	0.48	564811	101.4	30 - 120	
115 In	1	1869479	1.78	1813857	103.1	30 - 120	
165 Ho	1	4208556	0.24	4072608	103.3	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\AG070909B.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\AG070909B.B\029SMPL.D\029SMPL.D#
 Date Acquired: Jul 9 2009 08:38 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: IDL 6
 Misc Info: IDL 6
 Vial Number: 2206
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	-0.01	-0.01	ppb	102.93	3600	
52 Cr	72	1	-0.01	-0.01	ppb	251.49	3600	
55 Mn	72	1	0.00	0.00	ppb	62.00	3600	
59 Co	72	1	0.00	0.00	ppb	32.48	3600	
60 Ni	72	1	0.00	0.00	ppb	1609.40	3600	
63 Cu	72	1	0.03	0.03	ppb	33.66	3600	
66 Zn	72	1	0.11	0.11	ppb	34.52	3600	
75 As	72	1	0.01	0.01	ppb	223.41	3600	
78 Se	72	1	-0.07	-0.07	ppb	633.99	3600	
95 Mo	72	1	0.01	0.01	ppb	108.56	3600	
107 Ag	115	1	0.00	0.00	ppb	41.08	3600	
111 Cd	115	1	0.01	0.01	ppb	143.50	3600	
118 Sn	115	1	-0.53	-0.53	ppb	2.99	3600	
121 Sb	115	1	0.00	0.00	ppb	125.67	3600	
137 Ba	115	1	-0.01	-0.01	ppb	56.35	3600	
205 Tl	165	1	0.00	0.00	ppb	224.34	3600	
208 Pb	165	1	0.00	0.00	ppb	117.75	3600	
232 Th	165	1	0.00	0.00	ppb	51.00	1000	
238 U	165	1	0.00	0.00	ppb	405.60	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	375497	0.62	371452	101.1	30 - 120	
45 Sc	1	987468	0.24	968611	101.9	30 - 120	
72 Ge	1	575107	0.31	564811	101.8	30 - 120	
115 In	1	1887108	1.27	1813857	104.0	30 - 120	
165 Ho	1	4185520	0.64	4072608	102.8	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\AG070909B.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\AG070909B.B\030SMPL.D\030SMPL.D#
 Date Acquired: Jul 9 2009 08:41 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: IDL 7
 Misc Info: IDL 7
 Vial Number: 2207
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	-0.02	-0.02	ppb	131.12	3600	
52 Cr	72	1	0.07	0.07	ppb	36.03	3600	
55 Mn	72	1	0.01	0.01	ppb	2.03	3600	
59 Co	72	1	0.00	0.00	ppb	24.54	3600	
60 Ni	72	1	0.00	0.00	ppb	311.80	3600	
63 Cu	72	1	0.02	0.02	ppb	46.73	3600	
66 Zn	72	1	0.05	0.05	ppb	36.48	3600	
75 As	72	1	0.00	0.00	ppb	120.97	3600	
78 Se	72	1	-0.13	-0.13	ppb	214.34	3600	
95 Mo	72	1	0.03	0.03	ppb	53.80	3600	
107 Ag	115	1	0.00	0.00	ppb	77.06	3600	
111 Cd	115	1	0.02	0.02	ppb	43.28	3600	
118 Sn	115	1	-0.42	-0.42	ppb	5.96	3600	
121 Sb	115	1	0.00	0.00	ppb	247.25	3600	
137 Ba	115	1	0.01	0.01	ppb	92.38	3600	
205 Tl	165	1	0.00	0.00	ppb	162.81	3600	
208 Pb	165	1	0.00	0.00	ppb	134.43	3600	
232 Th	165	1	0.00	0.00	ppb	575.71	1000	
238 U	165	1	0.00	0.00	ppb	22.12	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	370136	0.34	371452	99.6	30 - 120	
45 Sc	1	988661	2.04	968611	102.1	30 - 120	
72 Ge	1	572814	0.56	564811	101.4	30 - 120	
115 In	1	1864604	1.04	1813857	102.8	30 - 120	
165 Ho	1	4220312	0.35	4072608	103.6	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\AG070909B.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\AG070909B.B\031_CCV.D\031_CCV.D#
 Date Acquired: Jul 9 2009 08:44 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: Jul 09 2009 07:30 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	49.68 ppb	1.79	50	99.4	90 - 110	
51	V	72	49.61 ppb	0.73	50	99.2	90 - 110	
52	Cr	72	49.37 ppb	0.79	50	98.7	90 - 110	
55	Mn	72	49.91 ppb	1.35	50	99.8	90 - 110	
59	Co	72	48.21 ppb	0.33	50	96.4	90 - 110	
60	Ni	72	49.31 ppb	0.69	50	98.6	90 - 110	
63	Cu	72	49.23 ppb	0.42	50	98.5	90 - 110	
66	Zn	72	49.59 ppb	0.52	50	99.2	90 - 110	
75	As	72	49.71 ppb	1.44	50	99.4	90 - 110	
78	Se	72	49.00 ppb	2.10	50	98.0	90 - 110	
95	Mo	72	49.14 ppb	0.73	50	98.3	90 - 110	
107	Ag	115	48.56 ppb	0.12	50	97.1	90 - 110	
111	Cd	115	48.91 ppb	1.67	50	97.8	90 - 110	
118	Sn	115	48.97 ppb	0.40	50	97.9	90 - 110	
121	Sb	115	49.51 ppb	0.79	50	99.0	90 - 110	
137	Ba	115	49.81 ppb	0.54	50	99.6	90 - 110	
205	Tl	165	50.36 ppb	0.88	50	100.7	90 - 110	
208	Pb	165	50.10 ppb	0.34	50	100.2	90 - 110	
232	Th	165	50.43 ppb	3.00	50	100.9	90 - 110	
238	U	165	50.65 ppb	1.10	50	101.3	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	368005	0.90	371452	99.1	30 - 120
45	Sc	1	1002716	1.11	968611	103.5	30 - 120
72	Ge	1	572137	0.62	564811	101.3	30 - 120
115	In	1	1885973	0.32	1813857	104.0	30 - 120
165	Ho	1	4256463	0.48	4072608	104.5	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\AG070909B.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\AG070909B.B\032_CCB.D\032_CCB.D#
 Date Acquired: Jul 9 2009 08:47 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: Jul 09 2009 07:30 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.032	ppb	173.19	1.00	
51 V	72	1	0.033	ppb	70.92	1.00	
52 Cr	72	1	-0.018	ppb	76.95	1.00	
55 Mn	72	1	0.006	ppb	110.93	1.00	
59 Co	72	1	0.001	ppb	235.77	1.00	
60 Ni	72	1	0.000	ppb	1709.30	1.00	
63 Cu	72	1	0.021	ppb	57.14	1.00	
66 Zn	72	1	-0.016	ppb	76.77	1.00	
75 As	72	1	0.011	ppb	123.38	1.00	
78 Se	72	1	-0.132	ppb	104.39	1.00	
95 Mo	72	1	0.038	ppb	13.26	1.00	
107 Ag	115	1	0.002	ppb	82.29	1.00	
111 Cd	115	1	0.003	ppb	635.42	1.00	
118 Sn	115	1	-0.391	ppb	4.07	1.00	
121 Sb	115	1	0.045	ppb	8.66	1.00	
137 Ba	115	1	0.006	ppb	77.45	1.00	
205 Tl	165	1	0.017	ppb	15.63	1.00	
208 Pb	165	1	0.004	ppb	36.76	1.00	
232 Th	165	1	1.072	ppb	17.02	1.00	Fail <i>NR</i>
238 U	165	1	0.008	ppb	19.94	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364705	0.84	371452	98.2	30 - 120	
45 Sc	1	984523	0.53	968611	101.6	30 - 120	
72 Ge	1	574341	0.19	564811	101.7	30 - 120	
115 In	1	1889799	0.54	1813857	104.2	30 - 120	
165 Ho	1	4189918	0.48	4072608	102.9	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\AG070909B.B\003CALB.D\003CALB.D#

1 :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\AG070909B.B\033WASH.D\033WASH.D#
 Date Acquired: Jul 9 2009 08:49 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: Jul 09 2009 07:30 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	0.983 ppb	29.68	1.30	
51 V	72	1	5.009 ppb	3.24	6.50	
52 Cr	72	1	2.063 ppb	0.35	2.60	
55 Mn	72	1	1.018 ppb	2.35	1.30	
59 Co	72	1	1.007 ppb	2.86	1.30	
60 Ni	72	1	2.004 ppb	5.04	2.60	
63 Cu	72	1	2.025 ppb	3.10	2.60	
66 Zn	72	1	10.030 ppb	1.28	13.00	
75 As	72	1	4.986 ppb	3.85	6.50	
78 Se	72	1	5.700 ppb	9.40	6.50	
95 Mo	72	1	2.058 ppb	3.99	2.60	
107 Ag	115	1	5.137 ppb	0.53	6.50	
111 Cd	115	1	1.035 ppb	6.66	1.30	
118 Sn	115	1	9.868 ppb	0.59	13.00	
121 Sb	115	1	1.908 ppb	2.18	2.60	
137 Ba	115	1	1.048 ppb	5.15	1.30	
205 Tl	165	1	1.104 ppb	0.16	1.30	
208 Pb	165	1	1.057 ppb	0.95	1.30	
232 Th	165	1	2.451 ppb	1.36	2.60	
238 U	165	1	1.110 ppb	0.74	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	363318	0.66	371452	97.8	30 - 120	
45 Sc	1	973480	1.18	968611	100.5	30 - 120	
72 Ge	1	569822	0.47	564811	100.9	30 - 120	
115 In	1	1866025	0.53	1813857	102.9	30 - 120	
165 Ho	1	4188124	0.14	4072608	102.8	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\AG070909B.B\003CALB.D\003CALB.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\AG070909B.B\034_BLK.D\034_BLK.D#
Date Acquired: Jul 9 2009 08:52 pm
Operator: LRD
Sample Name: LF73CB
Misc Info: BLANK 9190110 6020
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Jul 09 2009 07:30 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	-0.001 ppb	1741.90	2.00	
52 Cr	72	1	0.035 ppb	76.36	2.00	
55 Mn	72	1	0.196 ppb	9.62	2.00	
59 Co	72	1	0.002 ppb	125.31	2.00	
60 Ni	72	1	0.010 ppb	38.10	2.00	
63 Cu	72	1	0.032 ppb	39.09	2.00	
66 Zn	72	1	0.217 ppb	17.15	2.00	
75 As	72	1	-0.004 ppb	251.76	2.00	
78 Se	72	1	-0.217 ppb	97.83	2.00	
95 Mo	72	1	0.020 ppb	25.62	2.00	
107 Ag	115	1	0.002 ppb	109.97	2.00	
111 Cd	115	1	0.009 ppb	35.87	2.00	
118 Sn	115	1	-0.453 ppb	5.58	2.00	
121 Sb	115	1	0.025 ppb	22.06	2.00	
137 Ba	115	1	0.154 ppb	3.60	2.00	
205 Tl	165	1	0.013 ppb	34.90	2.00	
208 Pb	165	1	0.009 ppb	16.91	2.00	
232 Th	165	1	0.241 ppb	15.07	2.00	
238 U	165	1	0.004 ppb	12.65	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	363585	0.48	371452	97.9	30 - 120	
45 Sc	1	980827	0.58	968611	101.3	30 - 120	
72 Ge	1	566517	0.08	564811	100.3	30 - 120	
115 In	1	1868196	0.66	1813857	103.0	30 - 120	
165 Ho	1	4202233	1.14	4072608	103.2	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\AG070909B.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\AG070909B.B\035_LCS.D\035_LCS.D#
 Date Acquired: Jul 9 2009 08:55 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: LF73CC
 Misc Info: LCS
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	38.26	1.85	40	95.7	80 - 120	
51 V	72	1	40.68	2.24	40	101.7	80 - 120	
52 Cr	72	1	40.53	0.69	40	101.3	80 - 120	
55 Mn	72	1	41.07	0.37	40	102.7	80 - 120	
59 Co	72	1	39.85	0.70	40	99.6	80 - 120	
60 Ni	72	1	39.65	1.44	40	99.1	80 - 120	
63 Cu	72	1	40.22	0.58	40	100.6	80 - 120	
66 Zn	72	1	39.51	1.28	40	98.8	80 - 120	
75 As	72	1	38.94	1.02	40	97.4	80 - 120	
78 Se	72	1	39.52	10.90	40	98.8	80 - 120	
95 Mo	72	1	39.91	0.70	40	99.8	80 - 120	
107 Ag	115	1	39.30	1.03	40	98.3	80 - 120	
111 Cd	115	1	39.06	0.42	40	97.7	80 - 120	
118 Sn	115	1	-0.48	2.28	40	-1.2	80 - 120	
121 Sb	115	1	38.97	1.35	40	97.4	80 - 120	
137 Ba	115	1	40.00	1.06	40	100.0	80 - 120	
205 Tl	165	1	41.68	0.82	40	104.2	80 - 120	
208 Pb	165	1	41.28	0.94	40	103.2	80 - 120	
232 Th	165	1	43.46	3.41	40	108.7	80 - 120	
238 U	165	1	42.07	0.60	40	105.2	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358080	0.96	371452	96.4	30 - 120	
45 Sc	1	964482	2.43	968611	99.6	30 - 120	
72 Ge	1	551605	0.91	564811	97.7	30 - 120	
115 In	1	1858378	0.57	1813857	102.5	30 - 120	
165 Ho	1	4162616	0.25	4072608	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\AG070909B.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\AG070909B.B\036AREF.D\036AREF.D#
 Date Acquired: Jul 9 2009 08:58 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: LF7HF
 Misc Info: D9G080289
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	0.00	0.00	ppb	0.00	3600	
51 V	72	1	26.86	26.86	ppb	0.83	3600	
52 Cr	72	1	13.76	13.76	ppb	0.71	3600	
55 Mn	72	1	4.04	4.04	ppb	1.46	3600	
59 Co	72	1	0.06	0.06	ppb	15.40	3600	
60 Ni	72	1	0.22	0.22	ppb	10.26	3600	
63 Cu	72	1	0.22	0.22	ppb	1.52	3600	
66 Zn	72	1	1.06	1.06	ppb	4.19	3600	
75 As	72	1	44.51	44.51	ppb	1.24	3600	
78 Se	72	1	1.78	1.78	ppb	27.76	3600	
95 Mo	72	1	8.00	8.00	ppb	1.19	3600	
107 Ag	115	1	0.01	0.01	ppb	42.64	3600	
111 Cd	115	1	-0.01	-0.01	ppb	160.13	3600	
118 Sn	115	1	-0.45	-0.45	ppb	4.05	3600	
121 Sb	115	1	0.12	0.12	ppb	6.58	3600	
137 Ba	115	1	19.62	19.62	ppb	0.72	3600	
205 Tl	165	1	0.05	0.05	ppb	22.09	3600	
208 Pb	165	1	0.07	0.07	ppb	7.02	3600	
232 Th	165	1	1.14	1.14	ppb	34.77	1000	
238 U	165	1	2.32	2.32	ppb	1.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355768	0.56	371452	95.8	30 - 120	
45 Sc	1	909133	1.56	968611	93.9	30 - 120	
72 Ge	1	501746	0.46	564811	88.8	30 - 120	
115 In	1	1648812	0.45	1813857	90.9	30 - 120	
165 Ho	1	3902888	1.09	4072608	95.8	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\AG070909B.B\003CALB.D\003CALB.D#

0 :Element Failures
 0 :ISTD Failures

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

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG070909B.B\037SDIL.D\037SDIL.D#
 Date Acquired: Jul 9 2009 09:00 pm **QC Summary:**
 Acq. Method: NormISIS.M **Analytes: Pass**
 Operator: LRD **ISTD: Pass**
 Sample Name: LF7HFP5
 Misc Info: SERIAL DILUTION
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 pm
 Sample Type: SDIL
 Dilution Factor: 1.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG070909B.B\036AREF.D\036AREF.D#

QC elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.02 ppb	173.19	0.00 #DIV/0!	90 - 110	
51	V	72	1	5.15 ppb	3.56	5.37 95.8	90 - 110	
52	Cr	72	1	2.61 ppb	2.97	2.75 94.9	90 - 110	
55	Mn	72	1	0.78 ppb	5.38	0.81 96.5	90 - 110	
59	Co	72	1	0.01 ppb	35.24	0.01 107.4	90 - 110	
60	Ni	72	1	0.05 ppb	32.59	0.04 114.8	90 - 110	
63	Cu	72	1	0.05 ppb	26.28	0.04 120.6	90 - 110	
66	Zn	72	1	0.22 ppb	18.46	0.21 103.7	90 - 110	
75	As	72	1	8.69 ppb	1.29	8.90 97.6	90 - 110	
78	Se	72	1	-0.06 ppb	526.53	0.36 -15.7	90 - 110	
95	Mo	72	1	1.56 ppb	2.12	1.60 97.4	90 - 110	
107	Ag	115	1	0.00 ppb	61.89	0.00 56.4	90 - 110	
111	Cd	115	1	0.00 ppb	4805.80	0.00 -9.8	90 - 110	
118	Sn	115	1	-0.51 ppb	1.79	-0.09 571.3	90 - 110	
121	Sb	115	1	0.03 ppb	27.98	0.02 121.8	90 - 110	
137	Ba	115	1	3.85 ppb	2.98	3.92 98.0	90 - 110	
205	Tl	165	1	0.01 ppb	11.25	0.01 87.8	90 - 110	
208	Pb	165	1	0.02 ppb	4.26	0.01 106.5	90 - 110	
232	Th	165	1	0.08 ppb	10.90	0.23 36.7	90 - 110	
238	U	165	1	0.46 ppb	1.05	0.46 99.5	90 - 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	377611	0.58	371452	101.7	30 - 120
45	Sc	1	962947	0.97	968611	99.4	30 - 120
72	Ge	1	557321	0.96	564811	98.7	30 - 120
115	In	1	1816379	0.48	1813857	100.1	30 - 120
165	Ho	1	4158990	1.51	4072608	102.1	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\AG070909B.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: 07/10/09 08:33:52

Department: 090 (Metals)

Source: Spreadsheet

Sample: LF7HFP5

Serial Dilution: 5.00

Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG070909B # 37 Method 6020_
Acquired: 07/09/2009 21:00:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/09/2009 19:27:00 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: 7/10/09

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG070909B.B\038PDS.D\038PDS.D#
 Date Acquired: Jul 9 2009 09:03 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: LF7HFZ
 Misc Info: POST DIGESTION SPIKE
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	184.80	0.00	ppb	1.84	200	92.4	75 - 125	
51 V	72	1	233.20	26.86	ppb	1.24	200	102.8	75 - 125	
52 Cr	72	1	208.50	13.76	ppb	0.84	200	97.5	75 - 125	
55 Mn	72	1	203.10	4.04	ppb	1.08	200	99.5	75 - 125	
59 Co	72	1	185.50	0.06	ppb	1.81	200	92.7	75 - 125	
60 Ni	72	1	176.50	0.22	ppb	0.98	200	88.2	75 - 125	
63 Cu	72	1	177.70	0.22	ppb	1.66	200	88.8	75 - 125	
66 Zn	72	1	184.00	1.06	ppb	0.65	200	91.5	75 - 125	
75 As	72	1	232.40	44.51	ppb	0.60	200	95.0	75 - 125	
78 Se	72	1	200.50	1.78	ppb	2.82	200	99.4	75 - 125	
95 Mo	72	1	205.60	8.00	ppb	0.96	200	98.8	75 - 125	
107 Ag	115	1	42.25	0.01	ppb	2.67	50	84.5	75 - 125	
111 Cd	115	1	183.10	-0.01	ppb	2.06	200	91.6	75 - 125	
118 Sn	115	1	173.50	-0.45	ppb	2.24	200	86.9	75 - 125	
121 Sb	115	1	192.50	0.12	ppb	2.11	200	96.2	75 - 125	
137 Ba	115	1	213.70	19.62	ppb	1.54	200	97.3	75 - 125	
205 Tl	165	1	178.50	0.05	ppb	1.40	200	89.2	75 - 125	
208 Pb	165	1	178.70	0.07	ppb	1.19	200	89.3	75 - 125	
232 Th	165	1	0.12	1.14	ppb	16.63	200	0.1	75 - 125	
238 U	165	1	193.10	2.32	ppb	1.48	200	95.4	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	353838	1.61	371452	95.3	30 - 120	
45 Sc	1	913871	1.52	968611	94.3	30 - 120	
72 Ge	1	497712	0.38	564811	88.1	30 - 120	
115 In	1	1663469	1.77	1813857	91.7	30 - 120	
165 Ho	1	3962016	1.60	4072608	97.3	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\AG070909B.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: 07/10/09 08:33:58

Department: 090 (Metals)

Source: Spreadsheet

Sample: LF7HFZ

Spike Dilution: 1.00

Sample Dilution: 1.00

Instrument: Agilent7500

Channel 272

File: AG070909B # 38

Method 6020_

Acquired: 07/09/2009 21:03:00

ICPMS_024

Matrix: AQUEOUS

Calibrated: 07/09/2009 19:27:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75774	184.80	0	92.4	200		<input type="checkbox"/>
7440-62-2	Vanadium	51	1304430	233.20	26.860	103	200		<input type="checkbox"/>
7440-47-3	Chromium	52	1352930	208.50	13.760	97.4	200		<input type="checkbox"/>
7439-96-5	Manganese	55	1207240	203.10	4.0410	99.5	200		<input type="checkbox"/>
7440-48-4	Cobalt	59	1758300	185.50	0.05873	92.7	200		<input type="checkbox"/>
7440-02-0	Nickel	60	400079	176.50	0.21950	88.1	200		<input type="checkbox"/>
7440-50-8	Copper	63	993762	177.70	0.21820	88.7	200		<input type="checkbox"/>
7440-66-6	Zinc	66	188231	184.00	1.0570	91.5	200		<input type="checkbox"/>
7440-38-2	Arsenic	75	149258	232.40	44.510	93.9	200		<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	19201	200.50	1.7790	99.4	200		<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	542078	205.60	8.0000	98.8	200		<input type="checkbox"/>
7440-22-4	Silver	107	381331	42.250	0.01496	84.5	50.0		<input type="checkbox"/>
7440-43-9	Cadmium	111	282160	183.10	-0.01061	91.6	200		<input type="checkbox"/>
7440-31-5	Tin	118	670880	173.50	-0.45040	86.8	200		<input type="checkbox"/>
7440-36-0	Antimony	121	804279	192.50	0.12000	96.2	200		<input type="checkbox"/>
7440-39-3	Barium	137	358479	213.70	19.620	97.0	200		<input type="checkbox"/>
7440-28-0	Thallium	205	3821970	178.50	0.05048	89.2	200		<input type="checkbox"/>
7439-92-1	Lead	208	5234390	178.70	0.07044	89.3	200		<input type="checkbox"/>
7440-61-1	Uranium	238	6483840	193.10	2.3240	95.4	200		<input type="checkbox"/>
7440-29-1	Thorium	232	3871	0.11820	1.1370				
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: LRD

Date: 7/10/09

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG070909B.B\039_MS.D\039_MS.D#
 Date Acquired: Jul 9 2009 09:06 pm
 Acq. Method: NormISIS.M
 Operator: LRD
 Sample Name: LF7HFS
 Misc Info: MATRIX SPIKE
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 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	39.18	0.00	ppb	3.32	40	98.0	50 - 150	
51 V	72	1	68.46	26.86	ppb	0.36	40	102.4	50 - 150	
52 Cr	72	1	53.81	13.76	ppb	0.17	40	100.1	50 - 150	
55 Mn	72	1	43.85	4.04	ppb	1.37	40	99.6	50 - 150	
59 Co	72	1	38.67	0.06	ppb	1.41	40	96.5	50 - 150	
60 Ni	72	1	37.52	0.22	ppb	2.07	40	93.3	50 - 150	
63 Cu	72	1	37.67	0.22	ppb	2.01	40	93.7	50 - 150	
66 Zn	72	1	39.54	1.06	ppb	1.11	40	96.3	50 - 150	
75 As	72	1	84.16	44.51	ppb	1.11	40	99.6	50 - 150	
78 Se	72	1	41.98	1.78	ppb	2.98	40	100.5	50 - 150	
95 Mo	72	1	49.57	8.00	ppb	1.19	40	103.3	50 - 150	
107 Ag	115	1	36.12	0.01	ppb	1.43	40	90.3	50 - 150	
111 Cd	115	1	39.49	-0.01	ppb	1.78	40	98.8	50 - 150	
118 Sn	115	1	-0.19	-0.45	ppb	17.89	40	-0.5	50 - 150	
121 Sb	115	1	42.25	0.12	ppb	1.41	40	105.3	50 - 150	
137 Ba	115	1	61.70	19.62	ppb	2.02	40	103.5	50 - 150	
205 Tl	165	1	39.67	0.05	ppb	1.65	40	99.0	50 - 150	
208 Pb	165	1	39.24	0.07	ppb	1.58	40	97.9	50 - 150	
232 Th	165	1	45.10	1.14	ppb	2.23	40	109.6	50 - 150	
238 U	165	1	45.31	2.32	ppb	2.39	40	107.1	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	351892	0.32	371452	94.7	30 - 120	
45 Sc	1	860109	0.72	968611	88.8	30 - 120	
72 Ge	1	480020	0.59	564811	85.0	30 - 120	
115 In	1	1566586	0.58	1813857	86.4	30 - 120	
165 Ho	1	3737586	0.41	4072608	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\AG070909B.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\AG070909B.B\040 MSD.D\040 MSD.D#
 Date Acquired: Jul 9 2009 09:09 pm **QC Summary:**
 Acq. Method: NormISIS.M **Analytes: Pass**
 Operator: LRD **ISTD: Pass**
 Sample Name: LF7HFD
 Misc Info: MATRIX SPIKE DUPLICATE
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 09 2009 07:30 pm
 Sample Type: MSD
 Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG070909B.B\039 MS.D\039 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	37.76 ppb	2.55	39.18	3.69	20	
51 V	72	1	64.27 ppb	0.14	68.46	6.31	20	
52 Cr	72	1	50.36 ppb	1.29	53.81	6.62	20	
55 Mn	72	1	41.23 ppb	1.26	43.85	6.16	20	
59 Co	72	1	35.85 ppb	0.74	38.67	7.57	20	
60 Ni	72	1	35.50 ppb	0.67	37.52	5.53	20	
63 Cu	72	1	35.41 ppb	0.97	37.67	6.18	20	
66 Zn	72	1	37.62 ppb	0.74	39.54	4.98	20	
75 As	72	1	79.88 ppb	2.24	84.16	5.22	20	
78 Se	72	1	38.04 ppb	5.13	41.98	9.85	20	
95 Mo	72	1	46.20 ppb	0.91	49.57	7.04	20	
107 Ag	115	1	33.56 ppb	2.17	36.12	7.35	20	
111 Cd	115	1	36.43 ppb	1.24	39.49	8.06	20	
118 Sn	115	1	-0.42 ppb	8.52	-0.19	-74.82	20	
121 Sb	115	1	39.15 ppb	2.57	42.25	7.62	20	
137 Ba	115	1	57.10 ppb	2.19	61.70	7.74	20	
205 Tl	165	1	36.21 ppb	1.19	39.67	9.12	20	
208 Pb	165	1	35.90 ppb	1.29	39.24	8.89	20	
232 Th	165	1	42.22 ppb	3.50	45.10	6.60	20	
238 U	165	1	41.52 ppb	2.61	45.31	8.73	20	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	362788	0.40	371452	97.7	30 - 120	
45 Sc	1	908841	0.52	968611	93.8	30 - 120	
72 Ge	1	500777	0.80	564811	88.7	30 - 120	
115 In	1	1668224	1.91	1813857	92.0	30 - 120	
165 Ho	1	4015644	1.27	4072608	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\AG070909B.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\AG070909B.B\041_CCV.D\041_CCV.D#
 Date Acquired: Jul 9 2009 09:11 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: Jul 09 2009 07:30 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	48.04 ppb	3.52	50	96.1	90 - 110	
51	V	72	47.80 ppb	1.15	50	95.6	90 - 110	
52	Cr	72	47.47 ppb	1.45	50	94.9	90 - 110	
55	Mn	72	48.32 ppb	0.61	50	96.6	90 - 110	
59	Co	72	46.39 ppb	1.05	50	92.8	90 - 110	
60	Ni	72	46.32 ppb	1.49	50	92.6	90 - 110	
63	Cu	72	47.46 ppb	1.52	50	94.9	90 - 110	
66	Zn	72	49.46 ppb	1.44	50	98.9	90 - 110	
75	As	72	48.77 ppb	1.28	50	97.5	90 - 110	
78	Se	72	48.43 ppb	0.60	50	96.9	90 - 110	
95	Mo	72	48.60 ppb	1.17	50	97.2	90 - 110	
107	Ag	115	47.20 ppb	1.56	50	94.4	90 - 110	
111	Cd	115	49.13 ppb	0.77	50	98.3	90 - 110	
118	Sn	115	49.10 ppb	0.19	50	98.2	90 - 110	
121	Sb	115	50.94 ppb	0.80	50	101.9	90 - 110	
137	Ba	115	49.65 ppb	1.16	50	99.3	90 - 110	
205	Tl	165	50.31 ppb	0.18	50	100.6	90 - 110	
208	Pb	165	50.04 ppb	0.44	50	100.1	90 - 110	
232	Th	165	51.86 ppb	4.27	50	103.7	90 - 110	
238	U	165	50.82 ppb	1.66	50	101.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	348142	2.42	371452	93.7	30 - 120
45	Sc	1	866465	3.13	968611	89.5	30 - 120
72	Ge	1	513248	2.09	564811	90.9	30 - 120
115	In	1	1694091	1.32	1813857	93.4	30 - 120
165	Ho	1	3915271	1.54	4072608	96.1	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\AG070909B.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\AG070909B.B\042_CCB.D\042_CCB.D#
 Date Acquired: Jul 9 2009 09:14 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: Jul 09 2009 07:30 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
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	0.004	ppb	740.88	1.00	
52 Cr	72	1	-0.028	ppb	52.83	1.00	
55 Mn	72	1	0.030	ppb	6.70	1.00	
59 Co	72	1	0.005	ppb	79.35	1.00	
60 Ni	72	1	-0.003	ppb	248.27	1.00	
63 Cu	72	1	0.014	ppb	98.77	1.00	
66 Zn	72	1	-0.012	ppb	199.91	1.00	
75 As	72	1	0.010	ppb	88.78	1.00	
78 Se	72	1	-0.278	ppb	83.17	1.00	
95 Mo	72	1	0.057	ppb	54.70	1.00	
107 Ag	115	1	0.010	ppb	11.30	1.00	
111 Cd	115	1	0.019	ppb	14.95	1.00	
118 Sn	115	1	-0.361	ppb	3.87	1.00	
121 Sb	115	1	0.065	ppb	13.83	1.00	
137 Ba	115	1	0.003	ppb	110.32	1.00	
205 Tl	165	1	0.019	ppb	10.14	1.00	
208 Pb	165	1	0.004	ppb	32.76	1.00	
232 Th	165	1	1.289	ppb	16.11	1.00	Fail
238 U	165	1	0.012	ppb	7.69	1.00	

NR

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	345778	1.11	371452	93.1	30 - 120	
45 Sc	1	877266	0.95	968611	90.6	30 - 120	
72 Ge	1	518068	0.94	564811	91.7	30 - 120	
115 In	1	1696389	0.50	1813857	93.5	30 - 120	
165 Ho	1	3918576	0.21	4072608	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\AG070909B.B\003CALB.D\003CALB.D#

1 :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\AG070909B.B\043WASH.D\043WASH.D#
Date Acquired: Jul 9 2009 09:17 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: Jul 09 2009 07:30 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	0.896 ppb	15.00	1.30	
51 V	72	1	5.053 ppb	1.95	6.50	
52 Cr	72	1	1.951 ppb	4.30	2.60	
55 Mn	72	1	1.036 ppb	3.11	1.30	
59 Co	72	1	1.000 ppb	2.51	1.30	
60 Ni	72	1	1.929 ppb	5.60	2.60	
63 Cu	72	1	1.966 ppb	3.28	2.60	
66 Zn	72	1	10.230 ppb	1.16	13.00	
75 As	72	1	5.072 ppb	0.69	6.50	
78 Se	72	1	4.489 ppb	17.54	6.50	
95 Mo	72	1	1.940 ppb	2.16	2.60	
107 Ag	115	1	5.121 ppb	0.61	6.50	
111 Cd	115	1	1.024 ppb	5.77	1.30	
118 Sn	115	1	10.130 ppb	0.39	13.00	
121 Sb	115	1	2.052 ppb	1.51	2.60	
137 Ba	115	1	1.063 ppb	2.45	1.30	
205 Tl	165	1	1.119 ppb	0.77	1.30	
208 Pb	165	1	1.096 ppb	1.39	1.30	
232 Th	165	1	2.599 ppb	4.10	2.60	
238 U	165	1	1.148 ppb	0.89	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	327205	1.16	371452	88.1	30 - 120	
45 Sc	1	812564	1.75	968611	83.9	30 - 120	
72 Ge	1	494134	0.32	564811	87.5	30 - 120	
115 In	1	1601401	1.09	1813857	88.3	30 - 120	
165 Ho	1	3708494	1.11	4072608	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\AG070909B.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: 1796100272

Client: Northgate Environmental

Batch(es) #: 9194272

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:  7/22/09

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>
D9G100272	1 D	SE	LGCN31AG	20090721	6020TOTA	9194272	AG072109	024
D9G100272	1 S	SE	LGCN31AF	20090721	6020TOTA	9194272	AG072109	024
D9G100272	1 D	AS	LGCN31AE	20090721	6020TOTA	9194272	AG072109	024
D9G100272	1 S	AS	LGCN31AD	20090721	6020TOTA	9194272	AG072109	024
D9G100272	1	SE	LGCN31AC	20090721	6020TOTA	9194272	AG072109	024
D9G100272	1	AS	LGCN31AA	20090721	6020TOTA	9194272	AG072109	024

**METALS
PREPARATION LOGS
ICP-MS**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

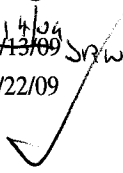
Batch Number: 9194272

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: ^{7/14/09} 07/13/09 *JRW*
Due Date: 07/22/09



<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9G130000 Water	LGEER B	Due Date: SDG:	<u>50 mL</u>
D9G130000 Water	LGEER C	Due Date: SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 S	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 D	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100274 Water	LGCQK Total	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G110152 Water	LGDJV Total	Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110155 Water	LGDJ3 Total	Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110159 Water	LGDKR Total	Due Date: 07/23/09 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
7/21/09*

*✓
2
7/22/09*

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9194272
PREP DATE: 7/14/2009

ALLIQUOTTED BY: JKH
DIGESTED BY: JRW

CONSUMABLES USED

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS267

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-2636-09	7/1/10	100uL	15
2008Cal-2	STD-2635-09	7/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO ₃	JT Baker	H12022	3

TEMPERATURE CYCLES

Thermometer ID: 2884 Block & Cup #: 2/30

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO ₃	1200	93	1615	92
HNO ₃	1630	92	1700	
HNO ₃				

Samples and QC revolved to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: [Signature]

Date: 7/14/09

**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

Jul-21-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD4841-08, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-ZN02045 Vendor's Expiration Date: 10-01-2009
Solvent: 2% HNO3
Date Prep./Opened: 09-04-2008 Date Received: 09-04-2008
Date Expires(1): 10-01-2009 (None)
Date Expires(2): 10-01-2009 (None)
(METALS)-Inventory ID: 779

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

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

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Se	1,000.0	1.0000

STD3611-09, ICP-MS 1ppm Sn/Zn

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 06-16-2009

Date Expires(1): 10-01-2009 (1 Year)

Analyst: DIAZL

Volume (ml): 10.000

Parent Std No.: STD3609-09, ICP-MS 10 ppm Zn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-01-2009 Parent Date Expires(2): 10-01-2009

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	10.000	1.0000

Parent Std No.: STD3610-09, ICP-MS 10 ppm Sn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	10.000	1.0000

STD4008-09, ICP-MS (024) INT STD BRC-HIGH

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 07-02-2009

Date Expires(1): 11-10-2009 (1 Year)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20

Volume (ml): 250.00

Parent Std No.: STD1469-09, Germanium Stock

Aliquot Amount (ml): 1.2000

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ge	1,000.0	4,800.0

Parent Std No.: STD1972-09, Lithium 6 Stock

Aliquot Amount (ml): 1.5000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Lithium6	1,000.0	6,000.0

Parent Std No.: STD1973-09, Indium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
In	1,000.0	1,600.0

Parent Std No.: STD6317-08, Scandium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sc	1,000.0	1,600.0

Parent Std No.: STD6318-08, Holmium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,600.0

STD4289-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 50.000

Date Prep./Opened: 07-20-2009

Date Expires(1): 08-20-2009 (1 Month)

Date Expires(2): 02-01-2010 (None)

pipettes: Met 8

Parent Std No.: STD0664-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 5.0000

Parent Date Expires(1): 02-01-2010 Parent Date Expires(2): 02-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

STD4309-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water

Volume (ml): 1,000.0

Date Prep./Opened: 07-21-2009

Date Expires(1): 08-21-2009 (1 Month)

Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD4308-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD4310-09, ICP-MS 10 ppm Sn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 03-01-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.1000
 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	10.000

STD4311-09, ICP-MS 100 ppb cal

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 50.000

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	20.000	100.00

Sb 20.000 100.00
 Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Fe	1,000.0	5,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4312-09, ICP-MS CCV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 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>
V	20.000	50.000
Zn	20.000	50.000
Ag	20.000	50.000
Al	20.000	50.000
As	20.000	50.000
Ba	20.000	50.000
Be	20.000	50.000
Cd	20.000	50.000
Co	20.000	50.000
Cr	20.000	50.000
Cu	20.000	50.000
Mn	20.000	50.000
Ni	20.000	50.000
Pb	20.000	50.000
Se	20.000	50.000
Th	20.000	50.000
Tl	20.000	50.000
U	20.000	50.000

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	50.000
Sb	20.000	50.000

Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
------------------	----------------------------	--------------------------

Fe	1,000.0	2,500.0
Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn	Aliquot Amount (ml): 0.5000	
Parent Date Expires(1): 07-22-2009	Parent Date Expires(2): 03-01-2010	
<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	50.000

STD4313-09, ICP-MS RL STD

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 pipettes: Met 21 and Met 8

Analyst: DIAZL
 Volume (ml): 10.000

Parent Std No.: STD3611-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900

<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.: STD4311-09, ICP-MS 100 ppb cal Aliquot Amount (ml): 0.1000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 07-22-2009

<u>Component</u>	<u>Initial Conc (ug/L)</u>	<u>Final Conc (mg/L)</u>
V	100.00	0.0010
Zn	100.00	0.0010
Ag	100.00	0.0010
Al	100.00	0.0010
As	100.00	0.0010
Ba	100.00	0.0010
Be	100.00	0.0010
Cd	100.00	0.0010
Co	100.00	0.0010
Cr	100.00	0.0010
Cu	100.00	0.0010
Mn	100.00	0.0010
Ni	100.00	0.0010
Pb	100.00	0.0010
Se	100.00	0.0010
Th	100.00	0.0010
Tl	100.00	0.0010
U	100.00	0.0010
Mo	100.00	0.0010
Sb	100.00	0.0010
Fe	5,000.0	0.0500
Sn	100.00	0.0010

STD4314-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (2 Days)
 pipettes: Met 20 and Met 8

Volume (ml): 10.000

Parent Std No.: STD4313-09, 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
V	0.0010	0.0002
Zn	0.0010	0.0002
Ag	0.0010	0.0002
Al	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
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Fe	0.0500	0.0100
Sn	0.0010	0.0002

STD4315-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21, Met 20, and Met 8

Volume (ml): 10.000

Parent Std No.: STD1978-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-01-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.0500

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>
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.0500

Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	100.00
Sb	20.000	100.00

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4316-09, ICPMS LR STD 1000 ppb

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 10.000

Date Prep./Opened: 07-21-2009

Date Expires(1): 07-22-2009 (1 Day)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20 and Met 8

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.5000
 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>
V	20.000	1,000.0
Zn	20.000	1,000.0
Ag	20.000	1,000.0
Al	20.000	1,000.0
As	20.000	1,000.0
Ba	20.000	1,000.0
Be	20.000	1,000.0
Cd	20.000	1,000.0
Co	20.000	1,000.0
Cr	20.000	1,000.0
Cu	20.000	1,000.0
Mn	20.000	1,000.0
Ni	20.000	1,000.0
Pb	20.000	1,000.0
Se	20.000	1,000.0
Th	20.000	1,000.0
Tl	20.000	1,000.0
U	20.000	1,000.0

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	1,000.0
Sb	20.000	1,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	1,000.0

STD4317-09, ICPMS ICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 02-27-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1213-09, ICPMS ICV SOLUTION A (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Al	10.000	40.000
As	10.000	40.000
Ba	10.000	40.000
Be	10.000	40.000
Cd	10.000	40.000

Co	10.000	40.000
Cr	10.000	40.000
Cu	10.000	40.000
Fe	250.00	1,000.0
Li	10.000	40.000
Mn	10.000	40.000
Ni	10.000	40.000
Pb	10.000	40.000
Se	10.000	40.000
Th	10.000	40.000
Tl	10.000	40.000
U	10.000	40.000
V	10.000	40.000
Zn	10.000	40.000

Parent Std No.: STD1214-09, ICPMS ICV SOLUTION B (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
Ag	10.000	40.000
Mo	10.000	40.000
Sb	10.000	40.000
Sn	10.000	40.000
Zr	10.000	40.000

STD4318-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (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

STD4319-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 05-01-2010 (None)
 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

Reviewed By: _____

LRD 07/21/2009

Denver

RUN SUMMARY

Method: 6020 (ICP/MS)

ICPMS_024 (024)

Reported: 07/22/09 11:30:44

File ID: AG072109

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	DF	Analyzed Date	Comment	Q
2	Cal Blank				1.0	07/21/09 17:25		<input type="checkbox"/>
3	Cal Blank				1.0	07/21/09 17:28		<input type="checkbox"/>
4	100 ppb				1.0	07/21/09 17:31		<input type="checkbox"/>
5	ICV				1.0	07/21/09 17:33		<input type="checkbox"/>
6	RLIV				1.0	07/21/09 17:36		<input type="checkbox"/>
7	ICB				1.0	07/21/09 17:39		<input type="checkbox"/>
8	RL STD				1.0	07/21/09 17:42		<input type="checkbox"/>
9	AFCEE RL				1.0	07/21/09 17:44		<input type="checkbox"/>
10	ALTSe				1.0	07/21/09 17:47		<input type="checkbox"/>
11	ICSA				1.0	07/21/09 17:50		<input type="checkbox"/>
12	ICSAB				1.0	07/21/09 17:53		<input type="checkbox"/>
13	RINSE				1.0	07/21/09 17:55		<input type="checkbox"/>
14	LR				1.0	07/21/09 17:58		<input type="checkbox"/>
15	RINSE				1.0	07/21/09 18:00		<input type="checkbox"/>
16	CCV				1.0	07/21/09 18:03		<input type="checkbox"/>
17	CCB				1.0	07/21/09 18:06		<input type="checkbox"/>
18	RLCV				1.0	07/21/09 18:09		<input type="checkbox"/>
19	LGEE4BF	D9G130000	9194274	MD	1.0	07/21/09 18:11		<input type="checkbox"/>
20	LGEE4CF	D9G130000	9194274	MD	1.0	07/21/09 18:14		<input type="checkbox"/>
21	LGDJWF 10X	D9G110152-2	9194274	MD	10.0	07/21/09 18:17		<input type="checkbox"/>
22	LGDJWP50F	D9G110152	9194274		50.0	07/21/09 18:20		<input type="checkbox"/>
23	LGDJWZF	D9G110152-2	9194274		1.0	07/21/09 18:22		<input type="checkbox"/>
24	LGDJWSF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:25		<input type="checkbox"/>
25	LGDJWDF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:28		<input type="checkbox"/>
26	CCV				1.0	07/21/09 18:30		<input type="checkbox"/>
27	CCB				1.0	07/21/09 18:33		<input type="checkbox"/>
28	RLCV				1.0	07/21/09 18:36		<input type="checkbox"/>
29	LGEERB	D9G130000	9194272	MS	1.0	07/21/09 18:39		<input type="checkbox"/>
30	LGEERC	D9G130000	9194272	MS	1.0	07/21/09 18:41		<input type="checkbox"/>
31	LGCN3 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:44		<input type="checkbox"/>
32	LGCN3P50	D9G100272	9194272		50.0	07/21/09 18:47		<input type="checkbox"/>
33	LGCN3Z	D9G100272-1	9194272		1.0	07/21/09 18:50		<input type="checkbox"/>
34	LGCN3S 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:52		<input type="checkbox"/>
35	CCV				1.0	07/21/09 18:55		<input type="checkbox"/>
36	CCB				1.0	07/21/09 18:58		<input type="checkbox"/>
37	RLCV				1.0	07/21/09 19:01		<input type="checkbox"/>
38	LGCN3D 10X	D9G100272-1	9194272	MS	10.0	07/21/09 19:03		<input type="checkbox"/>
39	LGCQK 10X	D9G100274-1	9194272	MS	10.0	07/21/09 19:06		<input type="checkbox"/>
40	LGDJV 10X	D9G110152-1	9194272	MS	10.0	07/21/09 19:09		<input type="checkbox"/>
41	LGDJ3 10X	D9G110155-1	9194272	MS	10.0	07/21/09 19:11		<input type="checkbox"/>
42	LGDKR 10X	D9G110159-1	9194272	MS	10.0	07/21/09 19:14		<input type="checkbox"/>
43	CCV				1.0	07/21/09 19:17		<input type="checkbox"/>
44	CCB				1.0	07/21/09 19:20		<input type="checkbox"/>
45	RLCV				1.0	07/21/09 19:22		<input type="checkbox"/>
46	LGFC2B	D9G140000	9195077	46	1.0	07/21/09 19:25		<input type="checkbox"/>
47	LGFC2C	D9G140000	9195077	46	1.0	07/21/09 19:28		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 07/22/09 11:30:44
-----------------------	-----------------	-----------------------------

File ID: AG072109

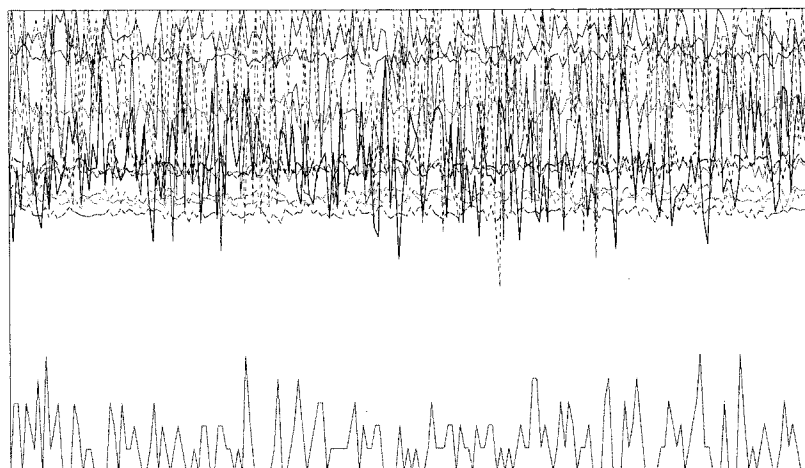
Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
48	LGEAD	D9G130118-1	9195077	U1	1.0	07/21/09 19:31	<input type="checkbox"/>
49	LGEAR	D9G130118-2	9195077	U1	1.0	07/21/09 19:33	<input type="checkbox"/>
50	LGEAX	D9G130118-3	9195077	U1	1.0	07/21/09 19:36	<input type="checkbox"/>
51	LGEA0	D9G130118-4	9195077	U1	1.0	07/21/09 19:39	<input type="checkbox"/>
52	LGEA2	D9G130118-5	9195077	U1	1.0	07/21/09 19:42	<input type="checkbox"/>
53	LGEA3	D9G130118-6	9195077	U1	1.0	07/21/09 19:44	<input type="checkbox"/>
54	CCV				1.0	07/21/09 19:47	<input type="checkbox"/>
55	CCB				1.0	07/21/09 19:50	<input type="checkbox"/>
56	RLCV				1.0	07/21/09 19:53	<input type="checkbox"/>
57	LGEA4	D9G130118-7	9195077	U1	1.0	07/21/09 19:55	<input type="checkbox"/>
58	LGEFC	D9G130118-8	9195077	U1	1.0	07/21/09 19:58	<input type="checkbox"/>
59	LGEFF	D9G130118-9	9195077	U1	1.0	07/21/09 20:01	<input type="checkbox"/>
60	LGEFH	D9G130118-10	9195077	U1	1.0	07/21/09 20:03	<input type="checkbox"/>
61	LGEFL	D9G130118-11	9195077	U1	1.0	07/21/09 20:06	<input type="checkbox"/>
62	LGEFLP5	D9G130118	9195077		5.0	07/21/09 20:09	<input type="checkbox"/>
63	LGEFLZ	D9G130118-11	9195077		1.0	07/21/09 20:11	<input type="checkbox"/>
64	LGEFLS	D9G130118-11	9195077	U1	1.0	07/21/09 20:14	<input type="checkbox"/>
65	CCV				1.0	07/21/09 20:17	<input type="checkbox"/>
66	CCB				1.0	07/21/09 20:20	<input type="checkbox"/>
67	RLCV				1.0	07/21/09 20:22	<input type="checkbox"/>
68	LGEFLD	D9G130118-11	9195077	U1	1.0	07/21/09 20:25	<input type="checkbox"/>
69	LGEFT	D9G130118-12	9195077	U1	1.0	07/21/09 20:28	<input type="checkbox"/>
70	LGEFX	D9G130118-13	9195077	U1	1.0	07/21/09 20:30	<input type="checkbox"/>
71	LGEF3	D9G130118-14	9195077	U1	1.0	07/21/09 20:33	<input type="checkbox"/>
72	LGEF4	D9G130118-15	9195077	U1	1.0	07/21/09 20:36	<input type="checkbox"/>
73	LGEF6	D9G130118-16	9195077	U1	1.0	07/21/09 20:39	<input type="checkbox"/>
74	LGEF8	D9G130118-17	9195077	U1	1.0	07/21/09 20:41	<input type="checkbox"/>
75	CCV				1.0	07/21/09 20:44	<input type="checkbox"/>
76	CCB				1.0	07/21/09 20:47	<input type="checkbox"/>
77	RLCV				1.0	07/21/09 20:50	<input type="checkbox"/>
78	LGKQWBF	D9G160000	9197227	MD	1.0	07/21/09 20:52	<input type="checkbox"/>
79	LGKQWCF	D9G160000	9197227	MD	1.0	07/21/09 20:55	<input type="checkbox"/>
80	LGH2HF 10X	D9G150224-2	9197227	MD	10.0	07/21/09 20:58	<input type="checkbox"/>
81	LGH2HP50F	D9G150224	9197227		50.0	07/21/09 21:01	<input type="checkbox"/>
82	LGH2HZF	D9G150224-2	9197227		1.0	07/21/09 21:03	<input type="checkbox"/>
83	LGH2HSF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:06	<input type="checkbox"/>
84	LGH2HDF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:09	<input type="checkbox"/>
85	CCV				1.0	07/21/09 21:12	<input type="checkbox"/>
86	CCB				1.0	07/21/09 21:14	<input type="checkbox"/>
87	RLCV				1.0	07/21/09 21:17	<input type="checkbox"/>
88	LGKQDB	D9G160000	9197220	MS	1.0	07/21/09 21:20	<input type="checkbox"/>
89	LGKQDC	D9G160000	9197220	MS	1.0	07/21/09 21:23	<input type="checkbox"/>
90	LGH2F 10X	D9G150224-1	9197220	MS	10.0	07/21/09 21:25	<input type="checkbox"/>
91	LGH2FP50	D9G150224	9197220		50.0	07/21/09 21:28	<input type="checkbox"/>
92	LGH2FZ	D9G150224-1	9197220		1.0	07/21/09 21:31	<input type="checkbox"/>

DNW 7/22/09

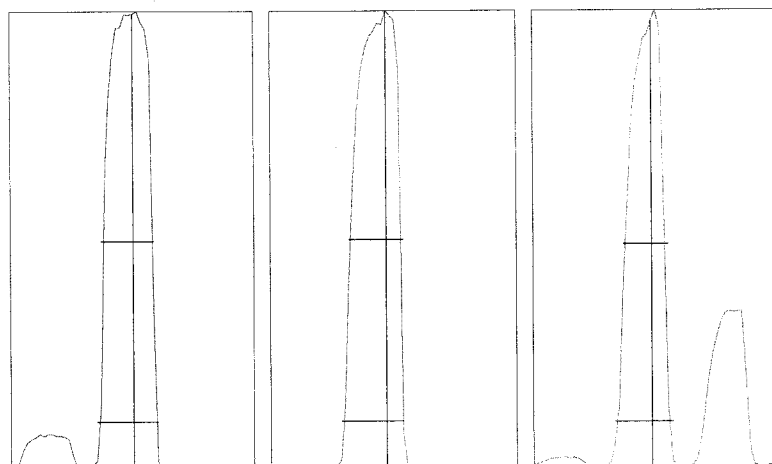
Tune Report

Tune File : NORM.U
 Comment :



Integration Time: 0.1000 sec
 Sampling Period: 1.5300 sec
 n: 200
 Oxide: 156/140 1.281%
 Doubly Charged: 70/140 0.506%

m/z	Range	Count	Mean	RSD%	Background
6	1,000	891.0	940.8	3.63	0.70
7	20,000	13129.0	13059.6	1.91	0.60
59	10,000	7602.0	7856.2	2.40	0.50
63	50	42.0	39.4	16.38	0.30
70	100	78.0	67.2	13.40	0.50
75	20	0.0	1.2	102.35	0.80
78	50	43.0	48.7	14.56	0.50
89	20,000	12125.0	12029.4	1.86	1.00
115	20,000	11842.0	11739.1	1.63	0.80
118	50	34.0	39.7	21.11	1.30
137	2,000	1330.0	1323.1	2.85	1.10
205	20,000	11244.0	11223.5	1.66	1.80
238	20,000	17300.0	17931.0	1.60	2.40
156/140	2	1.192%	1.337%	8.61	
70/140	2	0.664%	0.568%	13.49	



m/z:	7	89	205
Height:	13,051	12,146	11,336
Axis:	7.05	88.95	205.00
W-50%:	0.65	0.65	0.55
W-10%:	0.7500	0.7500	0.700

Integration Time: 0.1000 sec
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

```
===Plasma Condition===
  RF Power : 1550 W
  RF Matching : 1.7 V
  Smpl Depth : 7.5 mm
  Torch-H : -0.8 mm
  Torch-V : -0.3 mm
  Carrier Gas : 0.83 L/min
  Makeup Gas : 0.2 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 : -160 V
  Omega Bias-ce : -30 V
  Omega Lens-ce : 0 V
  Cell Entrance : -30 V
  QP Focus : 7 V
  Cell Exit : -30 V

===Q-Pole Parameters===
  AMU Gain : 133
  AMU Offset : 122
  Axis Gain : 1.0005
  Axis Offset : -0.02
  QP Bias : 0 V

===Detector Parameters===
  Discriminator : 8 mV
  Analog HV : 1720 V
  Pulse HV : 1390 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: Jul 21 2009 04:50 pm

Mass[amu]	Element	P/A Factor
6	Li	0.061203
7	(Li)	Sensitivity too low
9	Be	0.068907
45	Sc	0.083389
51	V	0.086007
52	Cr	0.088320
53	(Cr)	Sensitivity too low
55	Mn	0.090395
59	Co	0.093203
60	Ni	Sensitivity too low
63	Cu	Sensitivity too low
66	Zn	0.096924
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
95	Mo	0.096067
98	(Mo)	0.096151
99	(Mo)	Sensitivity too low
106	(Cd)	0.101305
107	Ag	Sensitivity too low
108	(Cd)	0.101769
111	Cd	0.102139
114	Cd	0.102089
115	In	0.101222
118	Sn	0.101067
121	Sb	0.100944
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
205	Tl	0.109272
206	(Pb)	0.108216
207	(Pb)	0.108287
208	Pb	0.107820
232	Th	0.106452
238	U	0.106481

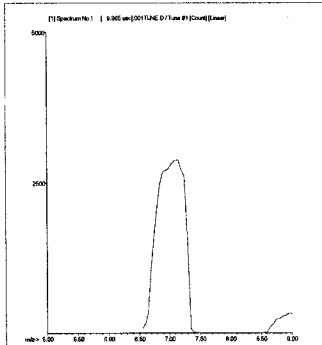
===Detector Parameters===

Discriminator: 8.0 mV
Analog HV: 1720 V
Pulse HV: 1390 V

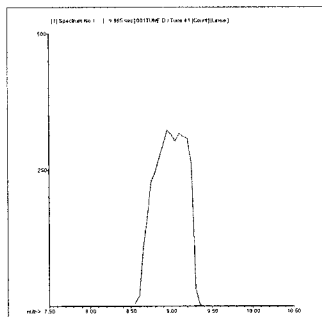
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\001TUNE.D
 Date Acquired: Jul 21 2009 05:22 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

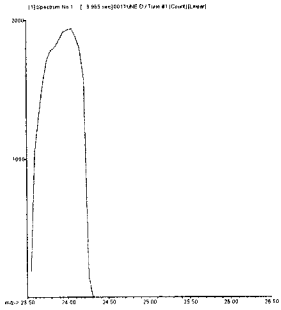
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	31515	31705	31773	31422	31500	31173	0.76	5.00	
9 Be	3503	3538	3524	3507	3428	3516	1.23	5.00	
24 Mg	22462	22829	22575	22353	22572	21980	1.41	5.00	
59 Co	93114	93607	93864	90894	94187	93020	1.41	5.00	
115 In	1915406	1918606	1914965	1924578	1915696	1903185	0.41	5.00	
208 Pb	92064	92990	92149	91680	92260	91243	0.71	5.00	
238 U	187429	191379	187170	188068	186178	184351	1.39	5.00	



7 Li
Mass Calib.
 Actual: 7.10
 Required: 6.90 - 7.10
 Flag:
Peak Width
 Actual: 0.65
 Required: 0.90
 Flag:



9 Be
Mass Calib.
 Actual: 9.05
 Required: 8.90 - 9.10
 Flag:
Peak Width
 Actual: 0.60
 Required: 0.90
 Flag:



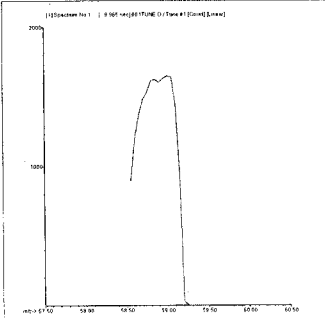
24 Mg

Mass Calib.

Actual: 24.00
Required: 23.90 - 24.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



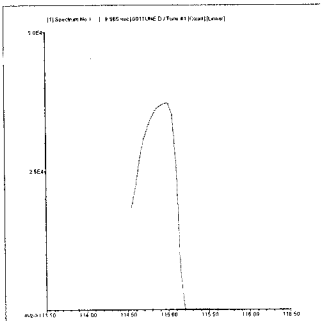
59 Co

Mass Calib.

Actual: 58.95
Required: 58.90 - 59.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



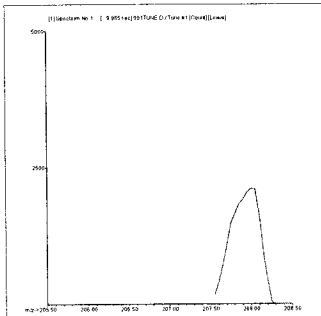
115 In

Mass Calib.

Actual: 114.95
Required: 114.90 - 115.10
Flag:

Peak Width

Actual: 0.55
Required: 0.90
Flag:



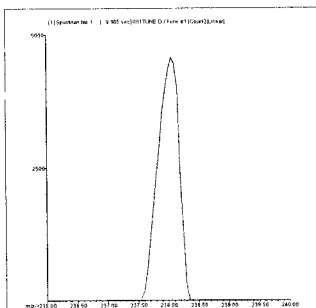
208 Pb

Mass Calib.

Actual: 207.95
Required: 207.90 - 208.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



238 U

Mass Calib.

Actual: 238.05
Required: 237.90 - 238.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:

Tune Result:

Pass

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\002CALB.D\002CALB.D#
 Date Acquired: Jul 21 2009 05:25 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	31	3276.40
52	Cr	72	1	2800	9.18
55	Mn	72	1	1283	9.62
59	Co	72	1	87	67.61
60	Ni	72	1	67	17.32
63	Cu	72	1	503	6.39
66	Zn	72	1	251	8.30
75	As	72	1	105	7.67
78	Se	72	1	513	6.26
95	Mo	72	1	73	15.75
107	Ag	115	1	7	86.60
111	Cd	115	1	9	188.13
118	Sn	115	1	2750	17.56
121	Sb	115	1	19	50.94
137	Ba	115	1	49	3.94
205	Tl	165	1	263	12.21
208	Pb	165	1	323	8.05
232	Th	165	1	220	25.31
238	U	165	1	96	8.06

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	576535	0.69
45	Sc	1	2595280	0.11
72	Ge	1	1228451	0.87
115	In	1	3471486	1.12
165	Ho	1	5707578	1.58

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\AG072109.B\003CALB.D\003CALB.D#
 Date Acquired: Jul 21 2009 05:28 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	84	380.78
52	Cr	72	1	3224	4.61
55	Mn	72	1	1180	18.88
59	Co	72	1	67	31.23
60	Ni	72	1	77	39.85
63	Cu	72	1	673	17.84
66	Zn	72	1	341	12.93
75	As	72	1	105	1.10
78	Se	72	1	570	15.79
95	Mo	72	1	90	19.25
107	Ag	115	1	10	100.00
111	Cd	115	1	6	183.92
118	Sn	115	1	4558	14.33
121	Sb	115	1	23	37.80
137	Ba	115	1	41	44.66
205	Tl	165	1	229	12.72
208	Pb	165	1	279	7.30
232	Th	165	1	273	29.57
238	U	165	1	22	43.30

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	581797	1.92
45	Sc	1	2574983	0.83
72	Ge	1	1211627	0.38
115	In	1	3426576	0.51
165	Ho	1	5647086	0.49

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\AG072109.B\004ICAL.D\004ICAL.D#
 Date Acquired: Jul 21 2009 05:31 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: Jul 21 2009 05:29 pm
 Sample Type: ICAL

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	59445	1.77
51	V	72	1	1239197	0.92
52	Cr	72	1	1240930	1.80
55	Mn	72	1	1500976	1.14
59	Co	72	1	1532853	1.14
60	Ni	72	1	335568	1.43
63	Cu	72	1	783637	0.77
66	Zn	72	1	184990	0.36
75	As	72	1	150136	1.32
78	Se	72	1	29896	1.27
95	Mo	72	1	401051	0.94
107	Ag	115	1	1170362	0.20
111	Cd	115	1	241527	0.35
118	Sn	115	1	706295	0.47
121	Sb	115	1	813196	0.45
137	Ba	115	1	335210	0.52
205	Tl	165	1	2698247	0.32
208	Pb	165	1	3677704	0.96
232	Th	165	1	3297948	2.01
238	U	165	1	3849572	0.35

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565258	0.19	581797	97.2	30 - 120
45	Sc	1	2567639	0.66	2574983	99.7	30 - 120
72	Ge	1	1211730	1.09	1211627	100.0	30 - 120
115	In	1	3431729	1.40	3426576	100.2	30 - 120
165	Ho	1	5634252	0.67	5647086	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\AG072109.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\AG072109.B\005_ICV.D\005_ICV.D#
 Date Acquired: Jul 21 2009 05:33 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: Jul 21 2009 05:31 pm
 Sample Type: ICV
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	39.64 ppb	0.79	40	99.1	90 - 110	
51	V	72	38.95 ppb	0.13	40	97.4	90 - 110	
52	Cr	72	39.22 ppb	0.44	40	98.1	90 - 110	
55	Mn	72	39.68 ppb	0.45	40	99.2	90 - 110	
59	Co	72	39.53 ppb	0.70	40	98.8	90 - 110	
60	Ni	72	40.23 ppb	0.53	40	100.6	90 - 110	
63	Cu	72	40.61 ppb	0.32	40	101.5	90 - 110	
66	Zn	72	40.51 ppb	1.02	40	101.3	90 - 110	
75	As	72	40.08 ppb	0.64	40	100.2	90 - 110	
78	Se	72	41.67 ppb	1.69	40	104.2	90 - 110	
95	Mo	72	39.87 ppb	0.41	40	99.7	90 - 110	
107	Ag	115	40.34 ppb	1.30	40	100.9	90 - 110	
111	Cd	115	41.12 ppb	0.91	40	102.8	90 - 110	
118	Sn	115	38.88 ppb	0.90	40	97.2	90 - 110	
121	Sb	115	38.65 ppb	1.11	40	96.6	90 - 110	
137	Ba	115	39.89 ppb	0.94	40	99.7	90 - 110	
205	Tl	165	40.05 ppb	1.21	40	100.1	90 - 110	
208	Pb	165	40.43 ppb	0.85	40	101.1	90 - 110	
232	Th	165	44.22 ppb	2.85	40	110.6	90 - 110	Fail
238	U	165	40.19 ppb	1.06	40	100.5	90 - 110	

NR

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	561236	0.19	581797	96.5	30 - 120
45	Sc	1	2582771	1.09	2574983	100.3	30 - 120
72	Ge	1	1213066	0.25	1211627	100.1	30 - 120
115	In	1	3417703	1.00	3426576	99.7	30 - 120
165	Ho	1	5664293	1.10	5647086	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\AG072109.B\003CALB.D\003CALB.D#

1 :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\AG072109.B\006WASH.D\006WASH.D#
 Date Acquired: Jul 21 2009 05:36 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: Jul 21 2009 05:31 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	1.123 ppb	10.30	1.30	
51 V	72	1	4.905 ppb	4.36	6.50	
52 Cr	72	1	2.008 ppb	1.94	2.60	
55 Mn	72	1	1.040 ppb	1.71	1.30	
59 Co	72	1	1.042 ppb	3.30	1.30	
60 Ni	72	1	2.082 ppb	1.95	2.60	
63 Cu	72	1	2.043 ppb	4.81	2.60	
66 Zn	72	1	10.290 ppb	0.55	13.00	
75 As	72	1	5.041 ppb	1.23	6.50	
78 Se	72	1	5.606 ppb	11.10	6.50	
95 Mo	72	1	2.125 ppb	3.10	2.60	
107 Ag	115	1	5.269 ppb	0.93	6.50	
111 Cd	115	1	0.985 ppb	1.12	1.30	
118 Sn	115	1	10.060 ppb	1.78	13.00	
121 Sb	115	1	2.181 ppb	4.53	2.60	
137 Ba	115	1	1.073 ppb	3.26	1.30	
205 Tl	165	1	1.130 ppb	0.27	1.30	
208 Pb	165	1	1.039 ppb	0.95	1.30	
232 Th	165	1	2.777 ppb	3.32	2.60	
238 U	165	1	1.064 ppb	0.97	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	561585	0.30	581797	96.5	30 - 120	
45 Sc	1	2567497	0.65	2574983	99.7	30 - 120	
72 Ge	1	1227558	0.55	1211627	101.3	30 - 120	
115 In	1	3427742	1.01	3426576	100.0	30 - 120	
165 Ho	1	5710214	1.06	5647086	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\AG072109.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

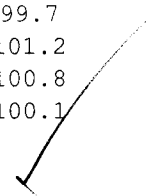
Data File: C:\ICPCHEM\1\DATA\AG072109.B\007_ICB.D\007_ICB.D#
 Date Acquired: Jul 21 2009 05:39 pm **QC Summary:**
 Operator: TEL **Analytes: Pass**
 Sample Name: ICB **ISTD: Pass**
 Misc Info:
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.03	ppb	107.86	1.00	
52 Cr	72	1	-0.02	ppb	42.01	1.00	
55 Mn	72	1	0.00	ppb	111.67	1.00	
59 Co	72	1	0.00	ppb	96.89	1.00	
60 Ni	72	1	0.00	ppb	233.62	1.00	
63 Cu	72	1	-0.01	ppb	109.12	1.00	
66 Zn	72	1	0.05	ppb	42.84	1.00	
75 As	72	1	-0.01	ppb	44.09	1.00	
78 Se	72	1	0.34	ppb	46.02	1.00	
95 Mo	72	1	0.01	ppb	40.98	1.00	
107 Ag	115	1	0.01	ppb	15.65	1.00	
111 Cd	115	1	0.00	ppb	432.82	1.00	
118 Sn	115	1	0.13	ppb	28.49	1.00	
121 Sb	115	1	0.08	ppb	2.06	1.00	
137 Ba	115	1	0.00	ppb	38.09	1.00	
205 Tl	165	1	0.03	ppb	5.05	1.00	
208 Pb	165	1	0.00	ppb	1255.10	1.00	
232 Th	165	1	0.16	ppb	5.89	1.00	
238 U	165	1	0.00	ppb	21.84	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	565985	1.59	581797	97.3	30 - 120	
45 Sc	1	2566622	0.99	2574983	99.7	30 - 120	
72 Ge	1	1225621	1.10	1211627	101.2	30 - 120	
115 In	1	3452773	0.47	3426576	100.8	30 - 120	
165 Ho	1	5650371	0.62	5647086	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\


ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\008RLST.D\008RLST.D#
 Date Acquired: Jul 21 2009 05:42 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: Jul 21 2009 05:31 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	1.05	ppb	12.11	1	104.7	50 - 150
51	V	72	1	0.93	ppb	7.33	1	93.2	50 - 150
52	Cr	72	1	0.97	ppb	3.56	1	97.0	50 - 150
55	Mn	72	1	1.00	ppb	2.49	1	100.4	50 - 150
59	Co	72	1	1.01	ppb	4.08	1	101.3	50 - 150
60	Ni	72	1	1.00	ppb	6.56	1	100.0	50 - 150
63	Cu	72	1	1.04	ppb	7.10	1	104.2	50 - 150
66	Zn	72	1	10.76	ppb	1.35	10	107.6	50 - 150
75	As	72	1	1.04	ppb	3.34	1	103.8	50 - 150
78	Se	72	1	0.82	ppb	33.53	1	81.6	50 - 150
95	Mo	72	1	1.01	ppb	7.76	1	101.0	50 - 150
107	Ag	115	1	1.02	ppb	2.10	1	101.5	50 - 150
111	Cd	115	1	1.10	ppb	3.31	1	109.6	50 - 150
118	Sn	115	1	10.23	ppb	1.35	10	102.3	50 - 150
121	Sb	115	1	1.05	ppb	1.23	1	104.8	50 - 150
137	Ba	115	1	1.05	ppb	4.58	1	104.8	50 - 150
205	Tl	165	1	1.07	ppb	2.73	1	106.5	50 - 150
208	Pb	165	1	1.05	ppb	1.07	1	104.7	50 - 150
232	Th	165	1	1.13	ppb	2.43	1	113.3	50 - 150
238	U	165	1	1.07	ppb	1.03	1	107.0	50 - 150

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565978	0.78	581797	97.3	30 - 120
45	Sc	1	2568028	1.20	2574983	99.7	30 - 120
72	Ge	1	1217338	0.15	1211627	100.5	30 - 120
115	In	1	3427497	0.45	3426576	100.0	30 - 120
165	Ho	1	5631637	1.02	5647086	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\AG072109.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\AG072109.B\009AFCE.D\009AFCE.D#
 Date Acquired: Jul 21 2009 05:44 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: Jul 21 2009 05:31 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	1	0.18 ppb	41.26	0	86.0	80 - 120	
51 V	72	1	0.12 ppb	39.38	0	67.0	80 - 120	
52 Cr	72	1	0.16 ppb	3.72	0	82.2	80 - 120	
55 Mn	72	1	0.20 ppb	3.24	0	98.6	80 - 120	
59 Co	72	1	0.20 ppb	5.85	0	99.3	80 - 120	
60 Ni	72	1	0.18 ppb	6.47	0	90.0	80 - 120	
63 Cu	72	1	0.32 ppb	10.85	0	155.1	80 - 120	
66 Zn	72	1	2.18 ppb	0.89	2	101.4	80 - 120	
75 As	72	1	0.20 ppb	9.34	0	94.3	80 - 120	
78 Se	72	1	0.27 ppb	16.59	0	168.2	80 - 120	
95 Mo	72	1	0.19 ppb	6.24	0	93.4	80 - 120	
107 Ag	115	1	0.20 ppb	4.78	0	99.7	80 - 120	
111 Cd	115	1	0.21 ppb	11.89	0	96.8	80 - 120	
118 Sn	115	1	1.58 ppb	4.76	2	77.3	80 - 120	
121 Sb	115	1	0.21 ppb	4.92	0	99.2	80 - 120	
137 Ba	115	1	0.22 ppb	2.48	0	102.6	80 - 120	
205 Tl	165	1	0.21 ppb	5.92	0	97.3	80 - 120	
208 Pb	165	1	0.20 ppb	3.45	0	95.3	80 - 120	
232 Th	165	1	0.24 ppb	4.96	0	106.3	80 - 120	
238 U	165	1	0.20 ppb	2.09	0	95.7	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	562011	1.45	581797	96.6	30 - 120	
45 Sc	1	2589915	1.12	2574983	100.6	30 - 120	
72 Ge	1	1216544	0.44	1211627	100.4	30 - 120	
115 In	1	3446931	1.30	3426576	100.6	30 - 120	
165 Ho	1	5682005	0.45	5647086	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\AG072109.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\AG072109.B\010SMPL.D\010SMPL.D#
 Date Acquired: Jul 21 2009 05:47 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: Jul 21 2009 05:31 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	-0.04	-0.04	ppb	104.30	3600	
52 Cr	72	1	-0.02	-0.02	ppb	103.76	3600	
55 Mn	72	1	0.02	0.02	ppb	16.79	3600	
59 Co	72	1	0.00	0.00	ppb	621.67	3600	
60 Ni	72	1	0.03	0.03	ppb	16.48	3600	
63 Cu	72	1	0.00	0.00	ppb	932.55	3600	
66 Zn	72	1	0.85	0.85	ppb	6.94	3600	
75 As	72	1	0.00	0.00	ppb	664.54	3600	
78 Se	72	1	2.10	2.10	ppb	12.34	3600	
95 Mo	72	1	-0.01	-0.01	ppb	45.44	3600	
107 Ag	115	1	0.00	0.00	ppb	58.87	3600	
111 Cd	115	1	0.01	0.01	ppb	69.14	3600	
118 Sn	115	1	0.05	0.05	ppb	347.56	3600	
121 Sb	115	1	0.02	0.02	ppb	33.89	3600	
137 Ba	115	1	0.02	0.02	ppb	46.40	3600	
205 Tl	165	1	0.01	0.01	ppb	7.09	3600	
208 Pb	165	1	0.01	0.01	ppb	32.33	3600	
232 Th	165	1	0.02	0.02	ppb	9.94	1000	
238 U	165	1	0.00	0.00	ppb	61.35	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	569704	0.90	581797	97.9	30 - 120	
45 Sc	1	2578530	1.74	2574983	100.1	30 - 120	
72 Ge	1	1225059	0.62	1211627	101.1	30 - 120	
115 In	1	3458256	0.73	3426576	100.9	30 - 120	
165 Ho	1	5659536	0.49	5647086	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\
 (Note: A handwritten checkmark is present next to the Se element in the QC Elements table above.)

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\011ICSA.D\011ICSA.D#
 Date Acquired: Jul 21 2009 05:50 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: Jul 21 2009 05:31 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	86.57	1.00
51	V	72	1	-0.32 ppb	45.77	1.00
52	Cr	72	1	1.09 ppb	1.54	1.00
55	Mn	72	1	3.02 ppb	2.13	1.00
59	Co	72	1	0.14 ppb	6.32	1.00
60	Ni	72	1	1.14 ppb	8.51	1.00
63	Cu	72	1	0.52 ppb	6.79	1.00
66	Zn	72	1	4.12 ppb	0.37	10.00
75	As	72	1	0.41 ppb	6.37	1.00
78	Se	72	1	0.21 ppb	202.38	1.00
95	Mo	72	1	2029.00 ppb	1.48	2000.00
107	Ag	115	1	0.08 ppb	1.65	1.00
111	Cd	115	1	0.53 ppb	11.29	1.00
118	Sn	115	1	6.55 ppb	2.38	10.00
121	Sb	115	1	0.25 ppb	8.83	1.00
137	Ba	115	1	1.63 ppb	3.16	1.00
205	Tl	165	1	0.06 ppb	23.67	1.00
208	Pb	165	1	0.15 ppb	1.74	1.00
232	Th	165	1	0.06 ppb	7.65	1.00
238	U	165	1	0.04 ppb	4.73	1.00

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	541828	0.30	581797	93.1	30 - 120
45	Sc	1	2271867	1.39	2574983	88.2	30 - 120
72	Ge	1	1037781	0.72	1211627	85.7	30 - 120
115	In	1	2905629	2.08	3426576	84.8	30 - 120
165	Ho	1	5091704	1.12	5647086	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\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\013SMPL.D\013SMPL.D#
 Date Acquired: Jul 21 2009 05:55 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: Jul 21 2009 05:31 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	-0.06	-0.06	ppb	105.43	3600
52	Cr	72	1	-0.03	-0.03	ppb	42.33	3600
55	Mn	72	1	-0.01	-0.01	ppb	103.23	3600
59	Co	72	1	0.00	0.00	ppb	103.31	3600
60	Ni	72	1	0.00	0.00	ppb	490.13	3600
63	Cu	72	1	-0.01	-0.01	ppb	55.36	3600
66	Zn	72	1	0.02	0.02	ppb	39.30	3600
75	As	72	1	0.01	0.01	ppb	237.74	3600
78	Se	72	1	0.22	0.22	ppb	124.98	3600
95	Mo	72	1	1.24	1.24	ppb	2.11	3600
107	Ag	115	1	0.01	0.01	ppb	32.64	3600
111	Cd	115	1	-0.01	-0.01	ppb	87.55	3600
118	Sn	115	1	-0.44	-0.44	ppb	9.84	3600
121	Sb	115	1	0.04	0.04	ppb	10.44	3600
137	Ba	115	1	0.00	0.00	ppb	198.65	3600
205	Tl	165	1	0.00	0.00	ppb	32.40	3600
208	Pb	165	1	0.00	0.00	ppb	60.85	3600
232	Th	165	1	0.61	0.61	ppb	14.09	1000
238	U	165	1	0.01	0.01	ppb	16.27	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	617032	1.01	581797	106.1	30 - 120
45	Sc	1	2571917	0.32	2574983	99.9	30 - 120
72	Ge	1	1207363	0.62	1211627	99.6	30 - 120
115	In	1	3468973	0.41	3426576	101.2	30 - 120
165	Ho	1	5751339	0.52	5647086	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\AG072109.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\AG072109.B\014_LR.D\014_LR.D#
 Date Acquired: Jul 21 2009 05:58 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LR
 Misc Info:
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	983.10 ppb	1.47	1000	98.3	90 - 110
51	V	72	1	931.80 ppb	1.87	1000	93.2	90 - 110
52	Cr	72	1	958.10 ppb	0.33	1000	95.8	90 - 110
55	Mn	72	1	959.10 ppb	0.74	1000	95.9	90 - 110
59	Co	72	1	962.90 ppb	0.81	1000	96.3	90 - 110
60	Ni	72	1	976.00 ppb	1.67	1000	97.6	90 - 110
63	Cu	72	1	952.70 ppb	0.56	1000	95.3	90 - 110
66	Zn	72	1	1036.00 ppb	1.42	1000	103.6	90 - 110
75	As	72	1	1038.00 ppb	0.83	1000	103.8	90 - 110
78	Se	72	1	1037.00 ppb	0.75	1000	103.7	90 - 110
95	Mo	72	1	998.50 ppb	1.19	1000	99.9	90 - 110
107	Ag	115	1	960.60 ppb	0.36	1000	96.1	90 - 110
111	Cd	115	1	1018.00 ppb	1.94	1000	101.8	90 - 110
118	Sn	115	1	980.00 ppb	0.99	1000	98.0	90 - 110
121	Sb	115	1	975.20 ppb	0.25	1000	97.5	90 - 110
137	Ba	115	1	1014.00 ppb	0.78	1000	101.4	90 - 110
205	Tl	165	1	970.30 ppb	1.49	1000	97.0	90 - 110
208	Pb	165	1	959.70 ppb	1.43	1000	96.0	90 - 110
232	Th	165	1	1070.00 ppb	0.39	1000	107.0	90 - 110
238	U	165	1	1001.00 ppb	0.48	1000	100.1	90 - 110

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	602525	1.07	581797	103.6	30 - 120
45	Sc	1	2585868	0.95	2574983	100.4	30 - 120
72	Ge	1	1215769	0.81	1211627	100.3	30 - 120
115	In	1	3432627	0.12	3426576	100.2	30 - 120
165	Ho	1	5756427	0.96	5647086	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\AG072109.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\AG072109.B\015SMPL.D\015SMPL.D#
 Date Acquired: Jul 21 2009 06:00 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: Jul 21 2009 05:31 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	173.21	3600
51	V	72	1	0.00	0.00	ppb	1096.50	3600
52	Cr	72	1	-0.02	-0.02	ppb	214.11	3600
55	Mn	72	1	-0.01	-0.01	ppb	54.41	3600
59	Co	72	1	0.02	0.02	ppb	17.45	3600
60	Ni	72	1	0.02	0.02	ppb	36.35	3600
63	Cu	72	1	0.00	0.00	ppb	3434.80	3600
66	Zn	72	1	0.04	0.04	ppb	59.09	3600
75	As	72	1	0.04	0.04	ppb	18.32	3600
78	Se	72	1	0.56	0.56	ppb	27.17	3600
95	Mo	72	1	0.75	0.75	ppb	9.81	3600
107	Ag	115	1	0.03	0.03	ppb	9.09	3600
111	Cd	115	1	0.01	0.01	ppb	55.86	3600
118	Sn	115	1	0.58	0.58	ppb	22.30	3600
121	Sb	115	1	0.43	0.43	ppb	9.45	3600
137	Ba	115	1	0.02	0.02	ppb	30.56	3600
205	Tl	165	1	0.10	0.10	ppb	12.56	3600
208	Pb	165	1	0.02	0.02	ppb	9.09	3600
232	Th	165	1	3.70	3.70	ppb	19.86	1000
238	U	165	1	0.09	0.09	ppb	9.53	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	604269	1.86	581797	103.9	30 - 120
45	Sc	1	2589065	0.70	2574983	100.5	30 - 120
72	Ge	1	1243813	0.46	1211627	102.7	30 - 120
115	In	1	3483172	1.13	3426576	101.7	30 - 120
165	Ho	1	5709115	0.24	5647086	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\AG072109.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\AG072109.B\016_CCV.D\016_CCV.D#
 Date Acquired: Jul 21 2009 06:03 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: Jul 21 2009 05:31 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	49.34 ppb	0.68	50	98.7	90 - 110	
51	V	72	49.10 ppb	0.55	50	98.2	90 - 110	
52	Cr	72	49.47 ppb	0.91	50	98.9	90 - 110	
55	Mn	72	49.47 ppb	1.10	50	98.9	90 - 110	
59	Co	72	49.92 ppb	1.17	50	99.8	90 - 110	
60	Ni	72	50.75 ppb	0.61	50	101.5	90 - 110	
63	Cu	72	50.93 ppb	0.27	50	101.9	90 - 110	
66	Zn	72	50.31 ppb	0.73	50	100.6	90 - 110	
75	As	72	50.24 ppb	1.12	50	100.5	90 - 110	
78	Se	72	50.24 ppb	0.13	50	100.5	90 - 110	
95	Mo	72	50.78 ppb	1.42	50	101.6	90 - 110	
107	Ag	115	49.22 ppb	2.02	50	98.4	90 - 110	
111	Cd	115	49.66 ppb	2.34	50	99.3	90 - 110	
118	Sn	115	49.06 ppb	1.65	50	98.1	90 - 110	
121	Sb	115	49.30 ppb	1.60	50	98.6	90 - 110	
137	Ba	115	49.04 ppb	1.67	50	98.1	90 - 110	
205	Tl	165	50.73 ppb	1.09	50	101.5	90 - 110	
208	Pb	165	49.84 ppb	1.34	50	99.7	90 - 110	
232	Th	165	52.15 ppb	2.07	50	104.3	90 - 110	
238	U	165	49.79 ppb	0.38	50	99.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	588145	2.13	581797	101.1	30 - 120
45	Sc	1	2623883	0.54	2574983	101.9	30 - 120
72	Ge	1	1228362	0.50	1211627	101.4	30 - 120
115	In	1	3530300	1.24	3426576	103.0	30 - 120
165	Ho	1	5768046	0.38	5647086	102.1	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\AG072109.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\AG072109.B\017_CCB.D\017_CCB.D#
 Date Acquired: Jul 21 2009 06:06 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: Jul 21 2009 05:31 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	0.005	ppb	173.19	1.00	
51 V	72	1	-0.062	ppb	129.47	1.00	
52 Cr	72	1	-0.026	ppb	83.65	1.00	
55 Mn	72	1	-0.007	ppb	143.47	1.00	
59 Co	72	1	0.002	ppb	146.67	1.00	
60 Ni	72	1	0.009	ppb	171.37	1.00	
63 Cu	72	1	-0.013	ppb	47.42	1.00	
66 Zn	72	1	0.004	ppb	593.06	1.00	
75 As	72	1	0.008	ppb	83.97	1.00	
78 Se	72	1	0.635	ppb	21.48	1.00	
95 Mo	72	1	0.156	ppb	13.82	1.00	
107 Ag	115	1	0.013	ppb	10.04	1.00	
111 Cd	115	1	0.005	ppb	226.51	1.00	
118 Sn	115	1	0.091	ppb	27.58	1.00	
121 Sb	115	1	0.092	ppb	4.85	1.00	
137 Ba	115	1	0.007	ppb	96.12	1.00	
205 Tl	165	1	0.044	ppb	9.42	1.00	
208 Pb	165	1	0.005	ppb	16.13	1.00	
232 Th	165	1	0.846	ppb	15.54	1.00	
238 U	165	1	0.016	ppb	7.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	582937	1.46	581797	100.2	30 - 120	
45 Sc	1	2618279	0.49	2574983	101.7	30 - 120	
72 Ge	1	1228248	0.40	1211627	101.4	30 - 120	
115 In	1	3493471	0.25	3426576	102.0	30 - 120	
165 Ho	1	5729193	0.17	5647086	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\AG072109.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\AG072109.B\018WASH.D\018WASH.D#
 Date Acquired: Jul 21 2009 06:09 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: Jul 21 2009 05:31 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	1.506 ppb	66.40	1.30	
51 V	72	1	5.354 ppb	9.73	6.50	
52 Cr	72	1	2.294 ppb	19.68	2.60	
55 Mn	72	1	1.341 ppb	40.40	1.30	
59 Co	72	1	1.372 ppb	41.06	1.30	
60 Ni	72	1	2.353 ppb	23.65	2.60	
63 Cu	72	1	2.412 ppb	17.43	2.60	
66 Zn	72	1	10.710 ppb	7.57	13.00	
75 As	72	1	5.663 ppb	11.90	6.50	
78 Se	72	1	5.717 ppb	11.15	6.50	
95 Mo	72	1	4.400 ppb	84.36	2.60	
107 Ag	115	1	5.364 ppb	3.44	6.50	
111 Cd	115	1	1.442 ppb	41.34	1.30	
118 Sn	115	1	10.180 ppb	5.67	13.00	
121 Sb	115	1	2.278 ppb	21.30	2.60	
137 Ba	115	1	1.364 ppb	42.96	1.30	
205 Tl	165	1	1.415 ppb	39.27	1.30	
208 Pb	165	1	1.446 ppb	47.86	1.30	
232 Th	165	1	2.676 ppb	20.73	2.60	
238 U	165	1	1.427 ppb	40.32	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	598481	1.35	581797	102.9	30 - 120	
45 Sc	1	2642231	1.82	2574983	102.6	30 - 120	
72 Ge	1	1250188	1.58	1211627	103.2	30 - 120	
115 In	1	3540347	1.66	3426576	103.3	30 - 120	
165 Ho	1	5791976	1.24	5647086	102.6	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\AG072109.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\AG072109.B\026_CCV.D\026_CCV.D#
 Date Acquired: Jul 21 2009 06:30 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: Jul 21 2009 05:31 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	49.60 ppb	3.76	50	99.2	90 - 110	
51	V	72	47.46 ppb	0.73	50	94.9	90 - 110	
52	Cr	72	48.46 ppb	1.90	50	96.9	90 - 110	
55	Mn	72	48.48 ppb	1.62	50	97.0	90 - 110	
59	Co	72	48.65 ppb	0.70	50	97.3	90 - 110	
60	Ni	72	49.63 ppb	1.26	50	99.3	90 - 110	
63	Cu	72	49.48 ppb	1.11	50	99.0	90 - 110	
66	Zn	72	49.17 ppb	0.85	50	98.3	90 - 110	
75	As	72	49.33 ppb	1.83	50	98.7	90 - 110	
78	Se	72	49.43 ppb	3.65	50	98.9	90 - 110	
95	Mo	72	49.52 ppb	1.74	50	99.0	90 - 110	
107	Ag	115	49.84 ppb	0.95	50	99.7	90 - 110	
111	Cd	115	49.79 ppb	0.88	50	99.6	90 - 110	
118	Sn	115	49.36 ppb	1.63	50	98.7	90 - 110	
121	Sb	115	49.58 ppb	0.60	50	99.2	90 - 110	
137	Ba	115	49.59 ppb	0.66	50	99.2	90 - 110	
205	Tl	165	50.54 ppb	0.83	50	101.1	90 - 110	
208	Pb	165	50.49 ppb	0.37	50	101.0	90 - 110	
232	Th	165	51.99 ppb	2.44	50	104.0	90 - 110	
238	U	165	51.90 ppb	0.76	50	103.8	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	571014	0.79	581797	98.1	30 - 120
45	Sc	1	2538915	1.25	2574983	98.6	30 - 120
72	Ge	1	1213633	1.83	1211627	100.2	30 - 120
115	In	1	3399341	0.85	3426576	99.2	30 - 120
165	Ho	1	5600207	0.53	5647086	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\AG072109.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\AG072109.B\027_CCB.D\027_CCB.D#
 Date Acquired: Jul 21 2009 06:33 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: Jul 21 2009 05:31 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	0.006	ppb	173.20	1.00	
51 V	72	1	-0.006	ppb	515.80	1.00	
52 Cr	72	1	-0.037	ppb	49.31	1.00	
55 Mn	72	1	-0.018	ppb	70.24	1.00	
59 Co	72	1	0.002	ppb	18.76	1.00	
60 Ni	72	1	0.005	ppb	28.03	1.00	
63 Cu	72	1	-0.039	ppb	12.85	1.00	
66 Zn	72	1	0.010	ppb	155.67	1.00	
75 As	72	1	-0.008	ppb	188.46	1.00	
78 Se	72	1	0.001	ppb	63037.00	1.00	
95 Mo	72	1	0.038	ppb	19.24	1.00	
107 Ag	115	1	0.006	ppb	44.60	1.00	
111 Cd	115	1	0.007	ppb	37.32	1.00	
118 Sn	115	1	-0.057	ppb	99.88	1.00	
121 Sb	115	1	0.059	ppb	8.11	1.00	
137 Ba	115	1	0.003	ppb	62.71	1.00	
205 Tl	165	1	0.021	ppb	14.15	1.00	
208 Pb	165	1	0.004	ppb	24.01	1.00	
232 Th	165	1	0.775	ppb	18.32	1.00	
238 U	165	1	0.010	ppb	13.56	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	568757	0.26	581797	97.8	30 - 120	
45 Sc	1	2523515	0.52	2574983	98.0	30 - 120	
72 Ge	1	1190357	0.87	1211627	98.2	30 - 120	
115 In	1	3393018	0.90	3426576	99.0	30 - 120	
165 Ho	1	5546048	0.69	5647086	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\AG072109.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\AG072109.B\028WASH.D\028WASH.D#
 Date Acquired: Jul 21 2009 06:36 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: Jul 21 2009 05:31 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	0.945 ppb	17.37	1.30	
51 V	72	1	5.047 ppb	0.91	6.50	
52 Cr	72	1	2.021 ppb	3.49	2.60	
55 Mn	72	1	1.010 ppb	5.40	1.30	
59 Co	72	1	1.024 ppb	2.85	1.30	
60 Ni	72	1	2.156 ppb	3.13	2.60	
63 Cu	72	1	2.053 ppb	0.90	2.60	
66 Zn	72	1	10.450 ppb	1.17	13.00	
75 As	72	1	5.192 ppb	1.28	6.50	
78 Se	72	1	5.235 ppb	5.22	6.50	
95 Mo	72	1	2.123 ppb	6.02	2.60	
107 Ag	115	1	5.226 ppb	1.25	6.50	
111 Cd	115	1	1.069 ppb	5.99	1.30	
118 Sn	115	1	9.851 ppb	1.45	13.00	
121 Sb	115	1	1.944 ppb	1.32	2.60	
137 Ba	115	1	1.079 ppb	5.58	1.30	
205 Tl	165	1	1.091 ppb	0.56	1.30	
208 Pb	165	1	1.065 ppb	1.02	1.30	
232 Th	165	1	2.329 ppb	1.74	2.60	
238 U	165	1	1.101 ppb	0.77	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	563752	0.35	581797	96.9	30 - 120	
45 Sc	1	2522070	0.50	2574983	97.9	30 - 120	
72 Ge	1	1195071	0.30	1211627	98.6	30 - 120	
115 In	1	3409514	0.82	3426576	99.5	30 - 120	
165 Ho	1	5555873	0.54	5647086	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\AG072109.B\003CALB.D\003CALB.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\AG072109.B\029_BLK.D\029_BLK.D#
 Date Acquired: Jul 21 2009 06:39 pm
 Operator: TEL
 Sample Name: LGEERB
 Misc Info: BLANK 9194272 6020
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.023 ppb	197.29	2.00	
52 Cr	72	1	0.079 ppb	10.06	2.00	
55 Mn	72	1	0.108 ppb	12.70	2.00	
59 Co	72	1	0.000 ppb	501.93	2.00	
60 Ni	72	1	0.025 ppb	81.97	2.00	
63 Cu	72	1	0.077 ppb	14.50	2.00	
66 Zn	72	1	0.692 ppb	2.78	2.00	
75 As	72	1	-0.001 ppb	1570.10	2.00	
78 Se	72	1	0.138 ppb	271.86	2.00	
95 Mo	72	1	0.012 ppb	30.51	2.00	
107 Ag	115	1	0.005 ppb	43.98	2.00	
111 Cd	115	1	0.003 ppb	153.49	2.00	
118 Sn	115	1	-0.388 ppb	3.06	2.00	
121 Sb	115	1	0.032 ppb	4.02	2.00	
137 Ba	115	1	0.024 ppb	41.42	2.00	
205 Tl	165	1	0.024 ppb	33.52	2.00	
208 Pb	165	1	0.010 ppb	10.00	2.00	
232 Th	165	1	0.149 ppb	18.82	2.00	
238 U	165	1	0.003 ppb	8.64	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567901	0.49	581797	97.6	30 - 120	
45 Sc	1	2536930	0.98	2574983	98.5	30 - 120	
72 Ge	1	1190052	0.57	1211627	98.2	30 - 120	
115 In	1	3404908	0.81	3426576	99.4	30 - 120	
165 Ho	1	5537384	1.21	5647086	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\030_LCS.D\030_LCS.D#
 Date Acquired: Jul 21 2009 06:41 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGEERC
 Misc Info: LCS
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	40.84	2.97	40	102.1	80 - 120
51	V	72	1	41.46	0.89	40	103.7	80 - 120
52	Cr	72	1	42.08	1.02	40	105.2	80 - 120
55	Mn	72	1	42.07	2.68	40	105.2	80 - 120
59	Co	72	1	42.43	1.84	40	106.1	80 - 120
60	Ni	72	1	43.29	2.68	40	108.2	80 - 120
63	Cu	72	1	43.58	2.40	40	109.0	80 - 120
66	Zn	72	1	41.11	1.13	40	102.8	80 - 120
75	As	72	1	41.33	1.55	40	103.3	80 - 120
78	Se	72	1	40.24	3.32	40	100.6	80 - 120
95	Mo	72	1	43.74	5.12	40	109.4	80 - 120
107	Ag	115	1	42.07	1.97	40	105.2	80 - 120
111	Cd	115	1	41.62	1.54	40	104.1	80 - 120
118	Sn	115	1	-0.06	879.10	40	-0.2	80 - 120
121	Sb	115	1	40.67	1.75	40	101.7	80 - 120
137	Ba	115	1	42.32	1.65	40	105.8	80 - 120
205	Tl	165	1	43.38	1.33	40	108.5	80 - 120
208	Pb	165	1	43.18	0.66	40	108.0	80 - 120
232	Th	165	1	46.22	3.01	40	115.6	80 - 120
238	U	165	1	44.22	0.28	40	110.6	80 - 120

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	572827	4.47	581797	98.5	30 - 120
45	Sc	1	2536116	1.65	2574983	98.5	30 - 120
72	Ge	1	1194379	2.43	1211627	98.6	30 - 120
115	In	1	3408702	2.96	3426576	99.5	30 - 120
165	Ho	1	5609006	1.65	5647086	99.3	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\AG072109.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\AG072109.B\031AREF.D\031AREF.D#
 Date Acquired: Jul 21 2009 06:44 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3 10X
 Misc Info: D9G100272
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: AllRef
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.11	0.01	ppb	86.58	3600	
51 V	72	1	21.63	2.16	ppb	7.43	3600	
52 Cr	72	1	6.32	0.63	ppb	7.96	3600	
55 Mn	72	1	5.24	0.52	ppb	6.66	3600	
59 Co	72	1	0.39	0.04	ppb	16.50	3600	
60 Ni	72	1	4.15	0.41	ppb	14.15	3600	
63 Cu	72	1	0.17	0.02	ppb	16.19	3600	
66 Zn	72	1	3.05	0.31	ppb	11.24	3600	
75 As	72	1	198.10	19.81	ppb	2.87	3600	
78 Se	72	1	4.94	0.49	ppb	39.09	3600	
95 Mo	72	1	16.44	1.64	ppb	4.40	3600	
107 Ag	115	1	0.09	0.01	ppb	63.79	3600	
111 Cd	115	1	0.13	0.01	ppb	29.31	3600	
118 Sn	115	1	-5.34	-0.53	ppb	1.82	3600	
121 Sb	115	1	0.48	0.05	ppb	8.21	3600	
137 Ba	115	1	33.07	3.31	ppb	2.19	3600	
205 Tl	165	1	0.27	0.03	ppb	15.00	3600	
208 Pb	165	1	0.16	0.02	ppb	10.80	3600	
232 Th	165	1	6.24	0.62	ppb	18.22	1000	
238 U	165	1	55.05	5.51	ppb	1.19	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567824	0.66	581797	97.6	30 - 120	
45 Sc	1	2404508	0.72	2574983	93.4	30 - 120	
72 Ge	1	1124528	1.16	1211627	92.8	30 - 120	
115 In	1	3208719	1.35	3426576	93.6	30 - 120	
165 Ho	1	5383143	1.62	5647086	95.3	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\DATA\AG072109.B\003CALB.D\003CALB.D#

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\032SDIL.D\032SDIL.D#
 Date Acquired: Jul 21 2009 06:47 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3P50
 Misc Info: SERIAL DILUTION
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SDIL
 Dilution Factor: 10.00

QC Summary:

Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG072109.B\031AREF.D\031AREF.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	0.43 ppb	23.28	0.43	99.3	90 - 110
52	Cr	72	1	0.29 ppb	4.37	0.13	229.3	90 - 110
55	Mn	72	1	0.15 ppb	6.68	0.10	144.4	90 - 110
59	Co	72	1	0.01 ppb	66.01	0.01	130.9	90 - 110
60	Ni	72	1	0.26 ppb	15.21	0.08	310.4	90 - 110
63	Cu	72	1	-0.01 ppb	106.68	0.00	-353.0	90 - 110
66	Zn	72	1	0.09 ppb	22.23	0.06	148.6	90 - 110
75	As	72	1	3.90 ppb	0.41	3.96	98.4	90 - 110
78	Se	72	1	0.05 ppb	1070.40	0.10	46.0	90 - 110
95	Mo	72	1	0.31 ppb	1.89	0.33	95.3	90 - 110
107	Ag	115	1	0.00 ppb	66.72	0.00	156.3	90 - 110
111	Cd	115	1	0.00 ppb	175.62	0.00	145.6	90 - 110
118	Sn	115	1	-0.53 ppb	3.47	-0.11	493.3	90 - 110
121	Sb	115	1	0.02 ppb	16.35	0.01	181.6	90 - 110
137	Ba	115	1	0.66 ppb	2.72	0.66	99.8	90 - 110
205	Tl	165	1	0.00 ppb	195.50	0.01	21.4	90 - 110
208	Pb	165	1	0.01 ppb	27.48	0.00	185.7	90 - 110
232	Th	165	1	0.09 ppb	13.71	0.12	75.2	90 - 110
238	U	165	1	1.10 ppb	1.87	1.10	100.1	90 - 110

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565608	0.94	581797	97.2	30 - 120
45	Sc	1	2460020	0.58	2574983	95.5	30 - 120
72	Ge	1	1155387	1.16	1211627	95.4	30 - 120
115	In	1	3303714	1.14	3426576	96.4	30 - 120
165	Ho	1	5431207	0.86	5647086	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\AG072109.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: 07/22/09 08:07:22

Department: 090 (Metals) Source: Spreadsheet

Sample: LGCN3P50 Serial Dilution: 50.00 Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 32 Method 6020_
Acquired: 07/21/2009 18:47:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\033PDS.D\033PDS.D#
 Date Acquired: Jul 21 2009 06:50 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3Z
 Misc Info: POST DIGESTION SPIKE
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	200.50	0.01	ppb	2.01	200	100.2	75 - 125	
51 V	72	1	199.90	2.16	ppb	1.11	200	98.9	75 - 125	
52 Cr	72	1	201.70	0.63	ppb	1.61	200	100.5	75 - 125	
55 Mn	72	1	198.30	0.52	ppb	1.60	200	98.9	75 - 125	
59 Co	72	1	195.50	0.04	ppb	2.21	200	97.7	75 - 125	
60 Ni	72	1	195.10	0.41	ppb	0.98	200	97.3	75 - 125	
63 Cu	72	1	195.80	0.02	ppb	0.06	200	97.9	75 - 125	
66 Zn	72	1	201.20	0.31	ppb	1.52	200	100.4	75 - 125	
75 As	72	1	221.60	19.81	ppb	1.14	200	100.8	75 - 125	
78 Se	72	1	205.80	0.49	ppb	1.72	200	102.6	75 - 125	
95 Mo	72	1	206.50	1.64	ppb	1.30	200	102.4	75 - 125	
107 Ag	115	1	48.42	0.01	ppb	1.14	50	96.8	75 - 125	
111 Cd	115	1	199.60	0.01	ppb	0.85	200	99.8	75 - 125	
118 Sn	115	1	182.90	-0.53	ppb	0.64	200	91.7	75 - 125	
121 Sb	115	1	200.40	0.05	ppb	0.62	200	100.2	75 - 125	
137 Ba	115	1	204.10	3.31	ppb	0.79	200	100.4	75 - 125	
205 Tl	165	1	196.40	0.03	ppb	0.92	200	98.2	75 - 125	
208 Pb	165	1	194.00	0.02	ppb	0.57	200	97.0	75 - 125	
232 Th	165	1	0.06	0.62	ppb	5.86	200	0.0	75 - 125	
238 U	165	1	208.90	5.51	ppb	1.19	200	101.7	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	552017	0.97	581797	94.9	30 - 120	
45 Sc	1	2393086	1.79	2574983	92.9	30 - 120	
72 Ge	1	1113187	1.37	1211627	91.9	30 - 120	
115 In	1	3182521	0.72	3426576	92.9	30 - 120	
165 Ho	1	5376631	0.55	5647086	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\AG072109.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: 07/22/09 08:07:27

Department: 090 (Metals)

Source: Spreadsheet

Sample: LGCN3Z

Spike Dilution: 1.00

Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 33 Method 6020_
Acquired: 07/21/2009 18:50:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\034_MS.D\034_MS.D#
 Date Acquired: Jul 21 2009 06:52 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3S 10X
 Misc Info: MATRIX SPIKE
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MS
 Prep Dil. Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	4.28	0.01	ppb	3.84	40	10.7	50 - 150	
51 V	72	1	6.27	2.16	ppb	1.52	40	14.9	50 - 150	
52 Cr	72	1	4.83	0.63	ppb	4.02	40	11.9	50 - 150	
55 Mn	72	1	4.67	0.52	ppb	0.82	40	11.5	50 - 150	
59 Co	72	1	4.21	0.04	ppb	1.66	40	10.5	50 - 150	
60 Ni	72	1	4.58	0.41	ppb	2.25	40	11.3	50 - 150	
63 Cu	72	1	4.24	0.02	ppb	2.92	40	10.6	50 - 150	
66 Zn	72	1	4.53	0.31	ppb	4.27	40	11.2	50 - 150	
75 As	72	1	23.45	19.81	ppb	0.47	40	39.2	50 - 150	
78 Se	72	1	4.43	0.49	ppb	4.58	40	10.9	50 - 150	
95 Mo	72	1	6.07	1.64	ppb	2.05	40	14.6	50 - 150	
107 Ag	115	1	4.06	0.01	ppb	2.34	40	10.2	50 - 150	
111 Cd	115	1	4.28	0.01	ppb	1.30	40	10.7	50 - 150	
118 Sn	115	1	-0.29	-0.53	ppb	8.52	40	-0.7	50 - 150	
121 Sb	115	1	4.37	0.05	ppb	0.90	40	10.9	50 - 150	
137 Ba	115	1	7.57	3.31	ppb	1.41	40	17.5	50 - 150	
205 Tl	165	1	4.37	0.03	ppb	0.09	40	10.9	50 - 150	
208 Pb	165	1	4.34	0.02	ppb	0.98	40	10.9	50 - 150	
232 Th	165	1	4.70	0.62	ppb	2.44	40	11.6	50 - 150	
238 U	165	1	10.08	5.51	ppb	0.80	40	22.2	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	556944	0.45	581797	95.7	30 - 120	
45 Sc	1	2377843	1.11	2574983	92.3	30 - 120	
72 Ge	1	1122514	1.35	1211627	92.6	30 - 120	
115 In	1	3221254	0.75	3426576	94.0	30 - 120	
165 Ho	1	5362470	0.23	5647086	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\AG072109.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\AG072109.B\035_CCV.D\035_CCV.D#
 Date Acquired: Jul 21 2009 06:55 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: Jul 21 2009 05:31 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	49.42 ppb	1.97	50	98.8	90 - 110	
51	V	72	48.32 ppb	0.92	50	96.6	90 - 110	
52	Cr	72	48.98 ppb	0.92	50	98.0	90 - 110	
55	Mn	72	48.41 ppb	0.46	50	96.8	90 - 110	
59	Co	72	49.42 ppb	0.37	50	98.8	90 - 110	
60	Ni	72	49.85 ppb	0.52	50	99.7	90 - 110	
63	Cu	72	50.16 ppb	0.84	50	100.3	90 - 110	
66	Zn	72	49.95 ppb	0.90	50	99.9	90 - 110	
75	As	72	50.23 ppb	0.25	50	100.5	90 - 110	
78	Se	72	50.22 ppb	2.05	50	100.4	90 - 110	
95	Mo	72	50.05 ppb	0.52	50	100.1	90 - 110	
107	Ag	115	49.31 ppb	0.59	50	98.6	90 - 110	
111	Cd	115	49.60 ppb	0.17	50	99.2	90 - 110	
118	Sn	115	49.20 ppb	0.37	50	98.4	90 - 110	
121	Sb	115	49.37 ppb	0.88	50	98.7	90 - 110	
137	Ba	115	49.60 ppb	0.50	50	99.2	90 - 110	
205	Tl	165	50.85 ppb	1.38	50	101.7	90 - 110	
208	Pb	165	50.56 ppb	0.82	50	101.1	90 - 110	
232	Th	165	52.19 ppb	3.26	50	104.4	90 - 110	
238	U	165	51.93 ppb	1.69	50	103.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	540158	0.94	581797	92.8	30 - 120
45	Sc	1	2438139	1.30	2574983	94.7	30 - 120
72	Ge	1	1153755	0.36	1211627	95.2	30 - 120
115	In	1	3309113	0.86	3426576	96.6	30 - 120
165	Ho	1	5464053	0.74	5647086	96.8	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\AG072109.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\AG072109.B\036_CCB.D\036_CCB.D#
 Date Acquired: Jul 21 2009 06:58 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: Jul 21 2009 05:31 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

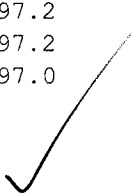
QC Summary:
Analytes: Pass
ISTD: Pass

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	-0.003 ppb	487.71	1.00	
52 Cr	72	1	-0.001 ppb	1245.80	1.00	
55 Mn	72	1	-0.013 ppb	48.53	1.00	
59 Co	72	1	0.000 ppb	382.88	1.00	
60 Ni	72	1	-0.006 ppb	152.58	1.00	
63 Cu	72	1	-0.033 ppb	14.97	1.00	
66 Zn	72	1	0.013 ppb	162.14	1.00	
75 As	72	1	-0.001 ppb	1279.80	1.00	
78 Se	72	1	0.044 ppb	96.85	1.00	
95 Mo	72	1	0.048 ppb	21.21	1.00	
107 Ag	115	1	0.007 ppb	13.19	1.00	
111 Cd	115	1	0.004 ppb	36.72	1.00	
118 Sn	115	1	-0.066 ppb	28.84	1.00	
121 Sb	115	1	0.060 ppb	6.65	1.00	
137 Ba	115	1	0.010 ppb	78.17	1.00	
205 Tl	165	1	0.019 ppb	11.00	1.00	
208 Pb	165	1	0.004 ppb	45.34	1.00	
232 Th	165	1	0.795 ppb	15.81	1.00	
238 U	165	1	0.011 ppb	4.95	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	552374	0.81	581797	94.9	30 - 120	
45 Sc	1	2446795	1.11	2574983	95.0	30 - 120	
72 Ge	1	1178029	1.15	1211627	97.2	30 - 120	
115 In	1	3329395	0.66	3426576	97.2	30 - 120	
165 Ho	1	5475567	0.43	5647086	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\AG072109.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\AG072109.B\037WASH.D\037WASH.D#
 Date Acquired: Jul 21 2009 07:01 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: Jul 21 2009 05:31 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	1.001 ppb	9.18	1.30	
51 V	72	1	5.141 ppb	2.55	6.50	
52 Cr	72	1	2.091 ppb	2.49	2.60	
55 Mn	72	1	1.005 ppb	1.26	1.30	
59 Co	72	1	1.028 ppb	5.10	1.30	
60 Ni	72	1	2.103 ppb	0.94	2.60	
63 Cu	72	1	2.128 ppb	2.55	2.60	
66 Zn	72	1	10.560 ppb	2.59	13.00	
75 As	72	1	5.192 ppb	0.09	6.50	
78 Se	72	1	6.309 ppb	1.74	6.50	
95 Mo	72	1	2.070 ppb	2.44	2.60	
107 Ag	115	1	5.185 ppb	1.03	6.50	
111 Cd	115	1	1.087 ppb	10.27	1.30	
118 Sn	115	1	9.916 ppb	0.55	13.00	
121 Sb	115	1	1.957 ppb	2.80	2.60	
137 Ba	115	1	1.051 ppb	2.71	1.30	
205 Tl	165	1	1.091 ppb	2.87	1.30	
208 Pb	165	1	1.075 ppb	0.84	1.30	
232 Th	165	1	2.350 ppb	2.29	2.60	
238 U	165	1	1.116 ppb	0.75	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	550628	0.54	581797	94.6	30 - 120	
45 Sc	1	2456537	0.83	2574983	95.4	30 - 120	
72 Ge	1	1156394	1.08	1211627	95.4	30 - 120	
115 In	1	3321593	0.50	3426576	96.9	30 - 120	
165 Ho	1	5496023	1.28	5647086	97.3	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\AG072109.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\AG072109.B\038 MSD.D\038 MSD.D#
 Date Acquired: Jul 21 2009 07:03 pm **QC Summary:**
 Acq. Method: NormISIS.M **Analytes: Pass**
 Operator: TEL **ISTD: Pass**
 Sample Name: LGCN3D 10X
 Misc Info: MATRIX SPIKE DUPLICATE
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MSD
 Dilution Factor: 10.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG072109.B\034 MS.D\034 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	1	4.06 ppb	5.70	4.28	5.18	20
51	V	72	1	6.38 ppb	1.64	6.27	1.79	20
52	Cr	72	1	4.79 ppb	0.59	4.83	0.85	20
55	Mn	72	1	4.66 ppb	1.04	4.67	0.34	20
59	Co	72	1	4.26 ppb	3.02	4.21	1.11	20
60	Ni	72	1	4.59 ppb	3.03	4.58	0.15	20
63	Cu	72	1	4.29 ppb	0.78	4.24	1.17	20
66	Zn	72	1	4.59 ppb	2.90	4.53	1.23	20
75	As	72	1	23.78 ppb	1.59	23.45	1.40	20
78	Se	72	1	4.84 ppb	10.22	4.43	8.78	20
95	Mo	72	1	5.96 ppb	2.88	6.07	1.73	20
107	Ag	115	1	4.19 ppb	3.60	4.06	2.98	20
111	Cd	115	1	4.27 ppb	1.75	4.28	0.12	20
118	Sn	115	1	-0.49 ppb	0.60	-0.29	-50.16	20
121	Sb	115	1	4.30 ppb	1.48	4.37	1.66	20
137	Ba	115	1	7.66 ppb	3.26	7.57	1.09	20
205	Tl	165	1	4.33 ppb	1.08	4.37	0.87	20
208	Pb	165	1	4.32 ppb	0.78	4.34	0.44	20
232	Th	165	1	4.77 ppb	2.43	4.70	1.33	20
238	U	165	1	9.96 ppb	0.82	10.08	1.22	20

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	546064	0.27	581797	93.9	30 - 120
45	Sc	1	2359431	0.90	2574983	91.6	30 - 120
72	Ge	1	1104590	0.97	1211627	91.2	30 - 120
115	In	1	3149159	0.41	3426576	91.9	30 - 120
165	Ho	1	5369723	0.97	5647086	95.1	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\AG072109.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\AG072109.B\039SMPL.D\039SMPL.D#
 Date Acquired: Jul 21 2009 07:06 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCQK 10X
 Misc Info: D9G100274
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	23.68	2.37	ppb	1.85	3600
52	Cr	72	1	12.40	1.24	ppb	2.95	3600
55	Mn	72	1	2.12	0.21	ppb	8.12	3600
59	Co	72	1	0.30	0.03	ppb	7.53	3600
60	Ni	72	1	3.33	0.33	ppb	5.22	3600
63	Cu	72	1	-0.20	-0.02	ppb	5.61	3600
66	Zn	72	1	2.60	0.26	ppb	8.14	3600
75	As	72	1	114.20	11.42	ppb	1.08	3600
78	Se	72	1	2.84	0.28	ppb	68.00	3600
95	Mo	72	1	42.30	4.23	ppb	2.35	3600
107	Ag	115	1	0.07	0.01	ppb	37.85	3600
111	Cd	115	1	0.07	0.01	ppb	133.86	3600
118	Sn	115	1	-5.30	-0.53	ppb	2.37	3600
121	Sb	115	1	0.28	0.03	ppb	5.21	3600
137	Ba	115	1	34.03	3.40	ppb	4.11	3600
205	Tl	165	1	0.11	0.01	ppb	30.92	3600
208	Pb	165	1	0.09	0.01	ppb	19.12	3600
232	Th	165	1	1.32	0.13	ppb	13.37	1000
238	U	165	1	6.45	0.64	ppb	0.89	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	551022	0.60	581797	94.7	30 - 120
45	Sc	1	2336691	0.75	2574983	90.7	30 - 120
72	Ge	1	1100169	0.92	1211627	90.8	30 - 120
115	In	1	3126709	0.78	3426576	91.2	30 - 120
165	Ho	1	5251243	0.64	5647086	93.0	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\AG072109.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\AG072109.B\040SMPL.D\040SMPL.D#
 Date Acquired: Jul 21 2009 07:09 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJV 10X
 Misc Info: D9G110152
 Vial Number: 2304
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.12	0.01	ppb	86.63	3600	
51 V	72	1	16.34	1.63	ppb	14.05	3600	
52 Cr	72	1	858.20	85.82	ppb	0.42	3600	
55 Mn	72	1	62.25	6.23	ppb	0.82	3600	
59 Co	72	1	0.35	0.04	ppb	4.83	3600	
60 Ni	72	1	3.24	0.32	ppb	5.41	3600	
63 Cu	72	1	-0.11	-0.01	ppb	134.88	3600	
66 Zn	72	1	0.97	0.10	ppb	20.21	3600	
75 As	72	1	137.30	13.73	ppb	1.37	3600	
78 Se	72	1	1.53	0.15	ppb	126.27	3600	
95 Mo	72	1	23.17	2.32	ppb	1.07	3600	
107 Ag	115	1	0.03	0.00	ppb	74.34	3600	
111 Cd	115	1	0.05	0.00	ppb	97.57	3600	
118 Sn	115	1	-5.16	-0.52	ppb	3.23	3600	
121 Sb	115	1	0.22	0.02	ppb	2.16	3600	
137 Ba	115	1	20.27	2.03	ppb	4.70	3600	
205 Tl	165	1	0.11	0.01	ppb	13.97	3600	
208 Pb	165	1	0.08	0.01	ppb	23.24	3600	
232 Th	165	1	0.36	0.04	ppb	9.36	1000	
238 U	165	1	7.67	0.77	ppb	2.40	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	549478	0.91	581797	94.4	30 - 120	
45 Sc	1	2376723	1.71	2574983	92.3	30 - 120	
72 Ge	1	1096432	0.47	1211627	90.5	30 - 120	
115 In	1	3124200	0.99	3426576	91.2	30 - 120	
165 Ho	1	5324718	1.58	5647086	94.3	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\AG072109.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\AG072109.B\041SMPL.D\041SMPL.D#
 Date Acquired: Jul 21 2009 07:11 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJ3 10X
 Misc Info: D9G110155
 Vial Number: 2305
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.06	0.01	ppb	173.23	3600
51	V	72	1	25.99	2.60	ppb	1.41	3600
52	Cr	72	1	90.81	9.08	ppb	1.84	3600
55	Mn	72	1	2.28	0.23	ppb	3.91	3600
59	Co	72	1	0.28	0.03	ppb	8.82	3600
60	Ni	72	1	3.42	0.34	ppb	10.30	3600
63	Cu	72	1	-0.03	0.00	ppb	414.27	3600
66	Zn	72	1	9.09	0.91	ppb	0.15	3600
75	As	72	1	86.50	8.65	ppb	2.13	3600
78	Se	72	1	1.59	0.16	ppb	168.68	3600
95	Mo	72	1	35.52	3.55	ppb	3.38	3600
107	Ag	115	1	0.02	0.00	ppb	63.47	3600
111	Cd	115	1	0.11	0.01	ppb	91.74	3600
118	Sn	115	1	-5.25	-0.52	ppb	1.50	3600
121	Sb	115	1	0.16	0.02	ppb	27.09	3600
137	Ba	115	1	26.05	2.61	ppb	2.24	3600
205	Tl	165	1	0.06	0.01	ppb	15.71	3600
208	Pb	165	1	0.10	0.01	ppb	12.74	3600
232	Th	165	1	0.18	0.02	ppb	32.01	1000
238	U	165	1	8.01	0.80	ppb	0.86	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	558798	0.28	581797	96.0	30 - 120
45	Sc	1	2360484	0.64	2574983	91.7	30 - 120
72	Ge	1	1106065	0.59	1211627	91.3	30 - 120
115	In	1	3160658	0.73	3426576	92.2	30 - 120
165	Ho	1	5332925	0.28	5647086	94.4	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\AG072109.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\AG072109.B\042SMPL.D\042SMPL.D#
 Date Acquired: Jul 21 2009 07:14 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDKR 10X
 Misc Info: D9G110159
 Vial Number: 2306
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	30.44	3.04	ppb	4.27	3600	
52 Cr	72	1	17.70	1.77	ppb	1.53	3600	
55 Mn	72	1	3.41	0.34	ppb	1.05	3600	
59 Co	72	1	0.10	0.01	ppb	35.67	3600	
60 Ni	72	1	2.63	0.26	ppb	23.26	3600	
63 Cu	72	1	-0.14	-0.01	ppb	158.27	3600	
66 Zn	72	1	1.23	0.12	ppb	9.20	3600	
75 As	72	1	57.13	5.71	ppb	1.32	3600	
78 Se	72	1	2.47	0.25	ppb	139.38	3600	
95 Mo	72	1	7.30	0.73	ppb	2.20	3600	
107 Ag	115	1	0.01	0.00	ppb	150.52	3600	
111 Cd	115	1	0.05	0.00	ppb	86.56	3600	
118 Sn	115	1	-5.31	-0.53	ppb	1.46	3600	
121 Sb	115	1	0.12	0.01	ppb	36.48	3600	
137 Ba	115	1	22.02	2.20	ppb	2.09	3600	
205 Tl	165	1	0.03	0.00	ppb	69.45	3600	
208 Pb	165	1	0.07	0.01	ppb	7.65	3600	
232 Th	165	1	0.10	0.01	ppb	23.71	1000	
238 U	165	1	2.22	0.22	ppb	2.65	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	564989	0.50	581797	97.1	30 - 120	
45 Sc	1	2392180	0.44	2574983	92.9	30 - 120	
72 Ge	1	1130770	0.41	1211627	93.3	30 - 120	
115 In	1	3228355	1.24	3426576	94.2	30 - 120	
165 Ho	1	5420266	0.22	5647086	96.0	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\AG072109.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 Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\043 CCV.D\043 CCV.D#
 Date Acquired: Jul 21 2009 07:17 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: Jul 21 2009 05:31 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	49.65 ppb	2.08	50	99.3	90 - 110	
51	V	72	48.04 ppb	1.47	50	96.1	90 - 110	
52	Cr	72	48.72 ppb	2.23	50	97.4	90 - 110	
55	Mn	72	48.53 ppb	1.91	50	97.1	90 - 110	
59	Co	72	49.19 ppb	1.05	50	98.4	90 - 110	
60	Ni	72	50.51 ppb	2.15	50	101.0	90 - 110	
63	Cu	72	50.79 ppb	1.69	50	101.6	90 - 110	
66	Zn	72	49.91 ppb	2.28	50	99.8	90 - 110	
75	As	72	50.09 ppb	1.74	50	100.2	90 - 110	
78	Se	72	50.55 ppb	0.24	50	101.1	90 - 110	
95	Mo	72	50.44 ppb	2.04	50	100.9	90 - 110	
107	Ag	115	49.47 ppb	1.12	50	98.9	90 - 110	
111	Cd	115	49.64 ppb	0.86	50	99.3	90 - 110	
118	Sn	115	49.52 ppb	0.62	50	99.0	90 - 110	
121	Sb	115	49.46 ppb	1.50	50	98.9	90 - 110	
137	Ba	115	49.75 ppb	0.64	50	99.5	90 - 110	
205	Tl	165	52.25 ppb	1.18	50	104.5	90 - 110	
208	Pb	165	51.38 ppb	1.02	50	102.8	90 - 110	
232	Th	165	53.11 ppb	2.44	50	106.2	90 - 110	
238	U	165	53.01 ppb	0.71	50	106.0	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	536974	0.53	581797	92.3	30 - 120
45	Sc	1	2404825	0.90	2574983	93.4	30 - 120
72	Ge	1	1144216	1.59	1211627	94.4	30 - 120
115	In	1	3295604	0.45	3426576	96.2	30 - 120
165	Ho	1	5413800	0.49	5647086	95.9	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\AG072109.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\AG072109.B\044_CCB.D\044_CCB.D#
 Date Acquired: Jul 21 2009 07:20 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: Jul 21 2009 05:31 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	0.012	ppb	188.91	1.00	
52 Cr	72	1	-0.022	ppb	45.87	1.00	
55 Mn	72	1	-0.011	ppb	53.82	1.00	
59 Co	72	1	0.002	ppb	121.88	1.00	
60 Ni	72	1	0.007	ppb	120.83	1.00	
63 Cu	72	1	-0.039	ppb	12.93	1.00	
66 Zn	72	1	0.001	ppb	1830.70	1.00	
75 As	72	1	-0.015	ppb	100.54	1.00	
78 Se	72	1	0.063	ppb	454.20	1.00	
95 Mo	72	1	0.016	ppb	20.60	1.00	
107 Ag	115	1	0.010	ppb	21.43	1.00	
111 Cd	115	1	0.005	ppb	76.54	1.00	
118 Sn	115	1	-0.106	ppb	36.09	1.00	
121 Sb	115	1	0.051	ppb	15.99	1.00	
137 Ba	115	1	0.010	ppb	31.85	1.00	
205 Tl	165	1	0.020	ppb	11.21	1.00	
208 Pb	165	1	0.003	ppb	16.50	1.00	
232 Th	165	1	0.824	ppb	16.14	1.00	
238 U	165	1	0.009	ppb	11.26	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	540872	0.73	581797	93.0	30 - 120	
45 Sc	1	2418946	1.22	2574983	93.9	30 - 120	
72 Ge	1	1139717	0.72	1211627	94.1	30 - 120	
115 In	1	3281751	0.37	3426576	95.8	30 - 120	
165 Ho	1	5438318	1.15	5647086	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\AG072109.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\AG072109.B\045WASH.D\045WASH.D#
 Date Acquired: Jul 21 2009 07:22 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: Jul 21 2009 05:31 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	1.045 ppb	12.08	1.30	
51 V	72	1	5.035 ppb	1.01	6.50	
52 Cr	72	1	2.023 ppb	2.27	2.60	
55 Mn	72	1	1.007 ppb	2.81	1.30	
59 Co	72	1	1.000 ppb	4.78	1.30	
60 Ni	72	1	2.095 ppb	4.44	2.60	
63 Cu	72	1	2.025 ppb	2.63	2.60	
66 Zn	72	1	10.370 ppb	2.29	13.00	
75 As	72	1	5.157 ppb	1.05	6.50	
78 Se	72	1	4.848 ppb	12.40	6.50	
95 Mo	72	1	2.162 ppb	0.74	2.60	
107 Ag	115	1	5.141 ppb	1.03	6.50	
111 Cd	115	1	1.004 ppb	4.06	1.30	
118 Sn	115	1	9.907 ppb	0.76	13.00	
121 Sb	115	1	1.942 ppb	1.51	2.60	
137 Ba	115	1	1.047 ppb	5.14	1.30	
205 Tl	165	1	1.098 ppb	0.61	1.30	
208 Pb	165	1	1.094 ppb	0.45	1.30	
232 Th	165	1	2.411 ppb	1.64	2.60	
238 U	165	1	1.121 ppb	1.49	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	539872	0.98	581797	92.8	30 - 120	
45 Sc	1	2370772	1.41	2574983	92.1	30 - 120	
72 Ge	1	1136181	1.05	1211627	93.8	30 - 120	
115 In	1	3268605	0.72	3426576	95.4	30 - 120	
165 Ho	1	5404596	1.26	5647086	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\AG072109.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: D9 G100274

Client: Northgate Environmental

Batch(es) #: 9194272

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]* 7/22/09

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>
D9G100274	1	SE	LGCQK1A	20090721	6020TOTA	9194272	AG072109	024
D9G100274	1	AS	LGCQK1A	20090721	6020TOTA	9194272	AG072109	024

**METALS
PREPARATION LOGS
ICP-MS**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: 9194272

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: ^{7/14/09} 07/13/09 *JRW*
Due Date: 07/22/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9G130000 Water	LGEER B	Due Date: SDG:	<u>50 mL</u>
D9G130000 Water	LGEER C	Due Date: SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 S	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 D	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100274 Water	LGCQK Total	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G110152 Water	LGDJV Total	Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110155 Water	LGDJ3 Total	Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110159 Water	LGDKR Total	Due Date: 07/23/09 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
7/21/09*

*✓
2
7/22/09*

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9194272
PREP DATE: 7/14/2009

ALLIQUOTTED BY: JKH
DIGESTED BY: JRW

CONSUMABLES USED

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS267

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-2636-09	7/1/10	100uL	15
2008Cal-2	STD-2635-09	7/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO ₃	JT Baker	H12022	3

TEMPERATURE CYCLES

Thermometer ID: 25864 Block & Cup #: 2/30

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO ₃	1200	93	1615	92
HNO ₃	1630	92	1700	
HNO ₃				

Samples and QC revolved to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: [Signature]

Date: 7/14/09

**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

Jul-21-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD4841-08, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-ZN02045 Vendor's Expiration Date: 10-01-2009
Solvent: 2% HNO3
Date Prep./Opened: 09-04-2008 Date Received: 09-04-2008
Date Expires(1): 10-01-2009 (None)
Date Expires(2): 10-01-2009 (None)
(METALS)-Inventory ID: 779

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

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

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Se	1,000.0	1.0000

STD3611-09, ICP-MS 1ppm Sn/Zn

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 06-16-2009

Date Expires(1): 10-01-2009 (1 Year)

Analyst: DIAZL

Volume (ml): 10.000

Parent Std No.: STD3609-09, ICP-MS 10 ppm Zn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-01-2009 Parent Date Expires(2): 10-01-2009

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	10.000	1.0000

Parent Std No.: STD3610-09, ICP-MS 10 ppm Sn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	10.000	1.0000

STD4008-09, ICP-MS (024) INT STD BRC-HIGH

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 07-02-2009

Date Expires(1): 11-10-2009 (1 Year)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20

Volume (ml): 250.00

Parent Std No.: STD1469-09, Germanium Stock

Aliquot Amount (ml): 1.2000

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ge	1,000.0	4,800.0

Parent Std No.: STD1972-09, Lithium 6 Stock

Aliquot Amount (ml): 1.5000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Lithium6	1,000.0	6,000.0

Parent Std No.: STD1973-09, Indium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
In	1,000.0	1,600.0

Parent Std No.: STD6317-08, Scandium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sc	1,000.0	1,600.0

Parent Std No.: STD6318-08, Holmium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,600.0

STD4289-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 50.000

Date Prep./Opened: 07-20-2009

Date Expires(1): 08-20-2009 (1 Month)

Date Expires(2): 02-01-2010 (None)

pipettes: Met 8

Parent Std No.: STD0664-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 5.0000

Parent Date Expires(1): 02-01-2010 Parent Date Expires(2): 02-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

STD4309-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water

Volume (ml): 1,000.0

Date Prep./Opened: 07-21-2009

Date Expires(1): 08-21-2009 (1 Month)

Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD4308-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD4310-09, ICP-MS 10 ppm Sn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 03-01-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.1000
 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	10.000

STD4311-09, ICP-MS 100 ppb cal

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 50.000

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	20.000	100.00

Sb 20.000 100.00
 Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Fe	1,000.0	5,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4312-09, ICP-MS CCV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 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>
V	20.000	50.000
Zn	20.000	50.000
Ag	20.000	50.000
Al	20.000	50.000
As	20.000	50.000
Ba	20.000	50.000
Be	20.000	50.000
Cd	20.000	50.000
Co	20.000	50.000
Cr	20.000	50.000
Cu	20.000	50.000
Mn	20.000	50.000
Ni	20.000	50.000
Pb	20.000	50.000
Se	20.000	50.000
Th	20.000	50.000
Tl	20.000	50.000
U	20.000	50.000

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	50.000
Sb	20.000	50.000

Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
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Fe 1,000.0 2,500.0
 Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sn	10.000	50.000

STD4313-09, ICP-MS RL STD

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 pipettes: Met 21 and Met 8

Analyst: DIAZL
 Volume (ml): 10.000

Parent Std No.: STD3611-09, ICP-MS 1ppm Sn/Zn

Aliquot Amount (ml): 0.0900

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD4311-09, ICP-MS 100 ppb cal

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 07-22-2009

Component	Initial Conc (ug/L)	Final Conc (mg/L)
V	100.00	0.0010
Zn	100.00	0.0010
Ag	100.00	0.0010
Al	100.00	0.0010
As	100.00	0.0010
Ba	100.00	0.0010
Be	100.00	0.0010
Cd	100.00	0.0010
Co	100.00	0.0010
Cr	100.00	0.0010
Cu	100.00	0.0010
Mn	100.00	0.0010
Ni	100.00	0.0010
Pb	100.00	0.0010
Se	100.00	0.0010
Th	100.00	0.0010
Tl	100.00	0.0010
U	100.00	0.0010
Mo	100.00	0.0010
Sb	100.00	0.0010
Fe	5,000.0	0.0500
Sn	100.00	0.0010

STD4314-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (2 Days)
 pipettes: Met 20 and Met 8

Volume (ml): 10.000

Parent Std No.: STD4313-09, 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
V	0.0010	0.0002
Zn	0.0010	0.0002
Ag	0.0010	0.0002
Al	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
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Fe	0.0500	0.0100
Sn	0.0010	0.0002

STD4315-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21, Met 20, and Met 8

Volume (ml): 10.000

Parent Std No.: STD1978-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-01-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.0500

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>
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.0500

Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	100.00
Sb	20.000	100.00

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4316-09, ICPMS LR STD 1000 ppb

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 10.000

Date Prep./Opened: 07-21-2009

Date Expires(1): 07-22-2009 (1 Day)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20 and Met 8

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.5000
 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>
V	20.000	1,000.0
Zn	20.000	1,000.0
Ag	20.000	1,000.0
Al	20.000	1,000.0
As	20.000	1,000.0
Ba	20.000	1,000.0
Be	20.000	1,000.0
Cd	20.000	1,000.0
Co	20.000	1,000.0
Cr	20.000	1,000.0
Cu	20.000	1,000.0
Mn	20.000	1,000.0
Ni	20.000	1,000.0
Pb	20.000	1,000.0
Se	20.000	1,000.0
Th	20.000	1,000.0
Tl	20.000	1,000.0
U	20.000	1,000.0

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	1,000.0
Sb	20.000	1,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	1,000.0

STD4317-09, ICPMS ICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 02-27-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1213-09, ICPMS ICV SOLUTION A (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Al	10.000	40.000
As	10.000	40.000
Ba	10.000	40.000
Be	10.000	40.000
Cd	10.000	40.000

Co	10.000	40.000
Cr	10.000	40.000
Cu	10.000	40.000
Fe	250.00	1,000.0
Li	10.000	40.000
Mn	10.000	40.000
Ni	10.000	40.000
Pb	10.000	40.000
Se	10.000	40.000
Th	10.000	40.000
Tl	10.000	40.000
U	10.000	40.000
V	10.000	40.000
Zn	10.000	40.000

Parent Std No.: STD1214-09, ICPMS ICV SOLUTION B (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
Ag	10.000	40.000
Mo	10.000	40.000
Sb	10.000	40.000
Sn	10.000	40.000
Zr	10.000	40.000

STD4318-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (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

STD4319-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 05-01-2010 (None)
 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

Reviewed By:

LRD 07/21/2009

Method: 6020 (ICP/MS)

ICPMS_024 (024)

Reported: 07/22/09 11:30:44

File ID: AG072109

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	DF	Analyzed Date	Comment	Q
2	Cal Blank				1.0	07/21/09 17:25		<input type="checkbox"/>
3	Cal Blank				1.0	07/21/09 17:28		<input type="checkbox"/>
4	100 ppb				1.0	07/21/09 17:31		<input type="checkbox"/>
5	ICV				1.0	07/21/09 17:33		<input type="checkbox"/>
6	RLIV				1.0	07/21/09 17:36		<input type="checkbox"/>
7	ICB				1.0	07/21/09 17:39		<input type="checkbox"/>
8	RL STD				1.0	07/21/09 17:42		<input type="checkbox"/>
9	AFCEE RL				1.0	07/21/09 17:44		<input type="checkbox"/>
10	ALTSe				1.0	07/21/09 17:47		<input type="checkbox"/>
11	ICSA				1.0	07/21/09 17:50		<input type="checkbox"/>
12	ICSAB				1.0	07/21/09 17:53		<input type="checkbox"/>
13	RINSE				1.0	07/21/09 17:55		<input type="checkbox"/>
14	LR				1.0	07/21/09 17:58		<input type="checkbox"/>
15	RINSE				1.0	07/21/09 18:00		<input type="checkbox"/>
16	CCV				1.0	07/21/09 18:03		<input type="checkbox"/>
17	CCB				1.0	07/21/09 18:06		<input type="checkbox"/>
18	RLCV				1.0	07/21/09 18:09		<input type="checkbox"/>
19	LGEE4BF	D9G130000	9194274	MD	1.0	07/21/09 18:11		<input type="checkbox"/>
20	LGEE4CF	D9G130000	9194274	MD	1.0	07/21/09 18:14		<input type="checkbox"/>
21	LGDJWF 10X	D9G110152-2	9194274	MD	10.0	07/21/09 18:17		<input type="checkbox"/>
22	LGDJWP50F	D9G110152	9194274		50.0	07/21/09 18:20		<input type="checkbox"/>
23	LGDJWZF	D9G110152-2	9194274		1.0	07/21/09 18:22		<input type="checkbox"/>
24	LGDJWSF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:25		<input type="checkbox"/>
25	LGDJWDF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:28		<input type="checkbox"/>
26	CCV				1.0	07/21/09 18:30		<input type="checkbox"/>
27	CCB				1.0	07/21/09 18:33		<input type="checkbox"/>
28	RLCV				1.0	07/21/09 18:36		<input type="checkbox"/>
29	LGEERB	D9G130000	9194272	MS	1.0	07/21/09 18:39		<input type="checkbox"/>
30	LGEERC	D9G130000	9194272	MS	1.0	07/21/09 18:41		<input type="checkbox"/>
31	LGCN3 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:44		<input type="checkbox"/>
32	LGCN3P50	D9G100272	9194272		50.0	07/21/09 18:47		<input type="checkbox"/>
33	LGCN3Z	D9G100272-1	9194272		1.0	07/21/09 18:50		<input type="checkbox"/>
34	LGCN3S 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:52		<input type="checkbox"/>
35	CCV				1.0	07/21/09 18:55		<input type="checkbox"/>
36	CCB				1.0	07/21/09 18:58		<input type="checkbox"/>
37	RLCV				1.0	07/21/09 19:01		<input type="checkbox"/>
38	LGCN3D 10X	D9G100272-1	9194272	MS	10.0	07/21/09 19:03		<input type="checkbox"/>
39	LGCQK 10X	D9G100274-1	9194272	MS	10.0	07/21/09 19:06		<input type="checkbox"/>
40	LGDJV 10X	D9G110152-1	9194272	MS	10.0	07/21/09 19:09		<input type="checkbox"/>
41	LGDJ3 10X	D9G110155-1	9194272	MS	10.0	07/21/09 19:11		<input type="checkbox"/>
42	LGDKR 10X	D9G110159-1	9194272	MS	10.0	07/21/09 19:14		<input type="checkbox"/>
43	CCV				1.0	07/21/09 19:17		<input type="checkbox"/>
44	CCB				1.0	07/21/09 19:20		<input type="checkbox"/>
45	RLCV				1.0	07/21/09 19:22		<input type="checkbox"/>
46	LGFC2B	D9G140000	9195077	46	1.0	07/21/09 19:25		<input type="checkbox"/>
47	LGFC2C	D9G140000	9195077	46	1.0	07/21/09 19:28		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 07/22/09 11:30:44
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File ID: AG072109

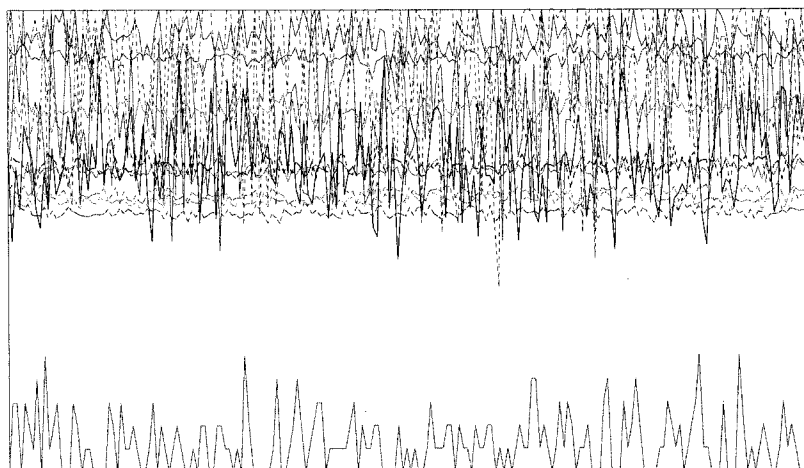
Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
48	LGEAD	D9G130118-1	9195077	U1	1.0	07/21/09 19:31	<input type="checkbox"/>
49	LGEAR	D9G130118-2	9195077	U1	1.0	07/21/09 19:33	<input type="checkbox"/>
50	LGEAX	D9G130118-3	9195077	U1	1.0	07/21/09 19:36	<input type="checkbox"/>
51	LGEA0	D9G130118-4	9195077	U1	1.0	07/21/09 19:39	<input type="checkbox"/>
52	LGEA2	D9G130118-5	9195077	U1	1.0	07/21/09 19:42	<input type="checkbox"/>
53	LGEA3	D9G130118-6	9195077	U1	1.0	07/21/09 19:44	<input type="checkbox"/>
54	CCV				1.0	07/21/09 19:47	<input type="checkbox"/>
55	CCB				1.0	07/21/09 19:50	<input type="checkbox"/>
56	RLCV				1.0	07/21/09 19:53	<input type="checkbox"/>
57	LGEA4	D9G130118-7	9195077	U1	1.0	07/21/09 19:55	<input type="checkbox"/>
58	LGEFC	D9G130118-8	9195077	U1	1.0	07/21/09 19:58	<input type="checkbox"/>
59	LGEFF	D9G130118-9	9195077	U1	1.0	07/21/09 20:01	<input type="checkbox"/>
60	LGEFH	D9G130118-10	9195077	U1	1.0	07/21/09 20:03	<input type="checkbox"/>
61	LGEFL	D9G130118-11	9195077	U1	1.0	07/21/09 20:06	<input type="checkbox"/>
62	LGEFLP5	D9G130118	9195077		5.0	07/21/09 20:09	<input type="checkbox"/>
63	LGEFLZ	D9G130118-11	9195077		1.0	07/21/09 20:11	<input type="checkbox"/>
64	LGEFLS	D9G130118-11	9195077	U1	1.0	07/21/09 20:14	<input type="checkbox"/>
65	CCV				1.0	07/21/09 20:17	<input type="checkbox"/>
66	CCB				1.0	07/21/09 20:20	<input type="checkbox"/>
67	RLCV				1.0	07/21/09 20:22	<input type="checkbox"/>
68	LGEFLD	D9G130118-11	9195077	U1	1.0	07/21/09 20:25	<input type="checkbox"/>
69	LGEFT	D9G130118-12	9195077	U1	1.0	07/21/09 20:28	<input type="checkbox"/>
70	LGEFX	D9G130118-13	9195077	U1	1.0	07/21/09 20:30	<input type="checkbox"/>
71	LGEF3	D9G130118-14	9195077	U1	1.0	07/21/09 20:33	<input type="checkbox"/>
72	LGEF4	D9G130118-15	9195077	U1	1.0	07/21/09 20:36	<input type="checkbox"/>
73	LGEF6	D9G130118-16	9195077	U1	1.0	07/21/09 20:39	<input type="checkbox"/>
74	LGEF8	D9G130118-17	9195077	U1	1.0	07/21/09 20:41	<input type="checkbox"/>
75	CCV				1.0	07/21/09 20:44	<input type="checkbox"/>
76	CCB				1.0	07/21/09 20:47	<input type="checkbox"/>
77	RLCV				1.0	07/21/09 20:50	<input type="checkbox"/>
78	LGKQWBF	D9G160000	9197227	MD	1.0	07/21/09 20:52	<input type="checkbox"/>
79	LGKQWCF	D9G160000	9197227	MD	1.0	07/21/09 20:55	<input type="checkbox"/>
80	LGH2HF 10X	D9G150224-2	9197227	MD	10.0	07/21/09 20:58	<input type="checkbox"/>
81	LGH2HP50F	D9G150224	9197227		50.0	07/21/09 21:01	<input type="checkbox"/>
82	LGH2HZF	D9G150224-2	9197227		1.0	07/21/09 21:03	<input type="checkbox"/>
83	LGH2HSF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:06	<input type="checkbox"/>
84	LGH2HDF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:09	<input type="checkbox"/>
85	CCV				1.0	07/21/09 21:12	<input type="checkbox"/>
86	CCB				1.0	07/21/09 21:14	<input type="checkbox"/>
87	RLCV				1.0	07/21/09 21:17	<input type="checkbox"/>
88	LGKQDB	D9G160000	9197220	MS	1.0	07/21/09 21:20	<input type="checkbox"/>
89	LGKQDC	D9G160000	9197220	MS	1.0	07/21/09 21:23	<input type="checkbox"/>
90	LGH2F 10X	D9G150224-1	9197220	MS	10.0	07/21/09 21:25	<input type="checkbox"/>
91	LGH2FP50	D9G150224	9197220		50.0	07/21/09 21:28	<input type="checkbox"/>
92	LGH2FZ	D9G150224-1	9197220		1.0	07/21/09 21:31	<input type="checkbox"/>

DNW 7/22/09

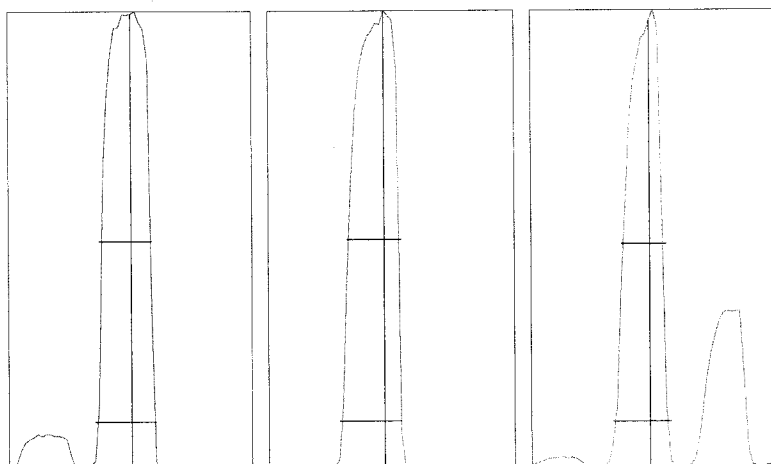
Tune Report

Tune File : NORM.U
 Comment :



Integration Time: 0.1000 sec
 Sampling Period: 1.5300 sec
 n: 200
 Oxide: 156/140 1.281%
 Doubly Charged: 70/140 0.506%

m/z	Range	Count	Mean	RSD%	Background
6	1,000	891.0	940.8	3.63	0.70
7	20,000	13129.0	13059.6	1.91	0.60
59	10,000	7602.0	7856.2	2.40	0.50
63	50	42.0	39.4	16.38	0.30
70	100	78.0	67.2	13.40	0.50
75	20	0.0	1.2	102.35	0.80
78	50	43.0	48.7	14.56	0.50
89	20,000	12125.0	12029.4	1.86	1.00
115	20,000	11842.0	11739.1	1.63	0.80
118	50	34.0	39.7	21.11	1.30
137	2,000	1330.0	1323.1	2.85	1.10
205	20,000	11244.0	11223.5	1.66	1.80
238	20,000	17300.0	17931.0	1.60	2.40
156/140	2	1.192%	1.337%	8.61	
70/140	2	0.664%	0.568%	13.49	



m/z:	7	89	205
Height:	13,051	12,146	11,336
Axis:	7.05	88.95	205.00
W-50%:	0.65	0.65	0.55
W-10%:	0.7500	0.7500	0.700

Integration Time: 0.1000 sec
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

```
===Plasma Condition===
  RF Power : 1550 W
  RF Matching : 1.7 V
  Smpl Depth : 7.5 mm
  Torch-H : -0.8 mm
  Torch-V : -0.3 mm
  Carrier Gas : 0.83 L/min
  Makeup Gas : 0.2 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 : -160 V
  Omega Bias-ce : -30 V
  Omega Lens-ce : 0 V
  Cell Entrance : -30 V
  QP Focus : 7 V
  Cell Exit : -30 V

===Q-Pole Parameters===
  AMU Gain : 133
  AMU Offset : 122
  Axis Gain : 1.0005
  Axis Offset : -0.02
  QP Bias : 0 V

===Detector Parameters===
  Discriminator : 8 mV
  Analog HV : 1720 V
  Pulse HV : 1390 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: Jul 21 2009 04:50 pm

Mass[amu]	Element	P/A Factor
6	Li	0.061203
7	(Li)	Sensitivity too low
9	Be	0.068907
45	Sc	0.083389
51	V	0.086007
52	Cr	0.088320
53	(Cr)	Sensitivity too low
55	Mn	0.090395
59	Co	0.093203
60	Ni	Sensitivity too low
63	Cu	Sensitivity too low
66	Zn	0.096924
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
95	Mo	0.096067
98	(Mo)	0.096151
99	(Mo)	Sensitivity too low
106	(Cd)	0.101305
107	Ag	Sensitivity too low
108	(Cd)	0.101769
111	Cd	0.102139
114	Cd	0.102089
115	In	0.101222
118	Sn	0.101067
121	Sb	0.100944
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
205	Tl	0.109272
206	(Pb)	0.108216
207	(Pb)	0.108287
208	Pb	0.107820
232	Th	0.106452
238	U	0.106481

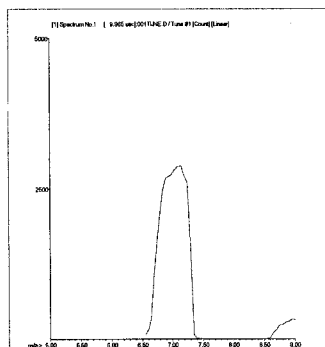
===Detector Parameters===

Discriminator: 8.0 mV
Analog HV: 1720 V
Pulse HV: 1390 V

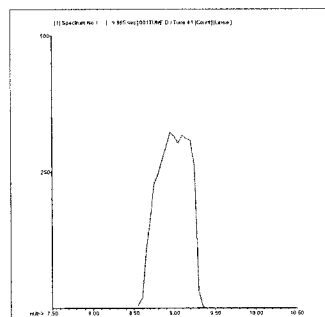
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\001TUNE.D
 Date Acquired: Jul 21 2009 05:22 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

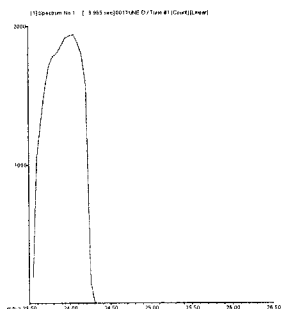
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	31515	31705	31773	31422	31500	31173	0.76	5.00	
9 Be	3503	3538	3524	3507	3428	3516	1.23	5.00	
24 Mg	22462	22829	22575	22353	22572	21980	1.41	5.00	
59 Co	93114	93607	93864	90894	94187	93020	1.41	5.00	
115 In	1915406	1918606	1914965	1924578	1915696	1903185	0.41	5.00	
208 Pb	92064	92990	92149	91680	92260	91243	0.71	5.00	
238 U	187429	191379	187170	188068	186178	184351	1.39	5.00	



7 Li
Mass Calib.
 Actual: 7.10
 Required: 6.90 - 7.10
 Flag:
Peak Width
 Actual: 0.65
 Required: 0.90
 Flag:



9 Be
Mass Calib.
 Actual: 9.05
 Required: 8.90 - 9.10
 Flag:
Peak Width
 Actual: 0.60
 Required: 0.90
 Flag:



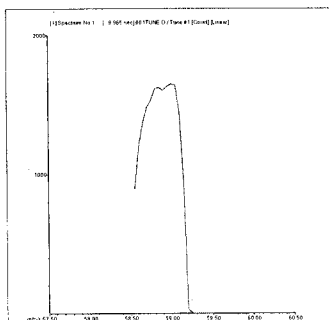
24 Mg

Mass Calib.

Actual: 24.00
 Required: 23.90 - 24.10
 Flag:

Peak Width

Actual: 0.60
 Required: 0.90
 Flag:



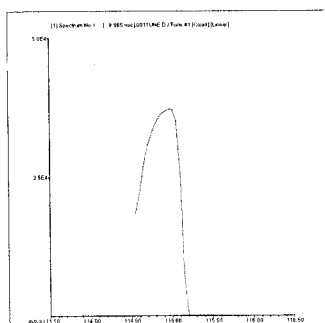
59 Co

Mass Calib.

Actual: 58.95
 Required: 58.90 - 59.10
 Flag:

Peak Width

Actual: 0.60
 Required: 0.90
 Flag:



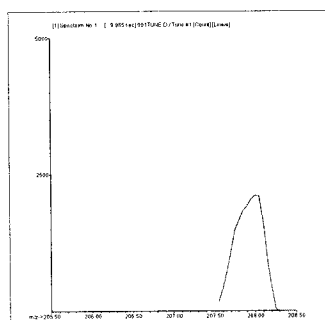
115 In

Mass Calib.

Actual: 114.95
 Required: 114.90 - 115.10
 Flag:

Peak Width

Actual: 0.55
 Required: 0.90
 Flag:



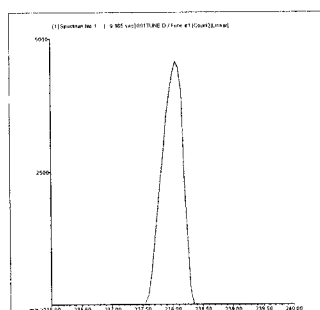
208 Pb

Mass Calib.

Actual: 207.95
 Required: 207.90 - 208.10
 Flag:

Peak Width

Actual: 0.60
 Required: 0.90
 Flag:



238 U

Mass Calib.

Actual: 238.05
 Required: 237.90 - 238.10
 Flag:

Peak Width

Actual: 0.60
 Required: 0.90
 Flag:

Tune Result:

Pass

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\002CALB.D\002CALB.D#
 Date Acquired: Jul 21 2009 05:25 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	31	3276.40
52	Cr	72	1	2800	9.18
55	Mn	72	1	1283	9.62
59	Co	72	1	87	67.61
60	Ni	72	1	67	17.32
63	Cu	72	1	503	6.39
66	Zn	72	1	251	8.30
75	As	72	1	105	7.67
78	Se	72	1	513	6.26
95	Mo	72	1	73	15.75
107	Ag	115	1	7	86.60
111	Cd	115	1	9	188.13
118	Sn	115	1	2750	17.56
121	Sb	115	1	19	50.94
137	Ba	115	1	49	3.94
205	Tl	165	1	263	12.21
208	Pb	165	1	323	8.05
232	Th	165	1	220	25.31
238	U	165	1	96	8.06

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	576535	0.69
45	Sc	1	2595280	0.11
72	Ge	1	1228451	0.87
115	In	1	3471486	1.12
165	Ho	1	5707578	1.58

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\AG072109.B\003CALB.D\003CALB.D#
 Date Acquired: Jul 21 2009 05:28 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	84	380.78
52	Cr	72	1	3224	4.61
55	Mn	72	1	1180	18.88
59	Co	72	1	67	31.23
60	Ni	72	1	77	39.85
63	Cu	72	1	673	17.84
66	Zn	72	1	341	12.93
75	As	72	1	105	1.10
78	Se	72	1	570	15.79
95	Mo	72	1	90	19.25
107	Ag	115	1	10	100.00
111	Cd	115	1	6	183.92
118	Sn	115	1	4558	14.33
121	Sb	115	1	23	37.80
137	Ba	115	1	41	44.66
205	Tl	165	1	229	12.72
208	Pb	165	1	279	7.30
232	Th	165	1	273	29.57
238	U	165	1	22	43.30

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	581797	1.92
45	Sc	1	2574983	0.83
72	Ge	1	1211627	0.38
115	In	1	3426576	0.51
165	Ho	1	5647086	0.49

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\AG072109.B\004ICAL.D\004ICAL.D#
 Date Acquired: Jul 21 2009 05:31 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: Jul 21 2009 05:29 pm
 Sample Type: ICAL

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	59445	1.77
51	V	72	1239197	0.92
52	Cr	72	1240930	1.80
55	Mn	72	1500976	1.14
59	Co	72	1532853	1.14
60	Ni	72	335568	1.43
63	Cu	72	783637	0.77
66	Zn	72	184990	0.36
75	As	72	150136	1.32
78	Se	72	29896	1.27
95	Mo	72	401051	0.94
107	Ag	115	1170362	0.20
111	Cd	115	241527	0.35
118	Sn	115	706295	0.47
121	Sb	115	813196	0.45
137	Ba	115	335210	0.52
205	Tl	165	2698247	0.32
208	Pb	165	3677704	0.96
232	Th	165	3297948	2.01
238	U	165	3849572	0.35

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565258	0.19	581797	97.2	30 - 120
45	Sc	1	2567639	0.66	2574983	99.7	30 - 120
72	Ge	1	1211730	1.09	1211627	100.0	30 - 120
115	In	1	3431729	1.40	3426576	100.2	30 - 120
165	Ho	1	5634252	0.67	5647086	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\AG072109.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\AG072109.B\005_ICV.D\005_ICV.D#
 Date Acquired: Jul 21 2009 05:33 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: Jul 21 2009 05:31 pm
 Sample Type: ICV
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	39.64 ppb	0.79	40	99.1	90 - 110	
51	V	72	38.95 ppb	0.13	40	97.4	90 - 110	
52	Cr	72	39.22 ppb	0.44	40	98.1	90 - 110	
55	Mn	72	39.68 ppb	0.45	40	99.2	90 - 110	
59	Co	72	39.53 ppb	0.70	40	98.8	90 - 110	
60	Ni	72	40.23 ppb	0.53	40	100.6	90 - 110	
63	Cu	72	40.61 ppb	0.32	40	101.5	90 - 110	
66	Zn	72	40.51 ppb	1.02	40	101.3	90 - 110	
75	As	72	40.08 ppb	0.64	40	100.2	90 - 110	
78	Se	72	41.67 ppb	1.69	40	104.2	90 - 110	
95	Mo	72	39.87 ppb	0.41	40	99.7	90 - 110	
107	Ag	115	40.34 ppb	1.30	40	100.9	90 - 110	
111	Cd	115	41.12 ppb	0.91	40	102.8	90 - 110	
118	Sn	115	38.88 ppb	0.90	40	97.2	90 - 110	
121	Sb	115	38.65 ppb	1.11	40	96.6	90 - 110	
137	Ba	115	39.89 ppb	0.94	40	99.7	90 - 110	
205	Tl	165	40.05 ppb	1.21	40	100.1	90 - 110	
208	Pb	165	40.43 ppb	0.85	40	101.1	90 - 110	
232	Th	165	44.22 ppb	2.85	40	110.6	90 - 110	Fail
238	U	165	40.19 ppb	1.06	40	100.5	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	561236	0.19	581797	96.5	30 - 120
45	Sc	1	2582771	1.09	2574983	100.3	30 - 120
72	Ge	1	1213066	0.25	1211627	100.1	30 - 120
115	In	1	3417703	1.00	3426576	99.7	30 - 120
165	Ho	1	5664293	1.10	5647086	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\AG072109.B\003CALB.D\003CALB.D#

1 :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\AG072109.B\006WASH.D\006WASH.D#
 Date Acquired: Jul 21 2009 05:36 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: Jul 21 2009 05:31 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	1.123 ppb	10.30	1.30	
51 V	72	1	4.905 ppb	4.36	6.50	
52 Cr	72	1	2.008 ppb	1.94	2.60	
55 Mn	72	1	1.040 ppb	1.71	1.30	
59 Co	72	1	1.042 ppb	3.30	1.30	
60 Ni	72	1	2.082 ppb	1.95	2.60	
63 Cu	72	1	2.043 ppb	4.81	2.60	
66 Zn	72	1	10.290 ppb	0.55	13.00	
75 As	72	1	5.041 ppb	1.23	6.50	
78 Se	72	1	5.606 ppb	11.10	6.50	
95 Mo	72	1	2.125 ppb	3.10	2.60	
107 Ag	115	1	5.269 ppb	0.93	6.50	
111 Cd	115	1	0.985 ppb	1.12	1.30	
118 Sn	115	1	10.060 ppb	1.78	13.00	
121 Sb	115	1	2.181 ppb	4.53	2.60	
137 Ba	115	1	1.073 ppb	3.26	1.30	
205 Tl	165	1	1.130 ppb	0.27	1.30	
208 Pb	165	1	1.039 ppb	0.95	1.30	
232 Th	165	1	2.777 ppb	3.32	2.60	
238 U	165	1	1.064 ppb	0.97	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	561585	0.30	581797	96.5	30 - 120	
45 Sc	1	2567497	0.65	2574983	99.7	30 - 120	
72 Ge	1	1227558	0.55	1211627	101.3	30 - 120	
115 In	1	3427742	1.01	3426576	100.0	30 - 120	
165 Ho	1	5710214	1.06	5647086	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\AG072109.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

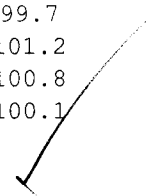
Data File: C:\ICPCHEM\1\DATA\AG072109.B\007_ICB.D\007_ICB.D#
 Date Acquired: Jul 21 2009 05:39 pm **QC Summary:**
 Operator: TEL **Analytes: Pass**
 Sample Name: ICB **ISTD: Pass**
 Misc Info:
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.03	ppb	107.86	1.00	
52 Cr	72	1	-0.02	ppb	42.01	1.00	
55 Mn	72	1	0.00	ppb	111.67	1.00	
59 Co	72	1	0.00	ppb	96.89	1.00	
60 Ni	72	1	0.00	ppb	233.62	1.00	
63 Cu	72	1	-0.01	ppb	109.12	1.00	
66 Zn	72	1	0.05	ppb	42.84	1.00	
75 As	72	1	-0.01	ppb	44.09	1.00	
78 Se	72	1	0.34	ppb	46.02	1.00	
95 Mo	72	1	0.01	ppb	40.98	1.00	
107 Ag	115	1	0.01	ppb	15.65	1.00	
111 Cd	115	1	0.00	ppb	432.82	1.00	
118 Sn	115	1	0.13	ppb	28.49	1.00	
121 Sb	115	1	0.08	ppb	2.06	1.00	
137 Ba	115	1	0.00	ppb	38.09	1.00	
205 Tl	165	1	0.03	ppb	5.05	1.00	
208 Pb	165	1	0.00	ppb	1255.10	1.00	
232 Th	165	1	0.16	ppb	5.89	1.00	
238 U	165	1	0.00	ppb	21.84	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	565985	1.59	581797	97.3	30 - 120	
45 Sc	1	2566622	0.99	2574983	99.7	30 - 120	
72 Ge	1	1225621	1.10	1211627	101.2	30 - 120	
115 In	1	3452773	0.47	3426576	100.8	30 - 120	
165 Ho	1	5650371	0.62	5647086	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\


ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\008RLST.D\008RLST.D#
 Date Acquired: Jul 21 2009 05:42 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: Jul 21 2009 05:31 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	1.05	ppb	12.11	1	104.7	50 - 150
51	V	72	1	0.93	ppb	7.33	1	93.2	50 - 150
52	Cr	72	1	0.97	ppb	3.56	1	97.0	50 - 150
55	Mn	72	1	1.00	ppb	2.49	1	100.4	50 - 150
59	Co	72	1	1.01	ppb	4.08	1	101.3	50 - 150
60	Ni	72	1	1.00	ppb	6.56	1	100.0	50 - 150
63	Cu	72	1	1.04	ppb	7.10	1	104.2	50 - 150
66	Zn	72	1	10.76	ppb	1.35	10	107.6	50 - 150
75	As	72	1	1.04	ppb	3.34	1	103.8	50 - 150
78	Se	72	1	0.82	ppb	33.53	1	81.6	50 - 150
95	Mo	72	1	1.01	ppb	7.76	1	101.0	50 - 150
107	Ag	115	1	1.02	ppb	2.10	1	101.5	50 - 150
111	Cd	115	1	1.10	ppb	3.31	1	109.6	50 - 150
118	Sn	115	1	10.23	ppb	1.35	10	102.3	50 - 150
121	Sb	115	1	1.05	ppb	1.23	1	104.8	50 - 150
137	Ba	115	1	1.05	ppb	4.58	1	104.8	50 - 150
205	Tl	165	1	1.07	ppb	2.73	1	106.5	50 - 150
208	Pb	165	1	1.05	ppb	1.07	1	104.7	50 - 150
232	Th	165	1	1.13	ppb	2.43	1	113.3	50 - 150
238	U	165	1	1.07	ppb	1.03	1	107.0	50 - 150

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565978	0.78	581797	97.3	30 - 120
45	Sc	1	2568028	1.20	2574983	99.7	30 - 120
72	Ge	1	1217338	0.15	1211627	100.5	30 - 120
115	In	1	3427497	0.45	3426576	100.0	30 - 120
165	Ho	1	5631637	1.02	5647086	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\AG072109.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\AG072109.B\009AFCE.D\009AFCE.D#
 Date Acquired: Jul 21 2009 05:44 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: Jul 21 2009 05:31 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	1	0.18 ppb	41.26	0	86.0	80 - 120	
51 V	72	1	0.12 ppb	39.38	0	67.0	80 - 120	
52 Cr	72	1	0.16 ppb	3.72	0	82.2	80 - 120	
55 Mn	72	1	0.20 ppb	3.24	0	98.6	80 - 120	
59 Co	72	1	0.20 ppb	5.85	0	99.3	80 - 120	
60 Ni	72	1	0.18 ppb	6.47	0	90.0	80 - 120	
63 Cu	72	1	0.32 ppb	10.85	0	155.1	80 - 120	
66 Zn	72	1	2.18 ppb	0.89	2	101.4	80 - 120	
75 As	72	1	0.20 ppb	9.34	0	94.3	80 - 120	
78 Se	72	1	0.27 ppb	16.59	0	168.2	80 - 120	
95 Mo	72	1	0.19 ppb	6.24	0	93.4	80 - 120	
107 Ag	115	1	0.20 ppb	4.78	0	99.7	80 - 120	
111 Cd	115	1	0.21 ppb	11.89	0	96.8	80 - 120	
118 Sn	115	1	1.58 ppb	4.76	2	77.3	80 - 120	
121 Sb	115	1	0.21 ppb	4.92	0	99.2	80 - 120	
137 Ba	115	1	0.22 ppb	2.48	0	102.6	80 - 120	
205 Tl	165	1	0.21 ppb	5.92	0	97.3	80 - 120	
208 Pb	165	1	0.20 ppb	3.45	0	95.3	80 - 120	
232 Th	165	1	0.24 ppb	4.96	0	106.3	80 - 120	
238 U	165	1	0.20 ppb	2.09	0	95.7	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	562011	1.45	581797	96.6	30 - 120	
45 Sc	1	2589915	1.12	2574983	100.6	30 - 120	
72 Ge	1	1216544	0.44	1211627	100.4	30 - 120	
115 In	1	3446931	1.30	3426576	100.6	30 - 120	
165 Ho	1	5682005	0.45	5647086	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\AG072109.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\AG072109.B\010SMPL.D\010SMPL.D#
 Date Acquired: Jul 21 2009 05:47 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: Jul 21 2009 05:31 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	-0.04	-0.04	ppb	104.30	3600	
52 Cr	72	1	-0.02	-0.02	ppb	103.76	3600	
55 Mn	72	1	0.02	0.02	ppb	16.79	3600	
59 Co	72	1	0.00	0.00	ppb	621.67	3600	
60 Ni	72	1	0.03	0.03	ppb	16.48	3600	
63 Cu	72	1	0.00	0.00	ppb	932.55	3600	
66 Zn	72	1	0.85	0.85	ppb	6.94	3600	
75 As	72	1	0.00	0.00	ppb	664.54	3600	
78 Se	72	1	2.10	2.10	ppb	12.34	3600	
95 Mo	72	1	-0.01	-0.01	ppb	45.44	3600	
107 Ag	115	1	0.00	0.00	ppb	58.87	3600	
111 Cd	115	1	0.01	0.01	ppb	69.14	3600	
118 Sn	115	1	0.05	0.05	ppb	347.56	3600	
121 Sb	115	1	0.02	0.02	ppb	33.89	3600	
137 Ba	115	1	0.02	0.02	ppb	46.40	3600	
205 Tl	165	1	0.01	0.01	ppb	7.09	3600	
208 Pb	165	1	0.01	0.01	ppb	32.33	3600	
232 Th	165	1	0.02	0.02	ppb	9.94	1000	
238 U	165	1	0.00	0.00	ppb	61.35	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	569704	0.90	581797	97.9	30 - 120	
45 Sc	1	2578530	1.74	2574983	100.1	30 - 120	
72 Ge	1	1225059	0.62	1211627	101.1	30 - 120	
115 In	1	3458256	0.73	3426576	100.9	30 - 120	
165 Ho	1	5659536	0.49	5647086	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\AG072109.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\AG072109.B\011ICSA.D\011ICSA.D#
 Date Acquired: Jul 21 2009 05:50 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: Jul 21 2009 05:31 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	86.57	1.00
51	V	72	1	-0.32 ppb	45.77	1.00
52	Cr	72	1	1.09 ppb	1.54	1.00
55	Mn	72	1	3.02 ppb	2.13	1.00
59	Co	72	1	0.14 ppb	6.32	1.00
60	Ni	72	1	1.14 ppb	8.51	1.00
63	Cu	72	1	0.52 ppb	6.79	1.00
66	Zn	72	1	4.12 ppb	0.37	10.00
75	As	72	1	0.41 ppb	6.37	1.00
78	Se	72	1	0.21 ppb	202.38	1.00
95	Mo	72	1	2029.00 ppb	1.48	2000.00
107	Ag	115	1	0.08 ppb	1.65	1.00
111	Cd	115	1	0.53 ppb	11.29	1.00
118	Sn	115	1	6.55 ppb	2.38	10.00
121	Sb	115	1	0.25 ppb	8.83	1.00
137	Ba	115	1	1.63 ppb	3.16	1.00
205	Tl	165	1	0.06 ppb	23.67	1.00
208	Pb	165	1	0.15 ppb	1.74	1.00
232	Th	165	1	0.06 ppb	7.65	1.00
238	U	165	1	0.04 ppb	4.73	1.00

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	541828	0.30	581797	93.1	30 - 120
45	Sc	1	2271867	1.39	2574983	88.2	30 - 120
72	Ge	1	1037781	0.72	1211627	85.7	30 - 120
115	In	1	2905629	2.08	3426576	84.8	30 - 120
165	Ho	1	5091704	1.12	5647086	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\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\012ICSB.D\012ICSB.D#
 Date Acquired: Jul 21 2009 05:53 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: Jul 21 2009 05:31 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	96.29	1.44	100	96.3	80 - 120	
51 V	72	1	99.52	1.77	100	99.5	80 - 120	
52 Cr	72	1	99.40	1.59	100	99.4	80 - 120	
55 Mn	72	1	101.10	1.41	100	101.1	80 - 120	
59 Co	72	1	95.14	1.75	100	95.1	80 - 120	
60 Ni	72	1	91.22	1.02	100	91.2	80 - 120	
63 Cu	72	1	89.55	0.75	100	89.6	80 - 120	
66 Zn	72	1	100.10	0.77	100	100.1	80 - 120	
75 As	72	1	100.30	0.37	100	100.3	80 - 120	
78 Se	72	1	108.70	2.11	100	108.7	80 - 120	
95 Mo	72	1	2124.00	1.34	2100	101.1	80 - 120	
107 Ag	115	1	88.04	3.50	100	88.0	80 - 120	
111 Cd	115	1	97.50	1.62	100	97.5	80 - 120	
118 Sn	115	1	101.00	0.92	100	101.0	80 - 120	
121 Sb	115	1	102.40	1.11	100	102.4	80 - 120	
137 Ba	115	1	103.60	1.08	100	103.6	80 - 120	
205 Tl	165	1	96.79	0.86	100	96.8	80 - 120	
208 Pb	165	1	95.41	1.15	100	95.4	80 - 120	
232 Th	165	1	110.10	0.47	100	110.1	80 - 120	
238 U	165	1	103.00	0.22	100	103.0	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	551523	0.54	581797	94.8	30 - 120	
45 Sc	1	2262338	0.74	2574983	87.9	30 - 120	
72 Ge	1	1036947	1.75	1211627	85.6	30 - 120	
115 In	1	2927339	0.38	3426576	85.4	30 - 120	
165 Ho	1	5153065	0.14	5647086	91.3	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\AG072109.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\AG072109.B\013SMPL.D\013SMPL.D#
 Date Acquired: Jul 21 2009 05:55 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: Jul 21 2009 05:31 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	-0.06	-0.06	ppb	105.43	3600
52	Cr	72	1	-0.03	-0.03	ppb	42.33	3600
55	Mn	72	1	-0.01	-0.01	ppb	103.23	3600
59	Co	72	1	0.00	0.00	ppb	103.31	3600
60	Ni	72	1	0.00	0.00	ppb	490.13	3600
63	Cu	72	1	-0.01	-0.01	ppb	55.36	3600
66	Zn	72	1	0.02	0.02	ppb	39.30	3600
75	As	72	1	0.01	0.01	ppb	237.74	3600
78	Se	72	1	0.22	0.22	ppb	124.98	3600
95	Mo	72	1	1.24	1.24	ppb	2.11	3600
107	Ag	115	1	0.01	0.01	ppb	32.64	3600
111	Cd	115	1	-0.01	-0.01	ppb	87.55	3600
118	Sn	115	1	-0.44	-0.44	ppb	9.84	3600
121	Sb	115	1	0.04	0.04	ppb	10.44	3600
137	Ba	115	1	0.00	0.00	ppb	198.65	3600
205	Tl	165	1	0.00	0.00	ppb	32.40	3600
208	Pb	165	1	0.00	0.00	ppb	60.85	3600
232	Th	165	1	0.61	0.61	ppb	14.09	1000
238	U	165	1	0.01	0.01	ppb	16.27	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	617032	1.01	581797	106.1	30 - 120
45	Sc	1	2571917	0.32	2574983	99.9	30 - 120
72	Ge	1	1207363	0.62	1211627	99.6	30 - 120
115	In	1	3468973	0.41	3426576	101.2	30 - 120
165	Ho	1	5751339	0.52	5647086	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\AG072109.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\AG072109.B\014_LR.D\014_LR.D#
 Date Acquired: Jul 21 2009 05:58 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LR
 Misc Info:
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	983.10 ppb	1.47	1000	98.3	90 - 110
51	V	72	1	931.80 ppb	1.87	1000	93.2	90 - 110
52	Cr	72	1	958.10 ppb	0.33	1000	95.8	90 - 110
55	Mn	72	1	959.10 ppb	0.74	1000	95.9	90 - 110
59	Co	72	1	962.90 ppb	0.81	1000	96.3	90 - 110
60	Ni	72	1	976.00 ppb	1.67	1000	97.6	90 - 110
63	Cu	72	1	952.70 ppb	0.56	1000	95.3	90 - 110
66	Zn	72	1	1036.00 ppb	1.42	1000	103.6	90 - 110
75	As	72	1	1038.00 ppb	0.83	1000	103.8	90 - 110
78	Se	72	1	1037.00 ppb	0.75	1000	103.7	90 - 110
95	Mo	72	1	998.50 ppb	1.19	1000	99.9	90 - 110
107	Ag	115	1	960.60 ppb	0.36	1000	96.1	90 - 110
111	Cd	115	1	1018.00 ppb	1.94	1000	101.8	90 - 110
118	Sn	115	1	980.00 ppb	0.99	1000	98.0	90 - 110
121	Sb	115	1	975.20 ppb	0.25	1000	97.5	90 - 110
137	Ba	115	1	1014.00 ppb	0.78	1000	101.4	90 - 110
205	Tl	165	1	970.30 ppb	1.49	1000	97.0	90 - 110
208	Pb	165	1	959.70 ppb	1.43	1000	96.0	90 - 110
232	Th	165	1	1070.00 ppb	0.39	1000	107.0	90 - 110
238	U	165	1	1001.00 ppb	0.48	1000	100.1	90 - 110

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	602525	1.07	581797	103.6	30 - 120
45	Sc	1	2585868	0.95	2574983	100.4	30 - 120
72	Ge	1	1215769	0.81	1211627	100.3	30 - 120
115	In	1	3432627	0.12	3426576	100.2	30 - 120
165	Ho	1	5756427	0.96	5647086	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\AG072109.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\AG072109.B\015SMPL.D\015SMPL.D#
 Date Acquired: Jul 21 2009 06:00 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: Jul 21 2009 05:31 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	173.21	3600
51	V	72	1	0.00	0.00	ppb	1096.50	3600
52	Cr	72	1	-0.02	-0.02	ppb	214.11	3600
55	Mn	72	1	-0.01	-0.01	ppb	54.41	3600
59	Co	72	1	0.02	0.02	ppb	17.45	3600
60	Ni	72	1	0.02	0.02	ppb	36.35	3600
63	Cu	72	1	0.00	0.00	ppb	3434.80	3600
66	Zn	72	1	0.04	0.04	ppb	59.09	3600
75	As	72	1	0.04	0.04	ppb	18.32	3600
78	Se	72	1	0.56	0.56	ppb	27.17	3600
95	Mo	72	1	0.75	0.75	ppb	9.81	3600
107	Ag	115	1	0.03	0.03	ppb	9.09	3600
111	Cd	115	1	0.01	0.01	ppb	55.86	3600
118	Sn	115	1	0.58	0.58	ppb	22.30	3600
121	Sb	115	1	0.43	0.43	ppb	9.45	3600
137	Ba	115	1	0.02	0.02	ppb	30.56	3600
205	Tl	165	1	0.10	0.10	ppb	12.56	3600
208	Pb	165	1	0.02	0.02	ppb	9.09	3600
232	Th	165	1	3.70	3.70	ppb	19.86	1000
238	U	165	1	0.09	0.09	ppb	9.53	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	604269	1.86	581797	103.9	30 - 120
45	Sc	1	2589065	0.70	2574983	100.5	30 - 120
72	Ge	1	1243813	0.46	1211627	102.7	30 - 120
115	In	1	3483172	1.13	3426576	101.7	30 - 120
165	Ho	1	5709115	0.24	5647086	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\AG072109.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\AG072109.B\016_CCV.D\016_CCV.D#
 Date Acquired: Jul 21 2009 06:03 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: Jul 21 2009 05:31 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	49.34 ppb	0.68	50	98.7	90 - 110	
51	V	72	49.10 ppb	0.55	50	98.2	90 - 110	
52	Cr	72	49.47 ppb	0.91	50	98.9	90 - 110	
55	Mn	72	49.47 ppb	1.10	50	98.9	90 - 110	
59	Co	72	49.92 ppb	1.17	50	99.8	90 - 110	
60	Ni	72	50.75 ppb	0.61	50	101.5	90 - 110	
63	Cu	72	50.93 ppb	0.27	50	101.9	90 - 110	
66	Zn	72	50.31 ppb	0.73	50	100.6	90 - 110	
75	As	72	50.24 ppb	1.12	50	100.5	90 - 110	
78	Se	72	50.24 ppb	0.13	50	100.5	90 - 110	
95	Mo	72	50.78 ppb	1.42	50	101.6	90 - 110	
107	Ag	115	49.22 ppb	2.02	50	98.4	90 - 110	
111	Cd	115	49.66 ppb	2.34	50	99.3	90 - 110	
118	Sn	115	49.06 ppb	1.65	50	98.1	90 - 110	
121	Sb	115	49.30 ppb	1.60	50	98.6	90 - 110	
137	Ba	115	49.04 ppb	1.67	50	98.1	90 - 110	
205	Tl	165	50.73 ppb	1.09	50	101.5	90 - 110	
208	Pb	165	49.84 ppb	1.34	50	99.7	90 - 110	
232	Th	165	52.15 ppb	2.07	50	104.3	90 - 110	
238	U	165	49.79 ppb	0.38	50	99.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	588145	2.13	581797	101.1	30 - 120
45	Sc	1	2623883	0.54	2574983	101.9	30 - 120
72	Ge	1	1228362	0.50	1211627	101.4	30 - 120
115	In	1	3530300	1.24	3426576	103.0	30 - 120
165	Ho	1	5768046	0.38	5647086	102.1	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\AG072109.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\AG072109.B\017_CCB.D\017_CCB.D#
 Date Acquired: Jul 21 2009 06:06 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: Jul 21 2009 05:31 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	0.005	ppb	173.19	1.00	
51 V	72	1	-0.062	ppb	129.47	1.00	
52 Cr	72	1	-0.026	ppb	83.65	1.00	
55 Mn	72	1	-0.007	ppb	143.47	1.00	
59 Co	72	1	0.002	ppb	146.67	1.00	
60 Ni	72	1	0.009	ppb	171.37	1.00	
63 Cu	72	1	-0.013	ppb	47.42	1.00	
66 Zn	72	1	0.004	ppb	593.06	1.00	
75 As	72	1	0.008	ppb	83.97	1.00	
78 Se	72	1	0.635	ppb	21.48	1.00	
95 Mo	72	1	0.156	ppb	13.82	1.00	
107 Ag	115	1	0.013	ppb	10.04	1.00	
111 Cd	115	1	0.005	ppb	226.51	1.00	
118 Sn	115	1	0.091	ppb	27.58	1.00	
121 Sb	115	1	0.092	ppb	4.85	1.00	
137 Ba	115	1	0.007	ppb	96.12	1.00	
205 Tl	165	1	0.044	ppb	9.42	1.00	
208 Pb	165	1	0.005	ppb	16.13	1.00	
232 Th	165	1	0.846	ppb	15.54	1.00	
238 U	165	1	0.016	ppb	7.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	582937	1.46	581797	100.2	30 - 120	
45 Sc	1	2618279	0.49	2574983	101.7	30 - 120	
72 Ge	1	1228248	0.40	1211627	101.4	30 - 120	
115 In	1	3493471	0.25	3426576	102.0	30 - 120	
165 Ho	1	5729193	0.17	5647086	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\AG072109.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\AG072109.B\018WASH.D\018WASH.D#
 Date Acquired: Jul 21 2009 06:09 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: Jul 21 2009 05:31 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	1.506 ppb	66.40	1.30	
51 V	72	1	5.354 ppb	9.73	6.50	
52 Cr	72	1	2.294 ppb	19.68	2.60	
55 Mn	72	1	1.341 ppb	40.40	1.30	
59 Co	72	1	1.372 ppb	41.06	1.30	
60 Ni	72	1	2.353 ppb	23.65	2.60	
63 Cu	72	1	2.412 ppb	17.43	2.60	
66 Zn	72	1	10.710 ppb	7.57	13.00	
75 As	72	1	5.663 ppb	11.90	6.50	
78 Se	72	1	5.717 ppb	11.15	6.50	
95 Mo	72	1	4.400 ppb	84.36	2.60	
107 Ag	115	1	5.364 ppb	3.44	6.50	
111 Cd	115	1	1.442 ppb	41.34	1.30	
118 Sn	115	1	10.180 ppb	5.67	13.00	
121 Sb	115	1	2.278 ppb	21.30	2.60	
137 Ba	115	1	1.364 ppb	42.96	1.30	
205 Tl	165	1	1.415 ppb	39.27	1.30	
208 Pb	165	1	1.446 ppb	47.86	1.30	
232 Th	165	1	2.676 ppb	20.73	2.60	
238 U	165	1	1.427 ppb	40.32	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	598481	1.35	581797	102.9	30 - 120	
45 Sc	1	2642231	1.82	2574983	102.6	30 - 120	
72 Ge	1	1250188	1.58	1211627	103.2	30 - 120	
115 In	1	3540347	1.66	3426576	103.3	30 - 120	
165 Ho	1	5791976	1.24	5647086	102.6	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\AG072109.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\AG072109.B\026_CCV.D\026_CCV.D#
 Date Acquired: Jul 21 2009 06:30 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: Jul 21 2009 05:31 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	49.60 ppb	3.76	50	99.2	90 - 110	
51	V	72	47.46 ppb	0.73	50	94.9	90 - 110	
52	Cr	72	48.46 ppb	1.90	50	96.9	90 - 110	
55	Mn	72	48.48 ppb	1.62	50	97.0	90 - 110	
59	Co	72	48.65 ppb	0.70	50	97.3	90 - 110	
60	Ni	72	49.63 ppb	1.26	50	99.3	90 - 110	
63	Cu	72	49.48 ppb	1.11	50	99.0	90 - 110	
66	Zn	72	49.17 ppb	0.85	50	98.3	90 - 110	
75	As	72	49.33 ppb	1.83	50	98.7	90 - 110	
78	Se	72	49.43 ppb	3.65	50	98.9	90 - 110	
95	Mo	72	49.52 ppb	1.74	50	99.0	90 - 110	
107	Ag	115	49.84 ppb	0.95	50	99.7	90 - 110	
111	Cd	115	49.79 ppb	0.88	50	99.6	90 - 110	
118	Sn	115	49.36 ppb	1.63	50	98.7	90 - 110	
121	Sb	115	49.58 ppb	0.60	50	99.2	90 - 110	
137	Ba	115	49.59 ppb	0.66	50	99.2	90 - 110	
205	Tl	165	50.54 ppb	0.83	50	101.1	90 - 110	
208	Pb	165	50.49 ppb	0.37	50	101.0	90 - 110	
232	Th	165	51.99 ppb	2.44	50	104.0	90 - 110	
238	U	165	51.90 ppb	0.76	50	103.8	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	571014	0.79	581797	98.1	30 - 120
45	Sc	1	2538915	1.25	2574983	98.6	30 - 120
72	Ge	1	1213633	1.83	1211627	100.2	30 - 120
115	In	1	3399341	0.85	3426576	99.2	30 - 120
165	Ho	1	5600207	0.53	5647086	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\AG072109.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\AG072109.B\027_CCB.D\027_CCB.D#
 Date Acquired: Jul 21 2009 06:33 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: Jul 21 2009 05:31 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	0.006	ppb	173.20	1.00	
51 V	72	1	-0.006	ppb	515.80	1.00	
52 Cr	72	1	-0.037	ppb	49.31	1.00	
55 Mn	72	1	-0.018	ppb	70.24	1.00	
59 Co	72	1	0.002	ppb	18.76	1.00	
60 Ni	72	1	0.005	ppb	28.03	1.00	
63 Cu	72	1	-0.039	ppb	12.85	1.00	
66 Zn	72	1	0.010	ppb	155.67	1.00	
75 As	72	1	-0.008	ppb	188.46	1.00	
78 Se	72	1	0.001	ppb	63037.00	1.00	
95 Mo	72	1	0.038	ppb	19.24	1.00	
107 Ag	115	1	0.006	ppb	44.60	1.00	
111 Cd	115	1	0.007	ppb	37.32	1.00	
118 Sn	115	1	-0.057	ppb	99.88	1.00	
121 Sb	115	1	0.059	ppb	8.11	1.00	
137 Ba	115	1	0.003	ppb	62.71	1.00	
205 Tl	165	1	0.021	ppb	14.15	1.00	
208 Pb	165	1	0.004	ppb	24.01	1.00	
232 Th	165	1	0.775	ppb	18.32	1.00	
238 U	165	1	0.010	ppb	13.56	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	568757	0.26	581797	97.8	30 - 120	
45 Sc	1	2523515	0.52	2574983	98.0	30 - 120	
72 Ge	1	1190357	0.87	1211627	98.2	30 - 120	
115 In	1	3393018	0.90	3426576	99.0	30 - 120	
165 Ho	1	5546048	0.69	5647086	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\AG072109.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\AG072109.B\028WASH.D\028WASH.D#
 Date Acquired: Jul 21 2009 06:36 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: Jul 21 2009 05:31 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	0.945 ppb	17.37	1.30	
51 V	72	1	5.047 ppb	0.91	6.50	
52 Cr	72	1	2.021 ppb	3.49	2.60	
55 Mn	72	1	1.010 ppb	5.40	1.30	
59 Co	72	1	1.024 ppb	2.85	1.30	
60 Ni	72	1	2.156 ppb	3.13	2.60	
63 Cu	72	1	2.053 ppb	0.90	2.60	
66 Zn	72	1	10.450 ppb	1.17	13.00	
75 As	72	1	5.192 ppb	1.28	6.50	
78 Se	72	1	5.235 ppb	5.22	6.50	
95 Mo	72	1	2.123 ppb	6.02	2.60	
107 Ag	115	1	5.226 ppb	1.25	6.50	
111 Cd	115	1	1.069 ppb	5.99	1.30	
118 Sn	115	1	9.851 ppb	1.45	13.00	
121 Sb	115	1	1.944 ppb	1.32	2.60	
137 Ba	115	1	1.079 ppb	5.58	1.30	
205 Tl	165	1	1.091 ppb	0.56	1.30	
208 Pb	165	1	1.065 ppb	1.02	1.30	
232 Th	165	1	2.329 ppb	1.74	2.60	
238 U	165	1	1.101 ppb	0.77	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	563752	0.35	581797	96.9	30 - 120	
45 Sc	1	2522070	0.50	2574983	97.9	30 - 120	
72 Ge	1	1195071	0.30	1211627	98.6	30 - 120	
115 In	1	3409514	0.82	3426576	99.5	30 - 120	
165 Ho	1	5555873	0.54	5647086	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\AG072109.B\003CALB.D\003CALB.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\AG072109.B\029_BLK.D\029_BLK.D#
 Date Acquired: Jul 21 2009 06:39 pm
 Operator: TEL
 Sample Name: LGEERB
 Misc Info: BLANK 9194272 6020
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.023 ppb	197.29	2.00	
52 Cr	72	1	0.079 ppb	10.06	2.00	
55 Mn	72	1	0.108 ppb	12.70	2.00	
59 Co	72	1	0.000 ppb	501.93	2.00	
60 Ni	72	1	0.025 ppb	81.97	2.00	
63 Cu	72	1	0.077 ppb	14.50	2.00	
66 Zn	72	1	0.692 ppb	2.78	2.00	
75 As	72	1	-0.001 ppb	1570.10	2.00	
78 Se	72	1	0.138 ppb	271.86	2.00	
95 Mo	72	1	0.012 ppb	30.51	2.00	
107 Ag	115	1	0.005 ppb	43.98	2.00	
111 Cd	115	1	0.003 ppb	153.49	2.00	
118 Sn	115	1	-0.388 ppb	3.06	2.00	
121 Sb	115	1	0.032 ppb	4.02	2.00	
137 Ba	115	1	0.024 ppb	41.42	2.00	
205 Tl	165	1	0.024 ppb	33.52	2.00	
208 Pb	165	1	0.010 ppb	10.00	2.00	
232 Th	165	1	0.149 ppb	18.82	2.00	
238 U	165	1	0.003 ppb	8.64	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567901	0.49	581797	97.6	30 - 120	
45 Sc	1	2536930	0.98	2574983	98.5	30 - 120	
72 Ge	1	1190052	0.57	1211627	98.2	30 - 120	
115 In	1	3404908	0.81	3426576	99.4	30 - 120	
165 Ho	1	5537384	1.21	5647086	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\030_LCS.D\030_LCS.D#
 Date Acquired: Jul 21 2009 06:41 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGEERC
 Misc Info: LCS
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	40.84	2.97	40	102.1	80 - 120
51	V	72	1	41.46	0.89	40	103.7	80 - 120
52	Cr	72	1	42.08	1.02	40	105.2	80 - 120
55	Mn	72	1	42.07	2.68	40	105.2	80 - 120
59	Co	72	1	42.43	1.84	40	106.1	80 - 120
60	Ni	72	1	43.29	2.68	40	108.2	80 - 120
63	Cu	72	1	43.58	2.40	40	109.0	80 - 120
66	Zn	72	1	41.11	1.13	40	102.8	80 - 120
75	As	72	1	41.33	1.55	40	103.3	80 - 120
78	Se	72	1	40.24	3.32	40	100.6	80 - 120
95	Mo	72	1	43.74	5.12	40	109.4	80 - 120
107	Ag	115	1	42.07	1.97	40	105.2	80 - 120
111	Cd	115	1	41.62	1.54	40	104.1	80 - 120
118	Sn	115	1	-0.06	879.10	40	-0.2	80 - 120
121	Sb	115	1	40.67	1.75	40	101.7	80 - 120
137	Ba	115	1	42.32	1.65	40	105.8	80 - 120
205	Tl	165	1	43.38	1.33	40	108.5	80 - 120
208	Pb	165	1	43.18	0.66	40	108.0	80 - 120
232	Th	165	1	46.22	3.01	40	115.6	80 - 120
238	U	165	1	44.22	0.28	40	110.6	80 - 120

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	572827	4.47	581797	98.5	30 - 120
45	Sc	1	2536116	1.65	2574983	98.5	30 - 120
72	Ge	1	1194379	2.43	1211627	98.6	30 - 120
115	In	1	3408702	2.96	3426576	99.5	30 - 120
165	Ho	1	5609006	1.65	5647086	99.3	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\AG072109.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\AG072109.B\031AREF.D\031AREF.D#
 Date Acquired: Jul 21 2009 06:44 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3 10X
 Misc Info: D9G100272
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: AllRef
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.11	0.01	ppb	86.58	3600	
51 V	72	1	21.63	2.16	ppb	7.43	3600	
52 Cr	72	1	6.32	0.63	ppb	7.96	3600	
55 Mn	72	1	5.24	0.52	ppb	6.66	3600	
59 Co	72	1	0.39	0.04	ppb	16.50	3600	
60 Ni	72	1	4.15	0.41	ppb	14.15	3600	
63 Cu	72	1	0.17	0.02	ppb	16.19	3600	
66 Zn	72	1	3.05	0.31	ppb	11.24	3600	
75 As	72	1	198.10	19.81	ppb	2.87	3600	
78 Se	72	1	4.94	0.49	ppb	39.09	3600	
95 Mo	72	1	16.44	1.64	ppb	4.40	3600	
107 Ag	115	1	0.09	0.01	ppb	63.79	3600	
111 Cd	115	1	0.13	0.01	ppb	29.31	3600	
118 Sn	115	1	-5.34	-0.53	ppb	1.82	3600	
121 Sb	115	1	0.48	0.05	ppb	8.21	3600	
137 Ba	115	1	33.07	3.31	ppb	2.19	3600	
205 Tl	165	1	0.27	0.03	ppb	15.00	3600	
208 Pb	165	1	0.16	0.02	ppb	10.80	3600	
232 Th	165	1	6.24	0.62	ppb	18.22	1000	
238 U	165	1	55.05	5.51	ppb	1.19	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567824	0.66	581797	97.6	30 - 120	
45 Sc	1	2404508	0.72	2574983	93.4	30 - 120	
72 Ge	1	1124528	1.16	1211627	92.8	30 - 120	
115 In	1	3208719	1.35	3426576	93.6	30 - 120	
165 Ho	1	5383143	1.62	5647086	95.3	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\AG072109.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\AG072109.B\032SDIL.D\032SDIL.D#
 Date Acquired: Jul 21 2009 06:47 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3P50
 Misc Info: SERIAL DILUTION
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SDIL
 Dilution Factor: 10.00

QC Summary:

Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG072109.B\031AREF.D\031AREF.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	0.43 ppb	23.28	0.43	99.3	90 - 110
52	Cr	72	1	0.29 ppb	4.37	0.13	229.3	90 - 110
55	Mn	72	1	0.15 ppb	6.68	0.10	144.4	90 - 110
59	Co	72	1	0.01 ppb	66.01	0.01	130.9	90 - 110
60	Ni	72	1	0.26 ppb	15.21	0.08	310.4	90 - 110
63	Cu	72	1	-0.01 ppb	106.68	0.00	-353.0	90 - 110
66	Zn	72	1	0.09 ppb	22.23	0.06	148.6	90 - 110
75	As	72	1	3.90 ppb	0.41	3.96	98.4	90 - 110
78	Se	72	1	0.05 ppb	1070.40	0.10	46.0	90 - 110
95	Mo	72	1	0.31 ppb	1.89	0.33	95.3	90 - 110
107	Ag	115	1	0.00 ppb	66.72	0.00	156.3	90 - 110
111	Cd	115	1	0.00 ppb	175.62	0.00	145.6	90 - 110
118	Sn	115	1	-0.53 ppb	3.47	-0.11	493.3	90 - 110
121	Sb	115	1	0.02 ppb	16.35	0.01	181.6	90 - 110
137	Ba	115	1	0.66 ppb	2.72	0.66	99.8	90 - 110
205	Tl	165	1	0.00 ppb	195.50	0.01	21.4	90 - 110
208	Pb	165	1	0.01 ppb	27.48	0.00	185.7	90 - 110
232	Th	165	1	0.09 ppb	13.71	0.12	75.2	90 - 110
238	U	165	1	1.10 ppb	1.87	1.10	100.1	90 - 110

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565608	0.94	581797	97.2	30 - 120
45	Sc	1	2460020	0.58	2574983	95.5	30 - 120
72	Ge	1	1155387	1.16	1211627	95.4	30 - 120
115	In	1	3303714	1.14	3426576	96.4	30 - 120
165	Ho	1	5431207	0.86	5647086	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\AG072109.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: 07/22/09 08:07:22

Department: 090 (Metals) Source: Spreadsheet

Sample: LGCN3P50 Serial Dilution: 50.00 Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 32 Method 6020_
Acquired: 07/21/2009 18:47:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\033PDS.D\033PDS.D#
 Date Acquired: Jul 21 2009 06:50 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3Z
 Misc Info: POST DIGESTION SPIKE
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	200.50	0.01	ppb	2.01	200	100.2	75 - 125	
51 V	72	1	199.90	2.16	ppb	1.11	200	98.9	75 - 125	
52 Cr	72	1	201.70	0.63	ppb	1.61	200	100.5	75 - 125	
55 Mn	72	1	198.30	0.52	ppb	1.60	200	98.9	75 - 125	
59 Co	72	1	195.50	0.04	ppb	2.21	200	97.7	75 - 125	
60 Ni	72	1	195.10	0.41	ppb	0.98	200	97.3	75 - 125	
63 Cu	72	1	195.80	0.02	ppb	0.06	200	97.9	75 - 125	
66 Zn	72	1	201.20	0.31	ppb	1.52	200	100.4	75 - 125	
75 As	72	1	221.60	19.81	ppb	1.14	200	100.8	75 - 125	
78 Se	72	1	205.80	0.49	ppb	1.72	200	102.6	75 - 125	
95 Mo	72	1	206.50	1.64	ppb	1.30	200	102.4	75 - 125	
107 Ag	115	1	48.42	0.01	ppb	1.14	50	96.8	75 - 125	
111 Cd	115	1	199.60	0.01	ppb	0.85	200	99.8	75 - 125	
118 Sn	115	1	182.90	-0.53	ppb	0.64	200	91.7	75 - 125	
121 Sb	115	1	200.40	0.05	ppb	0.62	200	100.2	75 - 125	
137 Ba	115	1	204.10	3.31	ppb	0.79	200	100.4	75 - 125	
205 Tl	165	1	196.40	0.03	ppb	0.92	200	98.2	75 - 125	
208 Pb	165	1	194.00	0.02	ppb	0.57	200	97.0	75 - 125	
232 Th	165	1	0.06	0.62	ppb	5.86	200	0.0	75 - 125	
238 U	165	1	208.90	5.51	ppb	1.19	200	101.7	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	552017	0.97	581797	94.9	30 - 120	
45 Sc	1	2393086	1.79	2574983	92.9	30 - 120	
72 Ge	1	1113187	1.37	1211627	91.9	30 - 120	
115 In	1	3182521	0.72	3426576	92.9	30 - 120	
165 Ho	1	5376631	0.55	5647086	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\AG072109.B\003CALB.D\003CALB.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: 07/22/09 08:07:27

Department: 090 (Metals)

Source: Spreadsheet

Sample: LGCN3Z

Spike Dilution: 1.00

Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 33 Method 6020_
Acquired: 07/21/2009 18:50:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\034_MS.D\034_MS.D#
 Date Acquired: Jul 21 2009 06:52 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3S 10X
 Misc Info: MATRIX SPIKE
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MS
 Prep Dil. Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	4.28	0.01	ppb	3.84	40	10.7	50 - 150	
51 V	72	1	6.27	2.16	ppb	1.52	40	14.9	50 - 150	
52 Cr	72	1	4.83	0.63	ppb	4.02	40	11.9	50 - 150	
55 Mn	72	1	4.67	0.52	ppb	0.82	40	11.5	50 - 150	
59 Co	72	1	4.21	0.04	ppb	1.66	40	10.5	50 - 150	
60 Ni	72	1	4.58	0.41	ppb	2.25	40	11.3	50 - 150	
63 Cu	72	1	4.24	0.02	ppb	2.92	40	10.6	50 - 150	
66 Zn	72	1	4.53	0.31	ppb	4.27	40	11.2	50 - 150	
75 As	72	1	23.45	19.81	ppb	0.47	40	39.2	50 - 150	
78 Se	72	1	4.43	0.49	ppb	4.58	40	10.9	50 - 150	
95 Mo	72	1	6.07	1.64	ppb	2.05	40	14.6	50 - 150	
107 Ag	115	1	4.06	0.01	ppb	2.34	40	10.2	50 - 150	
111 Cd	115	1	4.28	0.01	ppb	1.30	40	10.7	50 - 150	
118 Sn	115	1	-0.29	-0.53	ppb	8.52	40	-0.7	50 - 150	
121 Sb	115	1	4.37	0.05	ppb	0.90	40	10.9	50 - 150	
137 Ba	115	1	7.57	3.31	ppb	1.41	40	17.5	50 - 150	
205 Tl	165	1	4.37	0.03	ppb	0.09	40	10.9	50 - 150	
208 Pb	165	1	4.34	0.02	ppb	0.98	40	10.9	50 - 150	
232 Th	165	1	4.70	0.62	ppb	2.44	40	11.6	50 - 150	
238 U	165	1	10.08	5.51	ppb	0.80	40	22.2	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	556944	0.45	581797	95.7	30 - 120	
45 Sc	1	2377843	1.11	2574983	92.3	30 - 120	
72 Ge	1	1122514	1.35	1211627	92.6	30 - 120	
115 In	1	3221254	0.75	3426576	94.0	30 - 120	
165 Ho	1	5362470	0.23	5647086	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\AG072109.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\AG072109.B\035_CCV.D\035_CCV.D#
 Date Acquired: Jul 21 2009 06:55 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: Jul 21 2009 05:31 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	49.42 ppb	1.97	50	98.8	90 - 110	
51	V	72	48.32 ppb	0.92	50	96.6	90 - 110	
52	Cr	72	48.98 ppb	0.92	50	98.0	90 - 110	
55	Mn	72	48.41 ppb	0.46	50	96.8	90 - 110	
59	Co	72	49.42 ppb	0.37	50	98.8	90 - 110	
60	Ni	72	49.85 ppb	0.52	50	99.7	90 - 110	
63	Cu	72	50.16 ppb	0.84	50	100.3	90 - 110	
66	Zn	72	49.95 ppb	0.90	50	99.9	90 - 110	
75	As	72	50.23 ppb	0.25	50	100.5	90 - 110	
78	Se	72	50.22 ppb	2.05	50	100.4	90 - 110	
95	Mo	72	50.05 ppb	0.52	50	100.1	90 - 110	
107	Ag	115	49.31 ppb	0.59	50	98.6	90 - 110	
111	Cd	115	49.60 ppb	0.17	50	99.2	90 - 110	
118	Sn	115	49.20 ppb	0.37	50	98.4	90 - 110	
121	Sb	115	49.37 ppb	0.88	50	98.7	90 - 110	
137	Ba	115	49.60 ppb	0.50	50	99.2	90 - 110	
205	Tl	165	50.85 ppb	1.38	50	101.7	90 - 110	
208	Pb	165	50.56 ppb	0.82	50	101.1	90 - 110	
232	Th	165	52.19 ppb	3.26	50	104.4	90 - 110	
238	U	165	51.93 ppb	1.69	50	103.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	540158	0.94	581797	92.8	30 - 120
45	Sc	1	2438139	1.30	2574983	94.7	30 - 120
72	Ge	1	1153755	0.36	1211627	95.2	30 - 120
115	In	1	3309113	0.86	3426576	96.6	30 - 120
165	Ho	1	5464053	0.74	5647086	96.8	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\AG072109.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\AG072109.B\036_CCB.D\036_CCB.D#
 Date Acquired: Jul 21 2009 06:58 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: Jul 21 2009 05:31 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

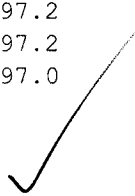
QC Summary:
Analytes: Pass
ISTD: Pass

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	-0.003 ppb	487.71	1.00	
52 Cr	72	1	-0.001 ppb	1245.80	1.00	
55 Mn	72	1	-0.013 ppb	48.53	1.00	
59 Co	72	1	0.000 ppb	382.88	1.00	
60 Ni	72	1	-0.006 ppb	152.58	1.00	
63 Cu	72	1	-0.033 ppb	14.97	1.00	
66 Zn	72	1	0.013 ppb	162.14	1.00	
75 As	72	1	-0.001 ppb	1279.80	1.00	
78 Se	72	1	0.044 ppb	96.85	1.00	
95 Mo	72	1	0.048 ppb	21.21	1.00	
107 Ag	115	1	0.007 ppb	13.19	1.00	
111 Cd	115	1	0.004 ppb	36.72	1.00	
118 Sn	115	1	-0.066 ppb	28.84	1.00	
121 Sb	115	1	0.060 ppb	6.65	1.00	
137 Ba	115	1	0.010 ppb	78.17	1.00	
205 Tl	165	1	0.019 ppb	11.00	1.00	
208 Pb	165	1	0.004 ppb	45.34	1.00	
232 Th	165	1	0.795 ppb	15.81	1.00	
238 U	165	1	0.011 ppb	4.95	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	552374	0.81	581797	94.9	30 - 120	
45 Sc	1	2446795	1.11	2574983	95.0	30 - 120	
72 Ge	1	1178029	1.15	1211627	97.2	30 - 120	
115 In	1	3329395	0.66	3426576	97.2	30 - 120	
165 Ho	1	5475567	0.43	5647086	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\AG072109.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\AG072109.B\037WASH.D\037WASH.D#
 Date Acquired: Jul 21 2009 07:01 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: Jul 21 2009 05:31 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	1.001 ppb	9.18	1.30	
51 V	72	1	5.141 ppb	2.55	6.50	
52 Cr	72	1	2.091 ppb	2.49	2.60	
55 Mn	72	1	1.005 ppb	1.26	1.30	
59 Co	72	1	1.028 ppb	5.10	1.30	
60 Ni	72	1	2.103 ppb	0.94	2.60	
63 Cu	72	1	2.128 ppb	2.55	2.60	
66 Zn	72	1	10.560 ppb	2.59	13.00	
75 As	72	1	5.192 ppb	0.09	6.50	
78 Se	72	1	6.309 ppb	1.74	6.50	
95 Mo	72	1	2.070 ppb	2.44	2.60	
107 Ag	115	1	5.185 ppb	1.03	6.50	
111 Cd	115	1	1.087 ppb	10.27	1.30	
118 Sn	115	1	9.916 ppb	0.55	13.00	
121 Sb	115	1	1.957 ppb	2.80	2.60	
137 Ba	115	1	1.051 ppb	2.71	1.30	
205 Tl	165	1	1.091 ppb	2.87	1.30	
208 Pb	165	1	1.075 ppb	0.84	1.30	
232 Th	165	1	2.350 ppb	2.29	2.60	
238 U	165	1	1.116 ppb	0.75	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	550628	0.54	581797	94.6	30 - 120	
45 Sc	1	2456537	0.83	2574983	95.4	30 - 120	
72 Ge	1	1156394	1.08	1211627	95.4	30 - 120	
115 In	1	3321593	0.50	3426576	96.9	30 - 120	
165 Ho	1	5496023	1.28	5647086	97.3	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\038 MSD.D\038 MSD.D#
 Date Acquired: Jul 21 2009 07:03 pm **QC Summary:**
 Acq. Method: NormISIS.M **Analytes: Pass**
 Operator: TEL **ISTD: Pass**
 Sample Name: LGCN3D 10X
 Misc Info: MATRIX SPIKE DUPLICATE
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MSD
 Dilution Factor: 10.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG072109.B\034 MS.D\034 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	1	4.06 ppb	5.70	4.28	5.18	20
51	V	72	1	6.38 ppb	1.64	6.27	1.79	20
52	Cr	72	1	4.79 ppb	0.59	4.83	0.85	20
55	Mn	72	1	4.66 ppb	1.04	4.67	0.34	20
59	Co	72	1	4.26 ppb	3.02	4.21	1.11	20
60	Ni	72	1	4.59 ppb	3.03	4.58	0.15	20
63	Cu	72	1	4.29 ppb	0.78	4.24	1.17	20
66	Zn	72	1	4.59 ppb	2.90	4.53	1.23	20
75	As	72	1	23.78 ppb	1.59	23.45	1.40	20
78	Se	72	1	4.84 ppb	10.22	4.43	8.78	20
95	Mo	72	1	5.96 ppb	2.88	6.07	1.73	20
107	Ag	115	1	4.19 ppb	3.60	4.06	2.98	20
111	Cd	115	1	4.27 ppb	1.75	4.28	0.12	20
118	Sn	115	1	-0.49 ppb	0.60	-0.29	-50.16	20
121	Sb	115	1	4.30 ppb	1.48	4.37	1.66	20
137	Ba	115	1	7.66 ppb	3.26	7.57	1.09	20
205	Tl	165	1	4.33 ppb	1.08	4.37	0.87	20
208	Pb	165	1	4.32 ppb	0.78	4.34	0.44	20
232	Th	165	1	4.77 ppb	2.43	4.70	1.33	20
238	U	165	1	9.96 ppb	0.82	10.08	1.22	20

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	546064	0.27	581797	93.9	30 - 120
45	Sc	1	2359431	0.90	2574983	91.6	30 - 120
72	Ge	1	1104590	0.97	1211627	91.2	30 - 120
115	In	1	3149159	0.41	3426576	91.9	30 - 120
165	Ho	1	5369723	0.97	5647086	95.1	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\AG072109.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\AG072109.B\039SMPL.D\039SMPL.D#
 Date Acquired: Jul 21 2009 07:06 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCQK 10X
 Misc Info: D9G100274
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	23.68	2.37	ppb	1.85	3600
52	Cr	72	1	12.40	1.24	ppb	2.95	3600
55	Mn	72	1	2.12	0.21	ppb	8.12	3600
59	Co	72	1	0.30	0.03	ppb	7.53	3600
60	Ni	72	1	3.33	0.33	ppb	5.22	3600
63	Cu	72	1	-0.20	-0.02	ppb	5.61	3600
66	Zn	72	1	2.60	0.26	ppb	8.14	3600
75	As	72	1	114.20	11.42	ppb	1.08	3600
78	Se	72	1	2.84	0.28	ppb	68.00	3600
95	Mo	72	1	42.30	4.23	ppb	2.35	3600
107	Ag	115	1	0.07	0.01	ppb	37.85	3600
111	Cd	115	1	0.07	0.01	ppb	133.86	3600
118	Sn	115	1	-5.30	-0.53	ppb	2.37	3600
121	Sb	115	1	0.28	0.03	ppb	5.21	3600
137	Ba	115	1	34.03	3.40	ppb	4.11	3600
205	Tl	165	1	0.11	0.01	ppb	30.92	3600
208	Pb	165	1	0.09	0.01	ppb	19.12	3600
232	Th	165	1	1.32	0.13	ppb	13.37	1000
238	U	165	1	6.45	0.64	ppb	0.89	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	551022	0.60	581797	94.7	30 - 120
45	Sc	1	2336691	0.75	2574983	90.7	30 - 120
72	Ge	1	1100169	0.92	1211627	90.8	30 - 120
115	In	1	3126709	0.78	3426576	91.2	30 - 120
165	Ho	1	5251243	0.64	5647086	93.0	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\AG072109.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\AG072109.B\040SMPL.D\040SMPL.D#
 Date Acquired: Jul 21 2009 07:09 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJV 10X
 Misc Info: D9G110152
 Vial Number: 2304
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.12	0.01	ppb	86.63	3600	
51 V	72	1	16.34	1.63	ppb	14.05	3600	
52 Cr	72	1	858.20	85.82	ppb	0.42	3600	
55 Mn	72	1	62.25	6.23	ppb	0.82	3600	
59 Co	72	1	0.35	0.04	ppb	4.83	3600	
60 Ni	72	1	3.24	0.32	ppb	5.41	3600	
63 Cu	72	1	-0.11	-0.01	ppb	134.88	3600	
66 Zn	72	1	0.97	0.10	ppb	20.21	3600	
75 As	72	1	137.30	13.73	ppb	1.37	3600	
78 Se	72	1	1.53	0.15	ppb	126.27	3600	
95 Mo	72	1	23.17	2.32	ppb	1.07	3600	
107 Ag	115	1	0.03	0.00	ppb	74.34	3600	
111 Cd	115	1	0.05	0.00	ppb	97.57	3600	
118 Sn	115	1	-5.16	-0.52	ppb	3.23	3600	
121 Sb	115	1	0.22	0.02	ppb	2.16	3600	
137 Ba	115	1	20.27	2.03	ppb	4.70	3600	
205 Tl	165	1	0.11	0.01	ppb	13.97	3600	
208 Pb	165	1	0.08	0.01	ppb	23.24	3600	
232 Th	165	1	0.36	0.04	ppb	9.36	1000	
238 U	165	1	7.67	0.77	ppb	2.40	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	549478	0.91	581797	94.4	30 - 120	
45 Sc	1	2376723	1.71	2574983	92.3	30 - 120	
72 Ge	1	1096432	0.47	1211627	90.5	30 - 120	
115 In	1	3124200	0.99	3426576	91.2	30 - 120	
165 Ho	1	5324718	1.58	5647086	94.3	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\AG072109.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\AG072109.B\041SMPL.D\041SMPL.D#
 Date Acquired: Jul 21 2009 07:11 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJ3 10X
 Misc Info: D9G110155
 Vial Number: 2305
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.06	0.01	ppb	173.23	3600
51	V	72	1	25.99	2.60	ppb	1.41	3600
52	Cr	72	1	90.81	9.08	ppb	1.84	3600
55	Mn	72	1	2.28	0.23	ppb	3.91	3600
59	Co	72	1	0.28	0.03	ppb	8.82	3600
60	Ni	72	1	3.42	0.34	ppb	10.30	3600
63	Cu	72	1	-0.03	0.00	ppb	414.27	3600
66	Zn	72	1	9.09	0.91	ppb	0.15	3600
75	As	72	1	86.50	8.65	ppb	2.13	3600
78	Se	72	1	1.59	0.16	ppb	168.68	3600
95	Mo	72	1	35.52	3.55	ppb	3.38	3600
107	Ag	115	1	0.02	0.00	ppb	63.47	3600
111	Cd	115	1	0.11	0.01	ppb	91.74	3600
118	Sn	115	1	-5.25	-0.52	ppb	1.50	3600
121	Sb	115	1	0.16	0.02	ppb	27.09	3600
137	Ba	115	1	26.05	2.61	ppb	2.24	3600
205	Tl	165	1	0.06	0.01	ppb	15.71	3600
208	Pb	165	1	0.10	0.01	ppb	12.74	3600
232	Th	165	1	0.18	0.02	ppb	32.01	1000
238	U	165	1	8.01	0.80	ppb	0.86	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	558798	0.28	581797	96.0	30 - 120
45	Sc	1	2360484	0.64	2574983	91.7	30 - 120
72	Ge	1	1106065	0.59	1211627	91.3	30 - 120
115	In	1	3160658	0.73	3426576	92.2	30 - 120
165	Ho	1	5332925	0.28	5647086	94.4	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\AG072109.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\AG072109.B\042SMPL.D\042SMPL.D#
 Date Acquired: Jul 21 2009 07:14 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDKR 10X
 Misc Info: D9G110159
 Vial Number: 2306
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	30.44	3.04	ppb	4.27	3600
52	Cr	72	1	17.70	1.77	ppb	1.53	3600
55	Mn	72	1	3.41	0.34	ppb	1.05	3600
59	Co	72	1	0.10	0.01	ppb	35.67	3600
60	Ni	72	1	2.63	0.26	ppb	23.26	3600
63	Cu	72	1	-0.14	-0.01	ppb	158.27	3600
66	Zn	72	1	1.23	0.12	ppb	9.20	3600
75	As	72	1	57.13	5.71	ppb	1.32	3600
78	Se	72	1	2.47	0.25	ppb	139.38	3600
95	Mo	72	1	7.30	0.73	ppb	2.20	3600
107	Ag	115	1	0.01	0.00	ppb	150.52	3600
111	Cd	115	1	0.05	0.00	ppb	86.56	3600
118	Sn	115	1	-5.31	-0.53	ppb	1.46	3600
121	Sb	115	1	0.12	0.01	ppb	36.48	3600
137	Ba	115	1	22.02	2.20	ppb	2.09	3600
205	Tl	165	1	0.03	0.00	ppb	69.45	3600
208	Pb	165	1	0.07	0.01	ppb	7.65	3600
232	Th	165	1	0.10	0.01	ppb	23.71	1000
238	U	165	1	2.22	0.22	ppb	2.65	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	564989	0.50	581797	97.1	30 - 120
45	Sc	1	2392180	0.44	2574983	92.9	30 - 120
72	Ge	1	1130770	0.41	1211627	93.3	30 - 120
115	In	1	3228355	1.24	3426576	94.2	30 - 120
165	Ho	1	5420266	0.22	5647086	96.0	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\AG072109.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 Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\043 CCV.D\043 CCV.D#
 Date Acquired: Jul 21 2009 07:17 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: Jul 21 2009 05:31 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	49.65 ppb	2.08	50	99.3	90 - 110
51	V	72	1	48.04 ppb	1.47	50	96.1	90 - 110
52	Cr	72	1	48.72 ppb	2.23	50	97.4	90 - 110
55	Mn	72	1	48.53 ppb	1.91	50	97.1	90 - 110
59	Co	72	1	49.19 ppb	1.05	50	98.4	90 - 110
60	Ni	72	1	50.51 ppb	2.15	50	101.0	90 - 110
63	Cu	72	1	50.79 ppb	1.69	50	101.6	90 - 110
66	Zn	72	1	49.91 ppb	2.28	50	99.8	90 - 110
75	As	72	1	50.09 ppb	1.74	50	100.2	90 - 110
78	Se	72	1	50.55 ppb	0.24	50	101.1	90 - 110
95	Mo	72	1	50.44 ppb	2.04	50	100.9	90 - 110
107	Ag	115	1	49.47 ppb	1.12	50	98.9	90 - 110
111	Cd	115	1	49.64 ppb	0.86	50	99.3	90 - 110
118	Sn	115	1	49.52 ppb	0.62	50	99.0	90 - 110
121	Sb	115	1	49.46 ppb	1.50	50	98.9	90 - 110
137	Ba	115	1	49.75 ppb	0.64	50	99.5	90 - 110
205	Tl	165	1	52.25 ppb	1.18	50	104.5	90 - 110
208	Pb	165	1	51.38 ppb	1.02	50	102.8	90 - 110
232	Th	165	1	53.11 ppb	2.44	50	106.2	90 - 110
238	U	165	1	53.01 ppb	0.71	50	106.0	90 - 110

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	536974	0.53	581797	92.3	30 - 120
45	Sc	1	2404825	0.90	2574983	93.4	30 - 120
72	Ge	1	1144216	1.59	1211627	94.4	30 - 120
115	In	1	3295604	0.45	3426576	96.2	30 - 120
165	Ho	1	5413800	0.49	5647086	95.9	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\AG072109.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\AG072109.B\044_CCB.D\044_CCB.D#
 Date Acquired: Jul 21 2009 07:20 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: Jul 21 2009 05:31 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	0.012	ppb	188.91	1.00	
52 Cr	72	1	-0.022	ppb	45.87	1.00	
55 Mn	72	1	-0.011	ppb	53.82	1.00	
59 Co	72	1	0.002	ppb	121.88	1.00	
60 Ni	72	1	0.007	ppb	120.83	1.00	
63 Cu	72	1	-0.039	ppb	12.93	1.00	
66 Zn	72	1	0.001	ppb	1830.70	1.00	
75 As	72	1	-0.015	ppb	100.54	1.00	
78 Se	72	1	0.063	ppb	454.20	1.00	
95 Mo	72	1	0.016	ppb	20.60	1.00	
107 Ag	115	1	0.010	ppb	21.43	1.00	
111 Cd	115	1	0.005	ppb	76.54	1.00	
118 Sn	115	1	-0.106	ppb	36.09	1.00	
121 Sb	115	1	0.051	ppb	15.99	1.00	
137 Ba	115	1	0.010	ppb	31.85	1.00	
205 Tl	165	1	0.020	ppb	11.21	1.00	
208 Pb	165	1	0.003	ppb	16.50	1.00	
232 Th	165	1	0.824	ppb	16.14	1.00	
238 U	165	1	0.009	ppb	11.26	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	540872	0.73	581797	93.0	30 - 120	
45 Sc	1	2418946	1.22	2574983	93.9	30 - 120	
72 Ge	1	1139717	0.72	1211627	94.1	30 - 120	
115 In	1	3281751	0.37	3426576	95.8	30 - 120	
165 Ho	1	5438318	1.15	5647086	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\AG072109.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\AG072109.B\045WASH.D\045WASH.D#
 Date Acquired: Jul 21 2009 07:22 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: Jul 21 2009 05:31 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	1.045 ppb	12.08	1.30	
51 V	72	1	5.035 ppb	1.01	6.50	
52 Cr	72	1	2.023 ppb	2.27	2.60	
55 Mn	72	1	1.007 ppb	2.81	1.30	
59 Co	72	1	1.000 ppb	4.78	1.30	
60 Ni	72	1	2.095 ppb	4.44	2.60	
63 Cu	72	1	2.025 ppb	2.63	2.60	
66 Zn	72	1	10.370 ppb	2.29	13.00	
75 As	72	1	5.157 ppb	1.05	6.50	
78 Se	72	1	4.848 ppb	12.40	6.50	
95 Mo	72	1	2.162 ppb	0.74	2.60	
107 Ag	115	1	5.141 ppb	1.03	6.50	
111 Cd	115	1	1.004 ppb	4.06	1.30	
118 Sn	115	1	9.907 ppb	0.76	13.00	
121 Sb	115	1	1.942 ppb	1.51	2.60	
137 Ba	115	1	1.047 ppb	5.14	1.30	
205 Tl	165	1	1.098 ppb	0.61	1.30	
208 Pb	165	1	1.094 ppb	0.45	1.30	
232 Th	165	1	2.411 ppb	1.64	2.60	
238 U	165	1	1.121 ppb	1.49	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	539872	0.98	581797	92.8	30 - 120	
45 Sc	1	2370772	1.41	2574983	92.1	30 - 120	
72 Ge	1	1136181	1.05	1211627	93.8	30 - 120	
115 In	1	3268605	0.72	3426576	95.4	30 - 120	
165 Ho	1	5404596	1.26	5647086	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\AG072109.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: D9G110152

Client: Northgate Environmental

Batch(es) #: 9194274, 9194272

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:  7/22/09

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>
D9G110152	1	SE	LGDJV1AC	20090721	6020TOTA	9194272	AG072109	024
D9G110152	1	AS	LGDJV1AA	20090721	6020TOTA	9194272	AG072109	024
D9G110152	2 D	SE	LGDJW1A	20090721	6020DSVD	9194274	AG072109	024
D9G110152	2 S	SE	LGDJW1A	20090721	6020DSVD	9194274	AG072109	024
D9G110152	2 D	AS	LGDJW1A	20090721	6020DSVD	9194274	AG072109	024
D9G110152	2 S	AS	LGDJW1A	20090721	6020DSVD	9194274	AG072109	024
D9G110152	2	SE	LGDJW1A	20090721	6020DSVD	9194274	AG072109	024
D9G110152	2	AS	LGDJW1A	20090721	6020DSVD	9194274	AG072109	024

**METALS
PREPARATION LOGS
ICP-MS**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: 9194274

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date:

~~07/13/09~~
7/14/09
JRW

Due Date:

07/23/09

<u>Lot</u>	<u>Work Order</u>			<u>Initial Weight/Volume</u>
D9G130000 Water	LGEE4	B	Due Date: SDG:	<u>50 mL</u>
D9G130000 Water	LGEE4	C	Due Date: SDG:	<u>50 mL</u>
D9G110152 Water	LGDJW Dissolved		Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110152 Water	LGDJW Dissolved	S	Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110152 Water	LGDJW Dissolved	D	Due Date: 07/23/09 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
7/21/09*

*✓
Z
7/22/09*

DISSOLVED WATER DIGESTION FOR ICPMS (Prep code MD)

BATCH # 9194274
PREP DATE: 7/14/2009

ALLIQUOTTED BY: JKH
DIGESTED BY: JRW

CONSUMABLES USED

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS267

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-2636-09	7/1/10	100uL	15
2008Cal-2	STD-2635-09	7/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO ₃	JT Baker	H12022	2

TEMPERATURE CYCLES

Thermometer ID: 4082 Block & Cup #: 4/24

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO ₃ /HCl	1200	95	1700	95

Samples and QC revolved to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature:

Date: 7/14/09

Batch Number: 9194272

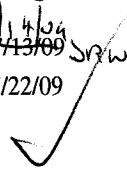
TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: ^{7/14/09} 07/13/09 *JRW*

Due Date: 07/22/09



<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9G130000 Water	LGEER B	Due Date: SDG:	<u>50 mL</u>
D9G130000 Water	LGEER C	Due Date: SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 S	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 D	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100274 Water	LGCQK Total	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G110152 Water	LGDJV Total	Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110155 Water	LGDJ3 Total	Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110159 Water	LGDKR Total	Due Date: 07/23/09 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
7/21/09*

*✓
2
7/22/09*

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9194272
PREP DATE: 7/14/2009

ALLIQUOTTED BY: JKH
DIGESTED BY: JRW

CONSUMABLES USED

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS267

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-2636-09	7/1/10	100uL	15
2008Cal-2	STD-2635-09	7/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO ₃	JT Baker	H12022	3

TEMPERATURE CYCLES

Thermometer ID: 25864 Block & Cup #: 2/30

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO ₃	1200	93	1615	92
HNO ₃	1630	92	1700	
HNO ₃				

Samples and QC revolved to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: [Signature]

Date: 7/14/09

**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

Jul-21-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD4841-08, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-ZN02045 Vendor's Expiration Date: 10-01-2009
Solvent: 2% HNO3
Date Prep./Opened: 09-04-2008 Date Received: 09-04-2008
Date Expires(1): 10-01-2009 (None)
Date Expires(2): 10-01-2009 (None)
(METALS)-Inventory ID: 779

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

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

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Se	1,000.0	1.0000

STD3611-09, ICP-MS 1ppm Sn/Zn

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 06-16-2009

Date Expires(1): 10-01-2009 (1 Year)

Analyst: DIAZL

Volume (ml): 10.000

Parent Std No.: STD3609-09, ICP-MS 10 ppm Zn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-01-2009 Parent Date Expires(2): 10-01-2009

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	10.000	1.0000

Parent Std No.: STD3610-09, ICP-MS 10 ppm Sn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	10.000	1.0000

STD4008-09, ICP-MS (024) INT STD BRC-HIGH

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 07-02-2009

Date Expires(1): 11-10-2009 (1 Year)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20

Volume (ml): 250.00

Parent Std No.: STD1469-09, Germanium Stock

Aliquot Amount (ml): 1.2000

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ge	1,000.0	4,800.0

Parent Std No.: STD1972-09, Lithium 6 Stock

Aliquot Amount (ml): 1.5000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Lithium6	1,000.0	6,000.0

Parent Std No.: STD1973-09, Indium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
In	1,000.0	1,600.0

Parent Std No.: STD6317-08, Scandium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sc	1,000.0	1,600.0

Parent Std No.: STD6318-08, Holmium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,600.0

STD4289-09, ICP-MS ICESA

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 50.000

Date Prep./Opened: 07-20-2009

Date Expires(1): 08-20-2009 (1 Month)

Date Expires(2): 02-01-2010 (None)

pipettes: Met 8

Parent Std No.: STD0664-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 5.0000

Parent Date Expires(1): 02-01-2010 Parent Date Expires(2): 02-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

STD4309-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water

Volume (ml): 1,000.0

Date Prep./Opened: 07-21-2009

Date Expires(1): 08-21-2009 (1 Month)

Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD4308-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD4310-09, ICP-MS 10 ppm Sn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 03-01-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.1000
 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	10.000

STD4311-09, ICP-MS 100 ppb cal

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 50.000

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	20.000	100.00

Sb 20.000 100.00
 Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Fe	1,000.0	5,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4312-09, ICP-MS CCV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 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>
V	20.000	50.000
Zn	20.000	50.000
Ag	20.000	50.000
Al	20.000	50.000
As	20.000	50.000
Ba	20.000	50.000
Be	20.000	50.000
Cd	20.000	50.000
Co	20.000	50.000
Cr	20.000	50.000
Cu	20.000	50.000
Mn	20.000	50.000
Ni	20.000	50.000
Pb	20.000	50.000
Se	20.000	50.000
Th	20.000	50.000
Tl	20.000	50.000
U	20.000	50.000

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	50.000
Sb	20.000	50.000

Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
------------------	----------------------------	--------------------------

Fe	1,000.0	2,500.0
Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn	Aliquot Amount (ml): 0.5000	
Parent Date Expires(1): 07-22-2009	Parent Date Expires(2): 03-01-2010	
<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	50.000

STD4313-09, ICP-MS RL STD

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 pipettes: Met 21 and Met 8

Analyst: DIAZL
 Volume (ml): 10.000

Parent Std No.: STD3611-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900

<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.: STD4311-09, ICP-MS 100 ppb cal Aliquot Amount (ml): 0.1000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 07-22-2009

<u>Component</u>	<u>Initial Conc (ug/L)</u>	<u>Final Conc (mg/L)</u>
V	100.00	0.0010
Zn	100.00	0.0010
Ag	100.00	0.0010
Al	100.00	0.0010
As	100.00	0.0010
Ba	100.00	0.0010
Be	100.00	0.0010
Cd	100.00	0.0010
Co	100.00	0.0010
Cr	100.00	0.0010
Cu	100.00	0.0010
Mn	100.00	0.0010
Ni	100.00	0.0010
Pb	100.00	0.0010
Se	100.00	0.0010
Th	100.00	0.0010
Tl	100.00	0.0010
U	100.00	0.0010
Mo	100.00	0.0010
Sb	100.00	0.0010
Fe	5,000.0	0.0500
Sn	100.00	0.0010

STD4314-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (2 Days)
 pipettes: Met 20 and Met 8

Volume (ml): 10.000

Parent Std No.: STD4313-09, 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
V	0.0010	0.0002
Zn	0.0010	0.0002
Ag	0.0010	0.0002
Al	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
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Fe	0.0500	0.0100
Sn	0.0010	0.0002

STD4315-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21, Met 20, and Met 8

Volume (ml): 10.000

Parent Std No.: STD1978-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-01-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.0500

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>
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.0500

Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	100.00
Sb	20.000	100.00

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4316-09, ICPMS LR STD 1000 ppb

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 10.000

Date Prep./Opened: 07-21-2009

Date Expires(1): 07-22-2009 (1 Day)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20 and Met 8

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.5000
 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>
V	20.000	1,000.0
Zn	20.000	1,000.0
Ag	20.000	1,000.0
Al	20.000	1,000.0
As	20.000	1,000.0
Ba	20.000	1,000.0
Be	20.000	1,000.0
Cd	20.000	1,000.0
Co	20.000	1,000.0
Cr	20.000	1,000.0
Cu	20.000	1,000.0
Mn	20.000	1,000.0
Ni	20.000	1,000.0
Pb	20.000	1,000.0
Se	20.000	1,000.0
Th	20.000	1,000.0
Tl	20.000	1,000.0
U	20.000	1,000.0

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	1,000.0
Sb	20.000	1,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	1,000.0

STD4317-09, ICPMS ICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 02-27-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1213-09, ICPMS ICV SOLUTION A (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Al	10.000	40.000
As	10.000	40.000
Ba	10.000	40.000
Be	10.000	40.000
Cd	10.000	40.000

Co	10.000	40.000
Cr	10.000	40.000
Cu	10.000	40.000
Fe	250.00	1,000.0
Li	10.000	40.000
Mn	10.000	40.000
Ni	10.000	40.000
Pb	10.000	40.000
Se	10.000	40.000
Th	10.000	40.000
Tl	10.000	40.000
U	10.000	40.000
V	10.000	40.000
Zn	10.000	40.000

Parent Std No.: STD1214-09, ICPMS ICV SOLUTION B (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
Ag	10.000	40.000
Mo	10.000	40.000
Sb	10.000	40.000
Sn	10.000	40.000
Zr	10.000	40.000

STD4318-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (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

STD4319-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 05-01-2010 (None)
 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

Reviewed By:

LRD 07/21/2009

Method: 6020 (ICP/MS)

ICPMS_024 (024)

Reported: 07/22/09 11:30:44

File ID: AG072109

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	DF	Analyzed Date	Comment	Q
2	Cal Blank				1.0	07/21/09 17:25		<input type="checkbox"/>
3	Cal Blank				1.0	07/21/09 17:28		<input type="checkbox"/>
4	100 ppb				1.0	07/21/09 17:31		<input type="checkbox"/>
5	ICV				1.0	07/21/09 17:33		<input type="checkbox"/>
6	RLIV				1.0	07/21/09 17:36		<input type="checkbox"/>
7	ICB				1.0	07/21/09 17:39		<input type="checkbox"/>
8	RL STD				1.0	07/21/09 17:42		<input type="checkbox"/>
9	AFCEE RL				1.0	07/21/09 17:44		<input type="checkbox"/>
10	ALTSe				1.0	07/21/09 17:47		<input type="checkbox"/>
11	ICSA				1.0	07/21/09 17:50		<input type="checkbox"/>
12	ICSAB				1.0	07/21/09 17:53		<input type="checkbox"/>
13	RINSE				1.0	07/21/09 17:55		<input type="checkbox"/>
14	LR				1.0	07/21/09 17:58		<input type="checkbox"/>
15	RINSE				1.0	07/21/09 18:00		<input type="checkbox"/>
16	CCV				1.0	07/21/09 18:03		<input type="checkbox"/>
17	CCB				1.0	07/21/09 18:06		<input type="checkbox"/>
18	RLCV				1.0	07/21/09 18:09		<input type="checkbox"/>
19	LGEE4BF	D9G130000	9194274	MD	1.0	07/21/09 18:11		<input type="checkbox"/>
20	LGEE4CF	D9G130000	9194274	MD	1.0	07/21/09 18:14		<input type="checkbox"/>
21	LGDJWF 10X	D9G110152-2	9194274	MD	10.0	07/21/09 18:17		<input type="checkbox"/>
22	LGDJWP50F	D9G110152	9194274		50.0	07/21/09 18:20		<input type="checkbox"/>
23	LGDJWZF	D9G110152-2	9194274		1.0	07/21/09 18:22		<input type="checkbox"/>
24	LGDJWSF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:25		<input type="checkbox"/>
25	LGDJWDF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:28		<input type="checkbox"/>
26	CCV				1.0	07/21/09 18:30		<input type="checkbox"/>
27	CCB				1.0	07/21/09 18:33		<input type="checkbox"/>
28	RLCV				1.0	07/21/09 18:36		<input type="checkbox"/>
29	LGEERB	D9G130000	9194272	MS	1.0	07/21/09 18:39		<input type="checkbox"/>
30	LGEERC	D9G130000	9194272	MS	1.0	07/21/09 18:41		<input type="checkbox"/>
31	LGCN3 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:44		<input type="checkbox"/>
32	LGCN3P50	D9G100272	9194272		50.0	07/21/09 18:47		<input type="checkbox"/>
33	LGCN3Z	D9G100272-1	9194272		1.0	07/21/09 18:50		<input type="checkbox"/>
34	LGCN3S 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:52		<input type="checkbox"/>
35	CCV				1.0	07/21/09 18:55		<input type="checkbox"/>
36	CCB				1.0	07/21/09 18:58		<input type="checkbox"/>
37	RLCV				1.0	07/21/09 19:01		<input type="checkbox"/>
38	LGCN3D 10X	D9G100272-1	9194272	MS	10.0	07/21/09 19:03		<input type="checkbox"/>
39	LGCQK 10X	D9G100274-1	9194272	MS	10.0	07/21/09 19:06		<input type="checkbox"/>
40	LGDJV 10X	D9G110152-1	9194272	MS	10.0	07/21/09 19:09		<input type="checkbox"/>
41	LGDJ3 10X	D9G110155-1	9194272	MS	10.0	07/21/09 19:11		<input type="checkbox"/>
42	LGDKR 10X	D9G110159-1	9194272	MS	10.0	07/21/09 19:14		<input type="checkbox"/>
43	CCV				1.0	07/21/09 19:17		<input type="checkbox"/>
44	CCB				1.0	07/21/09 19:20		<input type="checkbox"/>
45	RLCV				1.0	07/21/09 19:22		<input type="checkbox"/>
46	LGFC2B	D9G140000	9195077	46	1.0	07/21/09 19:25		<input type="checkbox"/>
47	LGFC2C	D9G140000	9195077	46	1.0	07/21/09 19:28		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 07/22/09 11:30:44
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File ID: AG072109

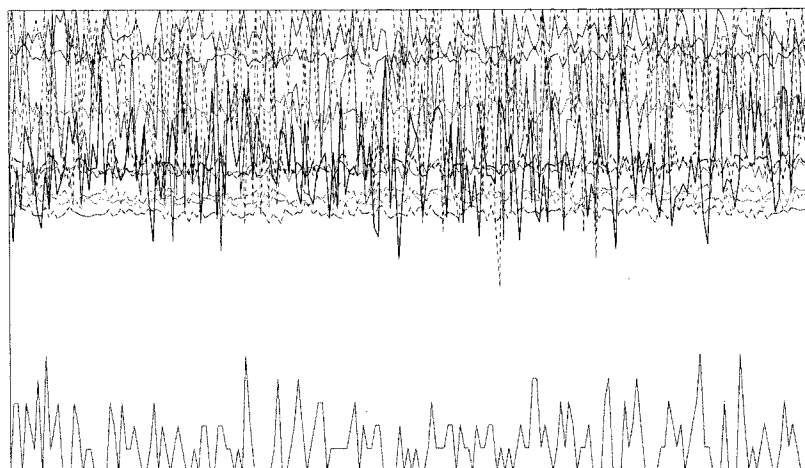
Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
48	LGEAD	D9G130118-1	9195077	U1	1.0	07/21/09 19:31	<input type="checkbox"/>
49	LGEAR	D9G130118-2	9195077	U1	1.0	07/21/09 19:33	<input type="checkbox"/>
50	LGEAX	D9G130118-3	9195077	U1	1.0	07/21/09 19:36	<input type="checkbox"/>
51	LGEA0	D9G130118-4	9195077	U1	1.0	07/21/09 19:39	<input type="checkbox"/>
52	LGEA2	D9G130118-5	9195077	U1	1.0	07/21/09 19:42	<input type="checkbox"/>
53	LGEA3	D9G130118-6	9195077	U1	1.0	07/21/09 19:44	<input type="checkbox"/>
54	CCV				1.0	07/21/09 19:47	<input type="checkbox"/>
55	CCB				1.0	07/21/09 19:50	<input type="checkbox"/>
56	RLCV				1.0	07/21/09 19:53	<input type="checkbox"/>
57	LGEA4	D9G130118-7	9195077	U1	1.0	07/21/09 19:55	<input type="checkbox"/>
58	LGEFC	D9G130118-8	9195077	U1	1.0	07/21/09 19:58	<input type="checkbox"/>
59	LGEFF	D9G130118-9	9195077	U1	1.0	07/21/09 20:01	<input type="checkbox"/>
60	LGEFH	D9G130118-10	9195077	U1	1.0	07/21/09 20:03	<input type="checkbox"/>
61	LGEFL	D9G130118-11	9195077	U1	1.0	07/21/09 20:06	<input type="checkbox"/>
62	LGEFLP5	D9G130118	9195077		5.0	07/21/09 20:09	<input type="checkbox"/>
63	LGEFLZ	D9G130118-11	9195077		1.0	07/21/09 20:11	<input type="checkbox"/>
64	LGEFLS	D9G130118-11	9195077	U1	1.0	07/21/09 20:14	<input type="checkbox"/>
65	CCV				1.0	07/21/09 20:17	<input type="checkbox"/>
66	CCB				1.0	07/21/09 20:20	<input type="checkbox"/>
67	RLCV				1.0	07/21/09 20:22	<input type="checkbox"/>
68	LGEFLD	D9G130118-11	9195077	U1	1.0	07/21/09 20:25	<input type="checkbox"/>
69	LGEFT	D9G130118-12	9195077	U1	1.0	07/21/09 20:28	<input type="checkbox"/>
70	LGEFX	D9G130118-13	9195077	U1	1.0	07/21/09 20:30	<input type="checkbox"/>
71	LGEF3	D9G130118-14	9195077	U1	1.0	07/21/09 20:33	<input type="checkbox"/>
72	LGEF4	D9G130118-15	9195077	U1	1.0	07/21/09 20:36	<input type="checkbox"/>
73	LGEF6	D9G130118-16	9195077	U1	1.0	07/21/09 20:39	<input type="checkbox"/>
74	LGEF8	D9G130118-17	9195077	U1	1.0	07/21/09 20:41	<input type="checkbox"/>
75	CCV				1.0	07/21/09 20:44	<input type="checkbox"/>
76	CCB				1.0	07/21/09 20:47	<input type="checkbox"/>
77	RLCV				1.0	07/21/09 20:50	<input type="checkbox"/>
78	LGKQWBF	D9G160000	9197227	MD	1.0	07/21/09 20:52	<input type="checkbox"/>
79	LGKQWCF	D9G160000	9197227	MD	1.0	07/21/09 20:55	<input type="checkbox"/>
80	LGH2HF 10X	D9G150224-2	9197227	MD	10.0	07/21/09 20:58	<input type="checkbox"/>
81	LGH2HP50F	D9G150224	9197227		50.0	07/21/09 21:01	<input type="checkbox"/>
82	LGH2HZF	D9G150224-2	9197227		1.0	07/21/09 21:03	<input type="checkbox"/>
83	LGH2HSF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:06	<input type="checkbox"/>
84	LGH2HDF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:09	<input type="checkbox"/>
85	CCV				1.0	07/21/09 21:12	<input type="checkbox"/>
86	CCB				1.0	07/21/09 21:14	<input type="checkbox"/>
87	RLCV				1.0	07/21/09 21:17	<input type="checkbox"/>
88	LGKQDB	D9G160000	9197220	MS	1.0	07/21/09 21:20	<input type="checkbox"/>
89	LGKQDC	D9G160000	9197220	MS	1.0	07/21/09 21:23	<input type="checkbox"/>
90	LGH2F 10X	D9G150224-1	9197220	MS	10.0	07/21/09 21:25	<input type="checkbox"/>
91	LGH2FP50	D9G150224	9197220		50.0	07/21/09 21:28	<input type="checkbox"/>
92	LGH2FZ	D9G150224-1	9197220		1.0	07/21/09 21:31	<input type="checkbox"/>

DNW 7/22/09

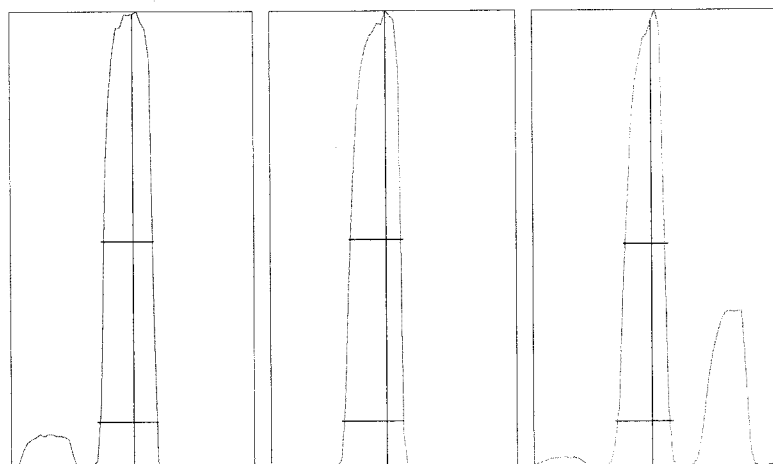
Tune Report

Tune File : NORM.U
 Comment :



Integration Time: 0.1000 sec
 Sampling Period: 1.5300 sec
 n: 200
 Oxide: 156/140 1.281%
 Doubly Charged: 70/140 0.506%

m/z	Range	Count	Mean	RSD%	Background
6	1,000	891.0	940.8	3.63	0.70
7	20,000	13129.0	13059.6	1.91	0.60
59	10,000	7602.0	7856.2	2.40	0.50
63	50	42.0	39.4	16.38	0.30
70	100	78.0	67.2	13.40	0.50
75	20	0.0	1.2	102.35	0.80
78	50	43.0	48.7	14.56	0.50
89	20,000	12125.0	12029.4	1.86	1.00
115	20,000	11842.0	11739.1	1.63	0.80
118	50	34.0	39.7	21.11	1.30
137	2,000	1330.0	1323.1	2.85	1.10
205	20,000	11244.0	11223.5	1.66	1.80
238	20,000	17300.0	17931.0	1.60	2.40
156/140	2	1.192%	1.337%	8.61	
70/140	2	0.664%	0.568%	13.49	



m/z:	7	89	205
Height:	13,051	12,146	11,336
Axis:	7.05	88.95	205.00
W-50%:	0.65	0.65	0.55
W-10%:	0.7500	0.7500	0.700

Integration Time: 0.1000 sec
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

===Plasma Condition===	===Ion Lenses===	===Q-Pole Parameters===
RF Power : 1550 W	Extract 1 : 0 V	AMU Gain : 133
RF Matching : 1.7 V	Extract 2 : -160 V	AMU Offset : 122
Smpl Depth : 7.5 mm	Omega Bias-ce : -30 V	Axis Gain : 1.0005
Torch-H : -0.8 mm	Omega Lens-ce : 0 V	Axis Offset : -0.02
Torch-V : -0.3 mm	Cell Entrance : -30 V	QP Bias : 0 V
Carrier Gas : 0.83 L/min	QP Focus : 7 V	
Makeup Gas : 0.2 L/min	Cell Exit : -30 V	===Detector Parameters===
Optional Gas : --- %		Discriminator : 8 mV
Nebulizer Pump : 0.1 rps	===Octopole Parameters===	Analog HV : 1720 V
Sample Pump : --- rps	OctP RF : 180 V	Pulse HV : 1390 V
S/C Temp : 2 degC	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: Jul 21 2009 04:50 pm

Mass[amu]	Element	P/A Factor
6	Li	0.061203
7	(Li)	Sensitivity too low
9	Be	0.068907
45	Sc	0.083389
51	V	0.086007
52	Cr	0.088320
53	(Cr)	Sensitivity too low
55	Mn	0.090395
59	Co	0.093203
60	Ni	Sensitivity too low
63	Cu	Sensitivity too low
66	Zn	0.096924
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
95	Mo	0.096067
98	(Mo)	0.096151
99	(Mo)	Sensitivity too low
106	(Cd)	0.101305
107	Ag	Sensitivity too low
108	(Cd)	0.101769
111	Cd	0.102139
114	Cd	0.102089
115	In	0.101222
118	Sn	0.101067
121	Sb	0.100944
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
205	Tl	0.109272
206	(Pb)	0.108216
207	(Pb)	0.108287
208	Pb	0.107820
232	Th	0.106452
238	U	0.106481

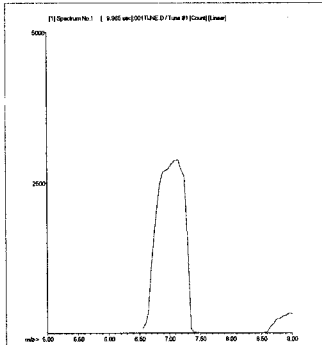
===Detector Parameters===

Discriminator: 8.0 mV
Analog HV: 1720 V
Pulse HV: 1390 V

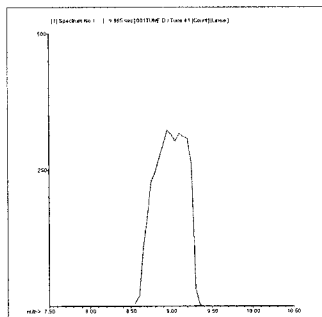
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\001TUNE.D
 Date Acquired: Jul 21 2009 05:22 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

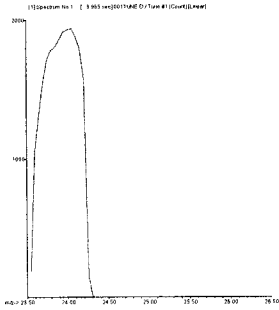
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	31515	31705	31773	31422	31500	31173	0.76	5.00	
9 Be	3503	3538	3524	3507	3428	3516	1.23	5.00	
24 Mg	22462	22829	22575	22353	22572	21980	1.41	5.00	
59 Co	93114	93607	93864	90894	94187	93020	1.41	5.00	
115 In	1915406	1918606	1914965	1924578	1915696	1903185	0.41	5.00	
208 Pb	92064	92990	92149	91680	92260	91243	0.71	5.00	
238 U	187429	191379	187170	188068	186178	184351	1.39	5.00	



7 Li
Mass Calib.
 Actual: 7.10
 Required: 6.90 - 7.10
 Flag:
Peak Width
 Actual: 0.65
 Required: 0.90
 Flag:



9 Be
Mass Calib.
 Actual: 9.05
 Required: 8.90 - 9.10
 Flag:
Peak Width
 Actual: 0.60
 Required: 0.90
 Flag:



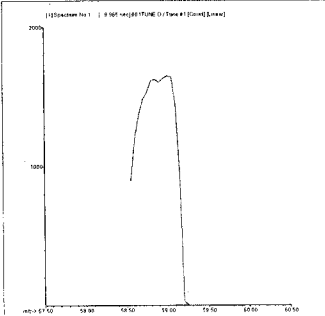
24 Mg

Mass Calib.

Actual: 24.00
Required: 23.90 - 24.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



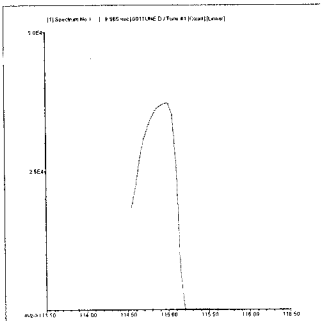
59 Co

Mass Calib.

Actual: 58.95
Required: 58.90 - 59.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



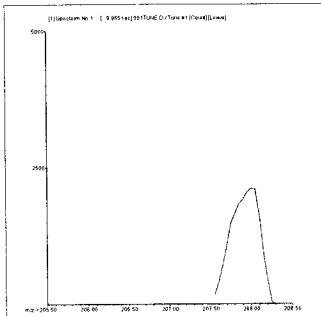
115 In

Mass Calib.

Actual: 114.95
Required: 114.90 - 115.10
Flag:

Peak Width

Actual: 0.55
Required: 0.90
Flag:



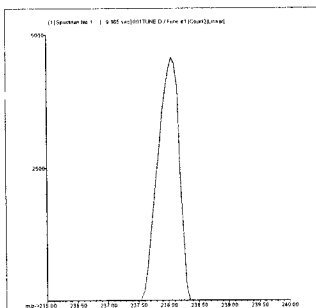
208 Pb

Mass Calib.

Actual: 207.95
Required: 207.90 - 208.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



238 U

Mass Calib.

Actual: 238.05
Required: 237.90 - 238.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:

Tune Result:

Pass

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\002CALB.D\002CALB.D#
 Date Acquired: Jul 21 2009 05:25 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	31	3276.40
52	Cr	72	1	2800	9.18
55	Mn	72	1	1283	9.62
59	Co	72	1	87	67.61
60	Ni	72	1	67	17.32
63	Cu	72	1	503	6.39
66	Zn	72	1	251	8.30
75	As	72	1	105	7.67
78	Se	72	1	513	6.26
95	Mo	72	1	73	15.75
107	Ag	115	1	7	86.60
111	Cd	115	1	9	188.13
118	Sn	115	1	2750	17.56
121	Sb	115	1	19	50.94
137	Ba	115	1	49	3.94
205	Tl	165	1	263	12.21
208	Pb	165	1	323	8.05
232	Th	165	1	220	25.31
238	U	165	1	96	8.06

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	576535	0.69
45	Sc	1	2595280	0.11
72	Ge	1	1228451	0.87
115	In	1	3471486	1.12
165	Ho	1	5707578	1.58

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\AG072109.B\003CALB.D\003CALB.D#
 Date Acquired: Jul 21 2009 05:28 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	84	380.78
52	Cr	72	1	3224	4.61
55	Mn	72	1	1180	18.88
59	Co	72	1	67	31.23
60	Ni	72	1	77	39.85
63	Cu	72	1	673	17.84
66	Zn	72	1	341	12.93
75	As	72	1	105	1.10
78	Se	72	1	570	15.79
95	Mo	72	1	90	19.25
107	Ag	115	1	10	100.00
111	Cd	115	1	6	183.92
118	Sn	115	1	4558	14.33
121	Sb	115	1	23	37.80
137	Ba	115	1	41	44.66
205	Tl	165	1	229	12.72
208	Pb	165	1	279	7.30
232	Th	165	1	273	29.57
238	U	165	1	22	43.30

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	581797	1.92
45	Sc	1	2574983	0.83
72	Ge	1	1211627	0.38
115	In	1	3426576	0.51
165	Ho	1	5647086	0.49

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\AG072109.B\004ICAL.D\004ICAL.D#
 Date Acquired: Jul 21 2009 05:31 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: Jul 21 2009 05:29 pm
 Sample Type: ICAL

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	59445	1.77
51	V	72	1239197	0.92
52	Cr	72	1240930	1.80
55	Mn	72	1500976	1.14
59	Co	72	1532853	1.14
60	Ni	72	335568	1.43
63	Cu	72	783637	0.77
66	Zn	72	184990	0.36
75	As	72	150136	1.32
78	Se	72	29896	1.27
95	Mo	72	401051	0.94
107	Ag	115	1170362	0.20
111	Cd	115	241527	0.35
118	Sn	115	706295	0.47
121	Sb	115	813196	0.45
137	Ba	115	335210	0.52
205	Tl	165	2698247	0.32
208	Pb	165	3677704	0.96
232	Th	165	3297948	2.01
238	U	165	3849572	0.35

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565258	0.19	581797	97.2	30 - 120
45	Sc	1	2567639	0.66	2574983	99.7	30 - 120
72	Ge	1	1211730	1.09	1211627	100.0	30 - 120
115	In	1	3431729	1.40	3426576	100.2	30 - 120
165	Ho	1	5634252	0.67	5647086	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\AG072109.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\AG072109.B\005_ICV.D\005_ICV.D#
 Date Acquired: Jul 21 2009 05:33 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: Jul 21 2009 05:31 pm
 Sample Type: ICV
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	39.64 ppb	0.79	40	99.1	90 - 110	
51	V	72	38.95 ppb	0.13	40	97.4	90 - 110	
52	Cr	72	39.22 ppb	0.44	40	98.1	90 - 110	
55	Mn	72	39.68 ppb	0.45	40	99.2	90 - 110	
59	Co	72	39.53 ppb	0.70	40	98.8	90 - 110	
60	Ni	72	40.23 ppb	0.53	40	100.6	90 - 110	
63	Cu	72	40.61 ppb	0.32	40	101.5	90 - 110	
66	Zn	72	40.51 ppb	1.02	40	101.3	90 - 110	
75	As	72	40.08 ppb	0.64	40	100.2	90 - 110	
78	Se	72	41.67 ppb	1.69	40	104.2	90 - 110	
95	Mo	72	39.87 ppb	0.41	40	99.7	90 - 110	
107	Ag	115	40.34 ppb	1.30	40	100.9	90 - 110	
111	Cd	115	41.12 ppb	0.91	40	102.8	90 - 110	
118	Sn	115	38.88 ppb	0.90	40	97.2	90 - 110	
121	Sb	115	38.65 ppb	1.11	40	96.6	90 - 110	
137	Ba	115	39.89 ppb	0.94	40	99.7	90 - 110	
205	Tl	165	40.05 ppb	1.21	40	100.1	90 - 110	
208	Pb	165	40.43 ppb	0.85	40	101.1	90 - 110	
232	Th	165	44.22 ppb	2.85	40	110.6	90 - 110	Fail
238	U	165	40.19 ppb	1.06	40	100.5	90 - 110	

NR

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	561236	0.19	581797	96.5	30 - 120
45	Sc	1	2582771	1.09	2574983	100.3	30 - 120
72	Ge	1	1213066	0.25	1211627	100.1	30 - 120
115	In	1	3417703	1.00	3426576	99.7	30 - 120
165	Ho	1	5664293	1.10	5647086	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\AG072109.B\003CALB.D\003CALB.D#

1 :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\AG072109.B\006WASH.D\006WASH.D#
 Date Acquired: Jul 21 2009 05:36 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: Jul 21 2009 05:31 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	1.123 ppb	10.30	1.30	
51 V	72	1	4.905 ppb	4.36	6.50	
52 Cr	72	1	2.008 ppb	1.94	2.60	
55 Mn	72	1	1.040 ppb	1.71	1.30	
59 Co	72	1	1.042 ppb	3.30	1.30	
60 Ni	72	1	2.082 ppb	1.95	2.60	
63 Cu	72	1	2.043 ppb	4.81	2.60	
66 Zn	72	1	10.290 ppb	0.55	13.00	
75 As	72	1	5.041 ppb	1.23	6.50	
78 Se	72	1	5.606 ppb	11.10	6.50	
95 Mo	72	1	2.125 ppb	3.10	2.60	
107 Ag	115	1	5.269 ppb	0.93	6.50	
111 Cd	115	1	0.985 ppb	1.12	1.30	
118 Sn	115	1	10.060 ppb	1.78	13.00	
121 Sb	115	1	2.181 ppb	4.53	2.60	
137 Ba	115	1	1.073 ppb	3.26	1.30	
205 Tl	165	1	1.130 ppb	0.27	1.30	
208 Pb	165	1	1.039 ppb	0.95	1.30	
232 Th	165	1	2.777 ppb	3.32	2.60	
238 U	165	1	1.064 ppb	0.97	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	561585	0.30	581797	96.5	30 - 120	
45 Sc	1	2567497	0.65	2574983	99.7	30 - 120	
72 Ge	1	1227558	0.55	1211627	101.3	30 - 120	
115 In	1	3427742	1.01	3426576	100.0	30 - 120	
165 Ho	1	5710214	1.06	5647086	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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

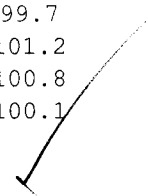
Data File: C:\ICPCHEM\1\DATA\AG072109.B\007_ICB.D\007_ICB.D#
 Date Acquired: Jul 21 2009 05:39 pm **QC Summary:**
 Operator: TEL **Analytes: Pass**
 Sample Name: ICB **ISTD: Pass**
 Misc Info:
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.03	ppb	107.86	1.00	
52 Cr	72	1	-0.02	ppb	42.01	1.00	
55 Mn	72	1	0.00	ppb	111.67	1.00	
59 Co	72	1	0.00	ppb	96.89	1.00	
60 Ni	72	1	0.00	ppb	233.62	1.00	
63 Cu	72	1	-0.01	ppb	109.12	1.00	
66 Zn	72	1	0.05	ppb	42.84	1.00	
75 As	72	1	-0.01	ppb	44.09	1.00	
78 Se	72	1	0.34	ppb	46.02	1.00	
95 Mo	72	1	0.01	ppb	40.98	1.00	
107 Ag	115	1	0.01	ppb	15.65	1.00	
111 Cd	115	1	0.00	ppb	432.82	1.00	
118 Sn	115	1	0.13	ppb	28.49	1.00	
121 Sb	115	1	0.08	ppb	2.06	1.00	
137 Ba	115	1	0.00	ppb	38.09	1.00	
205 Tl	165	1	0.03	ppb	5.05	1.00	
208 Pb	165	1	0.00	ppb	1255.10	1.00	
232 Th	165	1	0.16	ppb	5.89	1.00	
238 U	165	1	0.00	ppb	21.84	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	565985	1.59	581797	97.3	30 - 120	
45 Sc	1	2566622	0.99	2574983	99.7	30 - 120	
72 Ge	1	1225621	1.10	1211627	101.2	30 - 120	
115 In	1	3452773	0.47	3426576	100.8	30 - 120	
165 Ho	1	5650371	0.62	5647086	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\


ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\008RLST.D\008RLST.D#
 Date Acquired: Jul 21 2009 05:42 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: Jul 21 2009 05:31 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	1.05	ppb	12.11	1	104.7	50 - 150
51	V	72	1	0.93	ppb	7.33	1	93.2	50 - 150
52	Cr	72	1	0.97	ppb	3.56	1	97.0	50 - 150
55	Mn	72	1	1.00	ppb	2.49	1	100.4	50 - 150
59	Co	72	1	1.01	ppb	4.08	1	101.3	50 - 150
60	Ni	72	1	1.00	ppb	6.56	1	100.0	50 - 150
63	Cu	72	1	1.04	ppb	7.10	1	104.2	50 - 150
66	Zn	72	1	10.76	ppb	1.35	10	107.6	50 - 150
75	As	72	1	1.04	ppb	3.34	1	103.8	50 - 150
78	Se	72	1	0.82	ppb	33.53	1	81.6	50 - 150
95	Mo	72	1	1.01	ppb	7.76	1	101.0	50 - 150
107	Ag	115	1	1.02	ppb	2.10	1	101.5	50 - 150
111	Cd	115	1	1.10	ppb	3.31	1	109.6	50 - 150
118	Sn	115	1	10.23	ppb	1.35	10	102.3	50 - 150
121	Sb	115	1	1.05	ppb	1.23	1	104.8	50 - 150
137	Ba	115	1	1.05	ppb	4.58	1	104.8	50 - 150
205	Tl	165	1	1.07	ppb	2.73	1	106.5	50 - 150
208	Pb	165	1	1.05	ppb	1.07	1	104.7	50 - 150
232	Th	165	1	1.13	ppb	2.43	1	113.3	50 - 150
238	U	165	1	1.07	ppb	1.03	1	107.0	50 - 150

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565978	0.78	581797	97.3	30 - 120	
45	Sc	1	2568028	1.20	2574983	99.7	30 - 120	
72	Ge	1	1217338	0.15	1211627	100.5	30 - 120	
115	In	1	3427497	0.45	3426576	100.0	30 - 120	
165	Ho	1	5631637	1.02	5647086	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\AG072109.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\AG072109.B\009AFCE.D\009AFCE.D#
 Date Acquired: Jul 21 2009 05:44 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: Jul 21 2009 05:31 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	1	0.18 ppb	41.26	0	86.0	80 - 120	
51 V	72	1	0.12 ppb	39.38	0	67.0	80 - 120	
52 Cr	72	1	0.16 ppb	3.72	0	82.2	80 - 120	
55 Mn	72	1	0.20 ppb	3.24	0	98.6	80 - 120	
59 Co	72	1	0.20 ppb	5.85	0	99.3	80 - 120	
60 Ni	72	1	0.18 ppb	6.47	0	90.0	80 - 120	
63 Cu	72	1	0.32 ppb	10.85	0	155.1	80 - 120	
66 Zn	72	1	2.18 ppb	0.89	2	101.4	80 - 120	
75 As	72	1	0.20 ppb	9.34	0	94.3	80 - 120	
78 Se	72	1	0.27 ppb	16.59	0	168.2	80 - 120	
95 Mo	72	1	0.19 ppb	6.24	0	93.4	80 - 120	
107 Ag	115	1	0.20 ppb	4.78	0	99.7	80 - 120	
111 Cd	115	1	0.21 ppb	11.89	0	96.8	80 - 120	
118 Sn	115	1	1.58 ppb	4.76	2	77.3	80 - 120	
121 Sb	115	1	0.21 ppb	4.92	0	99.2	80 - 120	
137 Ba	115	1	0.22 ppb	2.48	0	102.6	80 - 120	
205 Tl	165	1	0.21 ppb	5.92	0	97.3	80 - 120	
208 Pb	165	1	0.20 ppb	3.45	0	95.3	80 - 120	
232 Th	165	1	0.24 ppb	4.96	0	106.3	80 - 120	
238 U	165	1	0.20 ppb	2.09	0	95.7	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	562011	1.45	581797	96.6	30 - 120	
45 Sc	1	2589915	1.12	2574983	100.6	30 - 120	
72 Ge	1	1216544	0.44	1211627	100.4	30 - 120	
115 In	1	3446931	1.30	3426576	100.6	30 - 120	
165 Ho	1	5682005	0.45	5647086	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\AG072109.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\AG072109.B\010SMPL.D\010SMPL.D#
 Date Acquired: Jul 21 2009 05:47 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: Jul 21 2009 05:31 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	-0.04	-0.04	ppb	104.30	3600	
52 Cr	72	1	-0.02	-0.02	ppb	103.76	3600	
55 Mn	72	1	0.02	0.02	ppb	16.79	3600	
59 Co	72	1	0.00	0.00	ppb	621.67	3600	
60 Ni	72	1	0.03	0.03	ppb	16.48	3600	
63 Cu	72	1	0.00	0.00	ppb	932.55	3600	
66 Zn	72	1	0.85	0.85	ppb	6.94	3600	
75 As	72	1	0.00	0.00	ppb	664.54	3600	
78 Se	72	1	2.10	2.10	ppb	12.34	3600	
95 Mo	72	1	-0.01	-0.01	ppb	45.44	3600	
107 Ag	115	1	0.00	0.00	ppb	58.87	3600	
111 Cd	115	1	0.01	0.01	ppb	69.14	3600	
118 Sn	115	1	0.05	0.05	ppb	347.56	3600	
121 Sb	115	1	0.02	0.02	ppb	33.89	3600	
137 Ba	115	1	0.02	0.02	ppb	46.40	3600	
205 Tl	165	1	0.01	0.01	ppb	7.09	3600	
208 Pb	165	1	0.01	0.01	ppb	32.33	3600	
232 Th	165	1	0.02	0.02	ppb	9.94	1000	
238 U	165	1	0.00	0.00	ppb	61.35	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	569704	0.90	581797	97.9	30 - 120	
45 Sc	1	2578530	1.74	2574983	100.1	30 - 120	
72 Ge	1	1225059	0.62	1211627	101.1	30 - 120	
115 In	1	3458256	0.73	3426576	100.9	30 - 120	
165 Ho	1	5659536	0.49	5647086	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\AG072109.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\AG072109.B\011ICSA.D\011ICSA.D#
 Date Acquired: Jul 21 2009 05:50 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: Jul 21 2009 05:31 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	86.57	1.00
51	V	72	1	-0.32 ppb	45.77	1.00
52	Cr	72	1	1.09 ppb	1.54	1.00
55	Mn	72	1	3.02 ppb	2.13	1.00
59	Co	72	1	0.14 ppb	6.32	1.00
60	Ni	72	1	1.14 ppb	8.51	1.00
63	Cu	72	1	0.52 ppb	6.79	1.00
66	Zn	72	1	4.12 ppb	0.37	10.00
75	As	72	1	0.41 ppb	6.37	1.00
78	Se	72	1	0.21 ppb	202.38	1.00
95	Mo	72	1	2029.00 ppb	1.48	2000.00
107	Ag	115	1	0.08 ppb	1.65	1.00
111	Cd	115	1	0.53 ppb	11.29	1.00
118	Sn	115	1	6.55 ppb	2.38	10.00
121	Sb	115	1	0.25 ppb	8.83	1.00
137	Ba	115	1	1.63 ppb	3.16	1.00
205	Tl	165	1	0.06 ppb	23.67	1.00
208	Pb	165	1	0.15 ppb	1.74	1.00
232	Th	165	1	0.06 ppb	7.65	1.00
238	U	165	1	0.04 ppb	4.73	1.00

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	541828	0.30	581797	93.1	30 - 120
45	Sc	1	2271867	1.39	2574983	88.2	30 - 120
72	Ge	1	1037781	0.72	1211627	85.7	30 - 120
115	In	1	2905629	2.08	3426576	84.8	30 - 120
165	Ho	1	5091704	1.12	5647086	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\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\013SMPL.D\013SMPL.D#
 Date Acquired: Jul 21 2009 05:55 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: Jul 21 2009 05:31 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	-0.06	-0.06	ppb	105.43	3600
52	Cr	72	1	-0.03	-0.03	ppb	42.33	3600
55	Mn	72	1	-0.01	-0.01	ppb	103.23	3600
59	Co	72	1	0.00	0.00	ppb	103.31	3600
60	Ni	72	1	0.00	0.00	ppb	490.13	3600
63	Cu	72	1	-0.01	-0.01	ppb	55.36	3600
66	Zn	72	1	0.02	0.02	ppb	39.30	3600
75	As	72	1	0.01	0.01	ppb	237.74	3600
78	Se	72	1	0.22	0.22	ppb	124.98	3600
95	Mo	72	1	1.24	1.24	ppb	2.11	3600
107	Ag	115	1	0.01	0.01	ppb	32.64	3600
111	Cd	115	1	-0.01	-0.01	ppb	87.55	3600
118	Sn	115	1	-0.44	-0.44	ppb	9.84	3600
121	Sb	115	1	0.04	0.04	ppb	10.44	3600
137	Ba	115	1	0.00	0.00	ppb	198.65	3600
205	Tl	165	1	0.00	0.00	ppb	32.40	3600
208	Pb	165	1	0.00	0.00	ppb	60.85	3600
232	Th	165	1	0.61	0.61	ppb	14.09	1000
238	U	165	1	0.01	0.01	ppb	16.27	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	617032	1.01	581797	106.1	30 - 120
45	Sc	1	2571917	0.32	2574983	99.9	30 - 120
72	Ge	1	1207363	0.62	1211627	99.6	30 - 120
115	In	1	3468973	0.41	3426576	101.2	30 - 120
165	Ho	1	5751339	0.52	5647086	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\AG072109.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\AG072109.B\014_LR.D\014_LR.D#
 Date Acquired: Jul 21 2009 05:58 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LR
 Misc Info:
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	983.10 ppb	1.47	1000	98.3	90 - 110
51	V	72	1	931.80 ppb	1.87	1000	93.2	90 - 110
52	Cr	72	1	958.10 ppb	0.33	1000	95.8	90 - 110
55	Mn	72	1	959.10 ppb	0.74	1000	95.9	90 - 110
59	Co	72	1	962.90 ppb	0.81	1000	96.3	90 - 110
60	Ni	72	1	976.00 ppb	1.67	1000	97.6	90 - 110
63	Cu	72	1	952.70 ppb	0.56	1000	95.3	90 - 110
66	Zn	72	1	1036.00 ppb	1.42	1000	103.6	90 - 110
75	As	72	1	1038.00 ppb	0.83	1000	103.8	90 - 110
78	Se	72	1	1037.00 ppb	0.75	1000	103.7	90 - 110
95	Mo	72	1	998.50 ppb	1.19	1000	99.9	90 - 110
107	Ag	115	1	960.60 ppb	0.36	1000	96.1	90 - 110
111	Cd	115	1	1018.00 ppb	1.94	1000	101.8	90 - 110
118	Sn	115	1	980.00 ppb	0.99	1000	98.0	90 - 110
121	Sb	115	1	975.20 ppb	0.25	1000	97.5	90 - 110
137	Ba	115	1	1014.00 ppb	0.78	1000	101.4	90 - 110
205	Tl	165	1	970.30 ppb	1.49	1000	97.0	90 - 110
208	Pb	165	1	959.70 ppb	1.43	1000	96.0	90 - 110
232	Th	165	1	1070.00 ppb	0.39	1000	107.0	90 - 110
238	U	165	1	1001.00 ppb	0.48	1000	100.1	90 - 110

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	602525	1.07	581797	103.6	30 - 120
45	Sc	1	2585868	0.95	2574983	100.4	30 - 120
72	Ge	1	1215769	0.81	1211627	100.3	30 - 120
115	In	1	3432627	0.12	3426576	100.2	30 - 120
165	Ho	1	5756427	0.96	5647086	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\AG072109.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\AG072109.B\015SMPL.D\015SMPL.D#
 Date Acquired: Jul 21 2009 06:00 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: Jul 21 2009 05:31 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	173.21	3600
51	V	72	1	0.00	0.00	ppb	1096.50	3600
52	Cr	72	1	-0.02	-0.02	ppb	214.11	3600
55	Mn	72	1	-0.01	-0.01	ppb	54.41	3600
59	Co	72	1	0.02	0.02	ppb	17.45	3600
60	Ni	72	1	0.02	0.02	ppb	36.35	3600
63	Cu	72	1	0.00	0.00	ppb	3434.80	3600
66	Zn	72	1	0.04	0.04	ppb	59.09	3600
75	As	72	1	0.04	0.04	ppb	18.32	3600
78	Se	72	1	0.56	0.56	ppb	27.17	3600
95	Mo	72	1	0.75	0.75	ppb	9.81	3600
107	Ag	115	1	0.03	0.03	ppb	9.09	3600
111	Cd	115	1	0.01	0.01	ppb	55.86	3600
118	Sn	115	1	0.58	0.58	ppb	22.30	3600
121	Sb	115	1	0.43	0.43	ppb	9.45	3600
137	Ba	115	1	0.02	0.02	ppb	30.56	3600
205	Tl	165	1	0.10	0.10	ppb	12.56	3600
208	Pb	165	1	0.02	0.02	ppb	9.09	3600
232	Th	165	1	3.70	3.70	ppb	19.86	1000
238	U	165	1	0.09	0.09	ppb	9.53	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	604269	1.86	581797	103.9	30 - 120
45	Sc	1	2589065	0.70	2574983	100.5	30 - 120
72	Ge	1	1243813	0.46	1211627	102.7	30 - 120
115	In	1	3483172	1.13	3426576	101.7	30 - 120
165	Ho	1	5709115	0.24	5647086	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\AG072109.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\AG072109.B\017_CCB.D\017_CCB.D#
 Date Acquired: Jul 21 2009 06:06 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: Jul 21 2009 05:31 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	0.005	ppb	173.19	1.00	
51 V	72	1	-0.062	ppb	129.47	1.00	
52 Cr	72	1	-0.026	ppb	83.65	1.00	
55 Mn	72	1	-0.007	ppb	143.47	1.00	
59 Co	72	1	0.002	ppb	146.67	1.00	
60 Ni	72	1	0.009	ppb	171.37	1.00	
63 Cu	72	1	-0.013	ppb	47.42	1.00	
66 Zn	72	1	0.004	ppb	593.06	1.00	
75 As	72	1	0.008	ppb	83.97	1.00	
78 Se	72	1	0.635	ppb	21.48	1.00	
95 Mo	72	1	0.156	ppb	13.82	1.00	
107 Ag	115	1	0.013	ppb	10.04	1.00	
111 Cd	115	1	0.005	ppb	226.51	1.00	
118 Sn	115	1	0.091	ppb	27.58	1.00	
121 Sb	115	1	0.092	ppb	4.85	1.00	
137 Ba	115	1	0.007	ppb	96.12	1.00	
205 Tl	165	1	0.044	ppb	9.42	1.00	
208 Pb	165	1	0.005	ppb	16.13	1.00	
232 Th	165	1	0.846	ppb	15.54	1.00	
238 U	165	1	0.016	ppb	7.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	582937	1.46	581797	100.2	30 - 120	
45 Sc	1	2618279	0.49	2574983	101.7	30 - 120	
72 Ge	1	1228248	0.40	1211627	101.4	30 - 120	
115 In	1	3493471	0.25	3426576	102.0	30 - 120	
165 Ho	1	5729193	0.17	5647086	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\AG072109.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\AG072109.B\018WASH.D\018WASH.D#
 Date Acquired: Jul 21 2009 06:09 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: Jul 21 2009 05:31 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	1.506 ppb	66.40	1.30	
51 V	72	1	5.354 ppb	9.73	6.50	
52 Cr	72	1	2.294 ppb	19.68	2.60	
55 Mn	72	1	1.341 ppb	40.40	1.30	
59 Co	72	1	1.372 ppb	41.06	1.30	
60 Ni	72	1	2.353 ppb	23.65	2.60	
63 Cu	72	1	2.412 ppb	17.43	2.60	
66 Zn	72	1	10.710 ppb	7.57	13.00	
75 As	72	1	5.663 ppb	11.90	6.50	
78 Se	72	1	5.717 ppb	11.15	6.50	
95 Mo	72	1	4.400 ppb	84.36	2.60	
107 Ag	115	1	5.364 ppb	3.44	6.50	
111 Cd	115	1	1.442 ppb	41.34	1.30	
118 Sn	115	1	10.180 ppb	5.67	13.00	
121 Sb	115	1	2.278 ppb	21.30	2.60	
137 Ba	115	1	1.364 ppb	42.96	1.30	
205 Tl	165	1	1.415 ppb	39.27	1.30	
208 Pb	165	1	1.446 ppb	47.86	1.30	
232 Th	165	1	2.676 ppb	20.73	2.60	
238 U	165	1	1.427 ppb	40.32	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	598481	1.35	581797	102.9	30 - 120	
45 Sc	1	2642231	1.82	2574983	102.6	30 - 120	
72 Ge	1	1250188	1.58	1211627	103.2	30 - 120	
115 In	1	3540347	1.66	3426576	103.3	30 - 120	
165 Ho	1	5791976	1.24	5647086	102.6	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\AG072109.B\003CALB.D\003CALB.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\AG072109.B\019_BLK.D\019_BLK.D#
 Date Acquired: Jul 21 2009 06:11 pm
 Operator: TEL
 Sample Name: LGEE4BF
 Misc Info: BLANK 9194274 6020
 Vial Number: 2201
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	0.005 ppb	173.21	2.00	
51 V	72	1	-0.022 ppb	250.34	2.00	
52 Cr	72	1	-0.050 ppb	13.43	2.00	
55 Mn	72	1	0.022 ppb	49.21	2.00	
59 Co	72	1	-0.002 ppb	87.57	2.00	
60 Ni	72	1	0.015 ppb	103.26	2.00	
63 Cu	72	1	-0.001 ppb	1037.50	2.00	
66 Zn	72	1	0.300 ppb	5.04	2.00	
75 As	72	1	-0.009 ppb	159.07	2.00	
78 Se	72	1	0.132 ppb	29.18	2.00	
95 Mo	72	1	0.045 ppb	61.58	2.00	
107 Ag	115	1	0.005 ppb	51.31	2.00	
111 Cd	115	1	0.007 ppb	12.78	2.00	
118 Sn	115	1	-0.313 ppb	19.67	2.00	
121 Sb	115	1	0.045 ppb	6.70	2.00	
137 Ba	115	1	0.073 ppb	7.82	2.00	
205 Tl	165	1	0.034 ppb	12.27	2.00	
208 Pb	165	1	0.005 ppb	30.50	2.00	
232 Th	165	1	0.085 ppb	6.54	2.00	
238 U	165	1	0.002 ppb	36.31	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	597793	1.62	581797	102.7	30 - 120	
45 Sc	1	2649024	0.91	2574983	102.9	30 - 120	
72 Ge	1	1233783	1.49	1211627	101.8	30 - 120	
115 In	1	3497489	0.35	3426576	102.1	30 - 120	
165 Ho	1	5732307	0.97	5647086	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\AG072109.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\AG072109.B\020_LCS.D\020_LCS.D#
 Date Acquired: Jul 21 2009 06:14 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGEE4CF
 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: Jul 21 2009 05:31 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	43.63	1.01	40	109.1	80 - 120
51	V	72	1	41.90	2.09	40	104.8	80 - 120
52	Cr	72	1	42.35	1.81	40	105.9	80 - 120
55	Mn	72	1	42.02	1.19	40	105.1	80 - 120
59	Co	72	1	42.69	1.61	40	106.7	80 - 120
60	Ni	72	1	43.78	1.19	40	109.5	80 - 120
63	Cu	72	1	44.08	0.91	40	110.2	80 - 120
66	Zn	72	1	44.20	1.11	40	110.5	80 - 120
75	As	72	1	43.83	1.42	40	109.6	80 - 120
78	Se	72	1	43.26	1.56	40	108.2	80 - 120
95	Mo	72	1	42.61	1.90	40	106.5	80 - 120
107	Ag	115	1	43.68	0.45	40	109.2	80 - 120
111	Cd	115	1	43.87	0.49	40	109.7	80 - 120
118	Sn	115	1	-0.37	11.30	40	-0.9	80 - 120
121	Sb	115	1	42.97	0.37	40	107.4	80 - 120
137	Ba	115	1	43.06	1.36	40	107.7	80 - 120
205	Tl	165	1	44.09	1.70	40	110.2	80 - 120
208	Pb	165	1	43.89	0.28	40	109.7	80 - 120
232	Th	165	1	43.54	3.28	40	108.9	80 - 120
238	U	165	1	44.37	1.30	40	110.9	80 - 120

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	579767	1.74	581797	99.7	30 - 120
45	Sc	1	2626009	1.26	2574983	102.0	30 - 120
72	Ge	1	1241912	1.19	1211627	102.5	30 - 120
115	In	1	3464049	0.75	3426576	101.1	30 - 120
165	Ho	1	5648231	0.45	5647086	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\AG072109.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\AG072109.B\021AREF.D\021AREF.D#
 Date Acquired: Jul 21 2009 06:17 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJWF 10X
 Misc Info: D9F110152
 Vial Number: 2203
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: AllRef
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	12.20	1.22	ppb	12.46	3600
52	Cr	72	1	608.90	60.89	ppb	1.02	3600
55	Mn	72	1	61.08	6.11	ppb	1.60	3600
59	Co	72	1	0.54	0.05	ppb	9.65	3600
60	Ni	72	1	3.44	0.34	ppb	3.47	3600
63	Cu	72	1	0.00	0.00	ppb	1703.70	3600
66	Zn	72	1	0.88	0.09	ppb	14.09	3600
75	As	72	1	102.10	10.21	ppb	2.47	3600
78	Se	72	1	5.68	0.57	ppb	30.54	3600
95	Mo	72	1	23.98	2.40	ppb	3.87	3600
107	Ag	115	1	0.08	0.01	ppb	40.24	3600
111	Cd	115	1	0.06	0.01	ppb	73.22	3600
118	Sn	115	1	-4.83	-0.48	ppb	7.02	3600
121	Sb	115	1	0.71	0.07	ppb	16.54	3600
137	Ba	115	1	19.40	1.94	ppb	2.30	3600
205	Tl	165	1	0.64	0.06	ppb	36.27	3600
208	Pb	165	1	0.07	0.01	ppb	27.12	3600
232	Th	165	1	8.65	0.87	ppb	20.25	1000
238	U	165	1	7.56	0.76	ppb	2.55	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	590900	1.18	581797	101.6	30 - 120
45	Sc	1	2533931	0.43	2574983	98.4	30 - 120
72	Ge	1	1167278	0.63	1211627	96.3	30 - 120
115	In	1	3238216	0.65	3426576	94.5	30 - 120
165	Ho	1	5471501	0.80	5647086	96.9	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\AG072109.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\AG072109.B\022SDIL.D\022SDIL.D#
 Date Acquired: Jul 21 2009 06:20 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJWP50F
 Misc Info: SERIAL DILUTION
 Vial Number: 2204
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SDIL
 Dilution Factor: 10.00

QC Summary:
Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG072109.B\021AREF.D\021AREF.D#

QC elements

Element	IS Ref	Tune	Conc.ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9 Be	6	1	0.01 ppb	173.20	0.00	#DIV/0!	90 - 110	
51 V	72	1	0.25 ppb	23.21	0.24	100.5	90 - 110	
52 Cr	72	1	12.58 ppb	0.44	12.18	103.3	90 - 110	
55 Mn	72	1	1.29 ppb	0.26	1.22	105.2	90 - 110	
59 Co	72	1	0.01 ppb	21.77	0.01	112.0	90 - 110	
60 Ni	72	1	0.27 ppb	12.92	0.07	390.9	90 - 110	
63 Cu	72	1	-0.01 ppb	73.18	0.00	20456.2	90 - 110	
66 Zn	72	1	0.04 ppb	35.83	0.02	254.8	90 - 110	
75 As	72	1	2.03 ppb	4.31	2.04	99.3	90 - 110	
78 Se	72	1	0.07 ppb	105.92	0.11	62.6	90 - 110	
95 Mo	72	1	0.45 ppb	2.12	0.48	92.9	90 - 110	
107 Ag	115	1	0.00 ppb	86.03	0.00	105.5	90 - 110	
111 Cd	115	1	-0.01 ppb	108.09	0.00	-493.7	90 - 110	
118 Sn	115	1	-0.48 ppb	2.92	-0.10	499.9	90 - 110	
121 Sb	115	1	0.03 ppb	5.55	0.01	203.3	90 - 110	
137 Ba	115	1	0.41 ppb	1.67	0.39	104.6	90 - 110	
205 Tl	165	1	0.00 ppb	16.96	0.01	37.5	90 - 110	
208 Pb	165	1	0.01 ppb	20.31	0.00	477.0	90 - 110	
232 Th	165	1	0.16 ppb	12.48	0.17	89.6	90 - 110	
238 U	165	1	0.15 ppb	0.28	0.15	100.9	90 - 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	601137	1.51	581797	103.3	30 - 120	
45 Sc	1	2582296	1.17	2574983	100.3	30 - 120	
72 Ge	1	1216323	0.20	1211627	100.4	30 - 120	
115 In	1	3395336	0.16	3426576	99.1	30 - 120	
165 Ho	1	5593006	0.76	5647086	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\AG072109.B\003CALB.D\003CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS)

ICPMS_024

Reported: 07/22/09 08:07:13

Department: 090 (Metals)

Source: Spreadsheet

Sample: LGDJWP50F

Serial Dilution: 50.00

Sample Dilution: 10.00

Instrument: Agilent7500

Channel 272

File: AG072109 # 22

Method 6020_

Acquired: 07/21/2009 18:20:00

ICPMS_024

Matrix: AQUEOUS

Calibrated: 07/21/2009 17:28:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	3	0.26755	0			*	
7440-62-2	Vanadium	51	3135	12.265	12.200	0.533		*	
7440-47-3	Chromium	52	159548	629.00	608.90	3.30		*	
7439-96-5	Manganese	55	20525	64.250	61.080	5.19		*	
7440-48-4	Cobalt	59	253	0.60600	0.54130	12.0		*	
7440-02-0	Nickel	60	983	13.460	3.4430	291		*	
7440-50-8	Copper	63	587	-0.56950	-0.00278			*	
7440-66-6	Zinc	66	425	2.2325	0.87630	155		*	
7440-38-2	Arsenic	75	3160	101.40	102.10	0.686	0.21	NC	<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	593	3.5565	5.6840	37.4	0.70	NC	<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	1884	22.275	23.980	7.11		*	
7440-22-4	Silver	107	30	0.08660	0.08210	5.48		*	
7440-43-9	Cadmium	111	-8	-0.29115	0.05897	594		*	
7440-31-5	Tin	118	1163	-24.150	-4.8310			*	
7440-36-0	Antimony	121	257	1.4510	0.71360	103		*	
7440-39-3	Barium	137	1387	20.295	19.400	4.61		*	
7440-28-0	Thallium	205	354	0.23865	0.63710	62.5		*	
7439-92-1	Lead	208	521	0.33550	0.07033	377		*	
7440-61-1	Uranium	238	5855	7.6300	7.5630	0.886		*	
7440-29-1	Thorium	232	5345	7.7500	8.6540	10.4		*	
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: 7/22/09

Denver


SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS_024 Reported: 07/22/09 08:07:18

Department: 090 (Metals) Source: Spreadsheet
Sample: LGDJWZF Spike Dilution: 1.00 Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 23 Method 6020_
Acquired: 07/21/2009 18:22:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	124440	201.80	0	101	200		<input type="checkbox"/>
7440-62-2	Vanadium	51	2357450	203.40	1.2200	101	200		<input type="checkbox"/>
7440-47-3	Chromium	52	2991250	258.10	60.890	98.6	200		<input type="checkbox"/>
7439-96-5	Manganese	55	2890890	206.00	6.1080	99.9	200		<input type="checkbox"/>
7440-48-4	Cobalt	59	2813000	196.20	0.05413	98.1	200		<input type="checkbox"/>
7440-02-0	Nickel	60	616832	196.50	0.34430	98.1	200		<input type="checkbox"/>
7440-50-8	Copper	63	1423140	194.20	-0.00028	97.1	200		<input type="checkbox"/>
7440-66-6	Zinc	66	348907	201.80	0.08763	101	200		<input type="checkbox"/>
7440-38-2	Arsenic	75	301666	214.90	10.210	102	200		<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	58189	210.20	0.56840	105	200		<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	784086	209.00	2.3980	103	200		<input type="checkbox"/>
7440-22-4	Silver	107	523224	47.070	0.00821	94.1	50.0		<input type="checkbox"/>
7440-43-9	Cadmium	111	455895	198.70	0.00590	99.3	200		<input type="checkbox"/>
7440-31-5	Tin	118	1212490	181.20	-0.48310	90.6	200		<input type="checkbox"/>
7440-36-0	Antimony	121	1546000	200.10	0.07136	100	200		<input type="checkbox"/>
7440-39-3	Barium	137	639587	200.90	1.9400	99.5	200		<input type="checkbox"/>
7440-28-0	Thallium	205	4978400	190.00	0.06371	95.0	200		<input type="checkbox"/>
7439-92-1	Lead	208	6809470	190.70	0.00703	95.3	200		<input type="checkbox"/>
7440-61-1	Uranium	238	7539810	201.70	0.75630	100	200		<input type="checkbox"/>
7440-29-1	Thorium	232	2897	0.08223	0.86540				
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: 7/22/09

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\024_MS.D\024_MS.D#
 Date Acquired: Jul 21 2009 06:25 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJWSF 10X
 Misc Info: MATRIX SPIKE
 Vial Number: 2206
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MS
 Prep Dil. Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	4.35	0.00	ppb	11.89	40	10.9	50 - 150	
51 V	72	1	5.71	1.22	ppb	11.05	40	13.9	50 - 150	
52 Cr	72	1	64.83	60.89	ppb	0.62	40	64.3	50 - 150	
55 Mn	72	1	10.20	6.11	ppb	1.01	40	22.1	50 - 150	
59 Co	72	1	4.32	0.05	ppb	2.71	40	10.8	50 - 150	
60 Ni	72	1	4.52	0.34	ppb	0.40	40	11.2	50 - 150	
63 Cu	72	1	4.22	0.00	ppb	3.29	40	10.6	50 - 150	
66 Zn	72	1	4.52	0.09	ppb	1.66	40	11.3	50 - 150	
75 As	72	1	14.59	10.21	ppb	0.53	40	29.1	50 - 150	
78 Se	72	1	4.28	0.57	ppb	15.35	40	10.5	50 - 150	
95 Mo	72	1	6.79	2.40	ppb	1.68	40	16.0	50 - 150	
107 Ag	115	1	4.14	0.01	ppb	2.23	40	10.3	50 - 150	
111 Cd	115	1	4.40	0.01	ppb	2.44	40	11.0	50 - 150	
118 Sn	115	1	-0.26	-0.48	ppb	16.39	40	-0.7	50 - 150	
121 Sb	115	1	4.50	0.07	ppb	0.39	40	11.2	50 - 150	
137 Ba	115	1	6.37	1.94	ppb	3.54	40	15.2	50 - 150	
205 Tl	165	1	4.24	0.06	ppb	0.40	40	10.6	50 - 150	
208 Pb	165	1	4.22	0.01	ppb	0.76	40	10.5	50 - 150	
232 Th	165	1	4.59	0.87	ppb	2.86	40	11.2	50 - 150	
238 U	165	1	5.30	0.76	ppb	0.58	40	13.0	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	586499	1.28	581797	100.8	30 - 120	
45 Sc	1	2529836	0.34	2574983	98.2	30 - 120	
72 Ge	1	1157511	0.91	1211627	95.5	30 - 120	
115 In	1	3237120	0.67	3426576	94.5	30 - 120	
165 Ho	1	5514160	0.72	5647086	97.6	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\AG072109.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\AG072109.B\025 MSD.D\025 MSD.D#
 Date Acquired: Jul 21 2009 06:28 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJWDF 10X
 Misc Info: MATRIX SPIKE DUPLICATE
 Vial Number: 2207
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MSD
 Dilution Factor: 10.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG072109.B\024 MS.D\024 MS.D#

QC Summary:

Analytes: Pass

ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	1	4.40 ppb	7.25	4.35	1.21	20
51	V	72	1	5.38 ppb	4.90	5.71	5.97	20
52	Cr	72	1	63.95 ppb	1.12	64.83	1.37	20
55	Mn	72	1	10.07 ppb	0.75	10.20	1.28	20
59	Co	72	1	4.15 ppb	1.88	4.32	4.01	20
60	Ni	72	1	4.42 ppb	3.77	4.52	2.21	20
63	Cu	72	1	4.15 ppb	0.42	4.22	1.82	20
66	Zn	72	1	4.32 ppb	0.38	4.52	4.39	20
75	As	72	1	14.32 ppb	1.11	14.59	1.87	20
78	Se	72	1	5.00 ppb	11.82	4.28	15.57	20
95	Mo	72	1	6.57 ppb	2.93	6.79	3.28	20
107	Ag	115	1	4.02 ppb	0.03	4.14	2.80	20
111	Cd	115	1	4.32 ppb	2.18	4.40	1.72	20
118	Sn	115	1	-0.45 ppb	1.69	-0.26	-51.74	20
121	Sb	115	1	4.36 ppb	2.25	4.49	3.12	20
137	Ba	115	1	6.19 ppb	1.35	6.37	2.85	20
205	Tl	165	1	4.26 ppb	0.30	4.24	0.47	20
208	Pb	165	1	4.21 ppb	1.16	4.22	0.24	20
232	Th	165	1	4.66 ppb	1.01	4.59	1.64	20
238	U	165	1	5.31 ppb	0.66	5.30	0.04	20

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	587799	1.17	581797	101.0	30 - 120
45	Sc	1	2522948	0.71	2574983	98.0	30 - 120
72	Ge	1	1171083	0.71	1211627	96.7	30 - 120
115	In	1	3269570	1.14	3426576	95.4	30 - 120
165	Ho	1	5497291	0.55	5647086	97.3	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\AG072109.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 Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\026_CCV.D\026_CCV.D#
 Date Acquired: Jul 21 2009 06:30 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: Jul 21 2009 05:31 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	49.60 ppb	3.76	50	99.2	90 - 110	
51	V	72	47.46 ppb	0.73	50	94.9	90 - 110	
52	Cr	72	48.46 ppb	1.90	50	96.9	90 - 110	
55	Mn	72	48.48 ppb	1.62	50	97.0	90 - 110	
59	Co	72	48.65 ppb	0.70	50	97.3	90 - 110	
60	Ni	72	49.63 ppb	1.26	50	99.3	90 - 110	
63	Cu	72	49.48 ppb	1.11	50	99.0	90 - 110	
66	Zn	72	49.17 ppb	0.85	50	98.3	90 - 110	
75	As	72	49.33 ppb	1.83	50	98.7	90 - 110	
78	Se	72	49.43 ppb	3.65	50	98.9	90 - 110	
95	Mo	72	49.52 ppb	1.74	50	99.0	90 - 110	
107	Ag	115	49.84 ppb	0.95	50	99.7	90 - 110	
111	Cd	115	49.79 ppb	0.88	50	99.6	90 - 110	
118	Sn	115	49.36 ppb	1.63	50	98.7	90 - 110	
121	Sb	115	49.58 ppb	0.60	50	99.2	90 - 110	
137	Ba	115	49.59 ppb	0.66	50	99.2	90 - 110	
205	Tl	165	50.54 ppb	0.83	50	101.1	90 - 110	
208	Pb	165	50.49 ppb	0.37	50	101.0	90 - 110	
232	Th	165	51.99 ppb	2.44	50	104.0	90 - 110	
238	U	165	51.90 ppb	0.76	50	103.8	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	571014	0.79	581797	98.1	30 - 120
45	Sc	1	2538915	1.25	2574983	98.6	30 - 120
72	Ge	1	1213633	1.83	1211627	100.2	30 - 120
115	In	1	3399341	0.85	3426576	99.2	30 - 120
165	Ho	1	5600207	0.53	5647086	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\AG072109.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\AG072109.B\027_CCB.D\027_CCB.D#
 Date Acquired: Jul 21 2009 06:33 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: Jul 21 2009 05:31 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	0.006	ppb	173.20	1.00	
51 V	72	1	-0.006	ppb	515.80	1.00	
52 Cr	72	1	-0.037	ppb	49.31	1.00	
55 Mn	72	1	-0.018	ppb	70.24	1.00	
59 Co	72	1	0.002	ppb	18.76	1.00	
60 Ni	72	1	0.005	ppb	28.03	1.00	
63 Cu	72	1	-0.039	ppb	12.85	1.00	
66 Zn	72	1	0.010	ppb	155.67	1.00	
75 As	72	1	-0.008	ppb	188.46	1.00	
78 Se	72	1	0.001	ppb	63037.00	1.00	
95 Mo	72	1	0.038	ppb	19.24	1.00	
107 Ag	115	1	0.006	ppb	44.60	1.00	
111 Cd	115	1	0.007	ppb	37.32	1.00	
118 Sn	115	1	-0.057	ppb	99.88	1.00	
121 Sb	115	1	0.059	ppb	8.11	1.00	
137 Ba	115	1	0.003	ppb	62.71	1.00	
205 Tl	165	1	0.021	ppb	14.15	1.00	
208 Pb	165	1	0.004	ppb	24.01	1.00	
232 Th	165	1	0.775	ppb	18.32	1.00	
238 U	165	1	0.010	ppb	13.56	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	568757	0.26	581797	97.8	30 - 120	
45 Sc	1	2523515	0.52	2574983	98.0	30 - 120	
72 Ge	1	1190357	0.87	1211627	98.2	30 - 120	
115 In	1	3393018	0.90	3426576	99.0	30 - 120	
165 Ho	1	5546048	0.69	5647086	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\AG072109.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\AG072109.B\028WASH.D\028WASH.D#
 Date Acquired: Jul 21 2009 06:36 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: Jul 21 2009 05:31 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	0.945 ppb	17.37	1.30	
51 V	72	1	5.047 ppb	0.91	6.50	
52 Cr	72	1	2.021 ppb	3.49	2.60	
55 Mn	72	1	1.010 ppb	5.40	1.30	
59 Co	72	1	1.024 ppb	2.85	1.30	
60 Ni	72	1	2.156 ppb	3.13	2.60	
63 Cu	72	1	2.053 ppb	0.90	2.60	
66 Zn	72	1	10.450 ppb	1.17	13.00	
75 As	72	1	5.192 ppb	1.28	6.50	
78 Se	72	1	5.235 ppb	5.22	6.50	
95 Mo	72	1	2.123 ppb	6.02	2.60	
107 Ag	115	1	5.226 ppb	1.25	6.50	
111 Cd	115	1	1.069 ppb	5.99	1.30	
118 Sn	115	1	9.851 ppb	1.45	13.00	
121 Sb	115	1	1.944 ppb	1.32	2.60	
137 Ba	115	1	1.079 ppb	5.58	1.30	
205 Tl	165	1	1.091 ppb	0.56	1.30	
208 Pb	165	1	1.065 ppb	1.02	1.30	
232 Th	165	1	2.329 ppb	1.74	2.60	
238 U	165	1	1.101 ppb	0.77	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	563752	0.35	581797	96.9	30 - 120	
45 Sc	1	2522070	0.50	2574983	97.9	30 - 120	
72 Ge	1	1195071	0.30	1211627	98.6	30 - 120	
115 In	1	3409514	0.82	3426576	99.5	30 - 120	
165 Ho	1	5555873	0.54	5647086	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.B\003CALB.D\003CALB.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\AG072109.B\029_BLK.D\029_BLK.D#
 Date Acquired: Jul 21 2009 06:39 pm
 Operator: TEL
 Sample Name: LGEERB
 Misc Info: BLANK 9194272 6020
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.023 ppb	197.29	2.00	
52 Cr	72	1	0.079 ppb	10.06	2.00	
55 Mn	72	1	0.108 ppb	12.70	2.00	
59 Co	72	1	0.000 ppb	501.93	2.00	
60 Ni	72	1	0.025 ppb	81.97	2.00	
63 Cu	72	1	0.077 ppb	14.50	2.00	
66 Zn	72	1	0.692 ppb	2.78	2.00	
75 As	72	1	-0.001 ppb	1570.10	2.00	
78 Se	72	1	0.138 ppb	271.86	2.00	
95 Mo	72	1	0.012 ppb	30.51	2.00	
107 Ag	115	1	0.005 ppb	43.98	2.00	
111 Cd	115	1	0.003 ppb	153.49	2.00	
118 Sn	115	1	-0.388 ppb	3.06	2.00	
121 Sb	115	1	0.032 ppb	4.02	2.00	
137 Ba	115	1	0.024 ppb	41.42	2.00	
205 Tl	165	1	0.024 ppb	33.52	2.00	
208 Pb	165	1	0.010 ppb	10.00	2.00	
232 Th	165	1	0.149 ppb	18.82	2.00	
238 U	165	1	0.003 ppb	8.64	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567901	0.49	581797	97.6	30 - 120	
45 Sc	1	2536930	0.98	2574983	98.5	30 - 120	
72 Ge	1	1190052	0.57	1211627	98.2	30 - 120	
115 In	1	3404908	0.81	3426576	99.4	30 - 120	
165 Ho	1	5537384	1.21	5647086	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\AG072109.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\AG072109.B\030_LCS.D\030_LCS.D#
 Date Acquired: Jul 21 2009 06:41 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGEERC
 Misc Info: LCS
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	40.84	2.97	40	102.1	80 - 120
51	V	72	1	41.46	0.89	40	103.7	80 - 120
52	Cr	72	1	42.08	1.02	40	105.2	80 - 120
55	Mn	72	1	42.07	2.68	40	105.2	80 - 120
59	Co	72	1	42.43	1.84	40	106.1	80 - 120
60	Ni	72	1	43.29	2.68	40	108.2	80 - 120
63	Cu	72	1	43.58	2.40	40	109.0	80 - 120
66	Zn	72	1	41.11	1.13	40	102.8	80 - 120
75	As	72	1	41.33	1.55	40	103.3	80 - 120
78	Se	72	1	40.24	3.32	40	100.6	80 - 120
95	Mo	72	1	43.74	5.12	40	109.4	80 - 120
107	Ag	115	1	42.07	1.97	40	105.2	80 - 120
111	Cd	115	1	41.62	1.54	40	104.1	80 - 120
118	Sn	115	1	-0.06	879.10	40	-0.2	80 - 120
121	Sb	115	1	40.67	1.75	40	101.7	80 - 120
137	Ba	115	1	42.32	1.65	40	105.8	80 - 120
205	Tl	165	1	43.38	1.33	40	108.5	80 - 120
208	Pb	165	1	43.18	0.66	40	108.0	80 - 120
232	Th	165	1	46.22	3.01	40	115.6	80 - 120
238	U	165	1	44.22	0.28	40	110.6	80 - 120

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	572827	4.47	581797	98.5	30 - 120
45	Sc	1	2536116	1.65	2574983	98.5	30 - 120
72	Ge	1	1194379	2.43	1211627	98.6	30 - 120
115	In	1	3408702	2.96	3426576	99.5	30 - 120
165	Ho	1	5609006	1.65	5647086	99.3	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\AG072109.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\AG072109.B\031AREF.D\031AREF.D#
 Date Acquired: Jul 21 2009 06:44 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3 10X
 Misc Info: D9G100272
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: AllRef
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.11	0.01	ppb	86.58	3600	
51 V	72	1	21.63	2.16	ppb	7.43	3600	
52 Cr	72	1	6.32	0.63	ppb	7.96	3600	
55 Mn	72	1	5.24	0.52	ppb	6.66	3600	
59 Co	72	1	0.39	0.04	ppb	16.50	3600	
60 Ni	72	1	4.15	0.41	ppb	14.15	3600	
63 Cu	72	1	0.17	0.02	ppb	16.19	3600	
66 Zn	72	1	3.05	0.31	ppb	11.24	3600	
75 As	72	1	198.10	19.81	ppb	2.87	3600	
78 Se	72	1	4.94	0.49	ppb	39.09	3600	
95 Mo	72	1	16.44	1.64	ppb	4.40	3600	
107 Ag	115	1	0.09	0.01	ppb	63.79	3600	
111 Cd	115	1	0.13	0.01	ppb	29.31	3600	
118 Sn	115	1	-5.34	-0.53	ppb	1.82	3600	
121 Sb	115	1	0.48	0.05	ppb	8.21	3600	
137 Ba	115	1	33.07	3.31	ppb	2.19	3600	
205 Tl	165	1	0.27	0.03	ppb	15.00	3600	
208 Pb	165	1	0.16	0.02	ppb	10.80	3600	
232 Th	165	1	6.24	0.62	ppb	18.22	1000	
238 U	165	1	55.05	5.51	ppb	1.19	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567824	0.66	581797	97.6	30 - 120	
45 Sc	1	2404508	0.72	2574983	93.4	30 - 120	
72 Ge	1	1124528	1.16	1211627	92.8	30 - 120	
115 In	1	3208719	1.35	3426576	93.6	30 - 120	
165 Ho	1	5383143	1.62	5647086	95.3	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\AG072109.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\AG072109.B\032SDIL.D\032SDIL.D#
 Date Acquired: Jul 21 2009 06:47 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3P50
 Misc Info: SERIAL DILUTION
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SDIL
 Dilution Factor: 10.00

QC Summary:

Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG072109.B\031AREF.D\031AREF.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	0.0	90 - 110	
51 V	72	1	0.43 ppb	23.28	0.43	99.3	90 - 110	
52 Cr	72	1	0.29 ppb	4.37	0.13	229.3	90 - 110	
55 Mn	72	1	0.15 ppb	6.68	0.10	144.4	90 - 110	
59 Co	72	1	0.01 ppb	66.01	0.01	130.9	90 - 110	
60 Ni	72	1	0.26 ppb	15.21	0.08	310.4	90 - 110	
63 Cu	72	1	-0.01 ppb	106.68	0.00	-353.0	90 - 110	
66 Zn	72	1	0.09 ppb	22.23	0.06	148.6	90 - 110	
75 As	72	1	3.90 ppb	0.41	3.96	98.4	90 - 110	
78 Se	72	1	0.05 ppb	1070.40	0.10	46.0	90 - 110	
95 Mo	72	1	0.31 ppb	1.89	0.33	95.3	90 - 110	
107 Ag	115	1	0.00 ppb	66.72	0.00	156.3	90 - 110	
111 Cd	115	1	0.00 ppb	175.62	0.00	145.6	90 - 110	
118 Sn	115	1	-0.53 ppb	3.47	-0.11	493.3	90 - 110	
121 Sb	115	1	0.02 ppb	16.35	0.01	181.6	90 - 110	
137 Ba	115	1	0.66 ppb	2.72	0.66	99.8	90 - 110	
205 Tl	165	1	0.00 ppb	195.50	0.01	21.4	90 - 110	
208 Pb	165	1	0.01 ppb	27.48	0.00	185.7	90 - 110	
232 Th	165	1	0.09 ppb	13.71	0.12	75.2	90 - 110	
238 U	165	1	1.10 ppb	1.87	1.10	100.1	90 - 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	565608	0.94	581797	97.2	30 - 120	
45 Sc	1	2460020	0.58	2574983	95.5	30 - 120	
72 Ge	1	1155387	1.16	1211627	95.4	30 - 120	
115 In	1	3303714	1.14	3426576	96.4	30 - 120	
165 Ho	1	5431207	0.86	5647086	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\
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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: 07/22/09 08:07:22

Department: 090 (Metals) Source: Spreadsheet

Sample: LGCN3P50 Serial Dilution: 50.00 Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 #32 Method 6020_
Acquired: 07/21/2009 18:47:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\033PDS.D\033PDS.D#
 Date Acquired: Jul 21 2009 06:50 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3Z
 Misc Info: POST DIGESTION SPIKE
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	200.50	0.01	ppb	2.01	200	100.2	75 - 125	
51 V	72	1	199.90	2.16	ppb	1.11	200	98.9	75 - 125	
52 Cr	72	1	201.70	0.63	ppb	1.61	200	100.5	75 - 125	
55 Mn	72	1	198.30	0.52	ppb	1.60	200	98.9	75 - 125	
59 Co	72	1	195.50	0.04	ppb	2.21	200	97.7	75 - 125	
60 Ni	72	1	195.10	0.41	ppb	0.98	200	97.3	75 - 125	
63 Cu	72	1	195.80	0.02	ppb	0.06	200	97.9	75 - 125	
66 Zn	72	1	201.20	0.31	ppb	1.52	200	100.4	75 - 125	
75 As	72	1	221.60	19.81	ppb	1.14	200	100.8	75 - 125	
78 Se	72	1	205.80	0.49	ppb	1.72	200	102.6	75 - 125	
95 Mo	72	1	206.50	1.64	ppb	1.30	200	102.4	75 - 125	
107 Ag	115	1	48.42	0.01	ppb	1.14	50	96.8	75 - 125	
111 Cd	115	1	199.60	0.01	ppb	0.85	200	99.8	75 - 125	
118 Sn	115	1	182.90	-0.53	ppb	0.64	200	91.7	75 - 125	
121 Sb	115	1	200.40	0.05	ppb	0.62	200	100.2	75 - 125	
137 Ba	115	1	204.10	3.31	ppb	0.79	200	100.4	75 - 125	
205 Tl	165	1	196.40	0.03	ppb	0.92	200	98.2	75 - 125	
208 Pb	165	1	194.00	0.02	ppb	0.57	200	97.0	75 - 125	
232 Th	165	1	0.06	0.62	ppb	5.86	200	0.0	75 - 125	
238 U	165	1	208.90	5.51	ppb	1.19	200	101.7	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	552017	0.97	581797	94.9	30 - 120	
45 Sc	1	2393086	1.79	2574983	92.9	30 - 120	
72 Ge	1	1113187	1.37	1211627	91.9	30 - 120	
115 In	1	3182521	0.72	3426576	92.9	30 - 120	
165 Ho	1	5376631	0.55	5647086	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\AG072109.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: 07/22/09 08:07:27

Department: 090 (Metals)

Source: Spreadsheet

Sample: LGCN3Z

Spike Dilution: 1.00

Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 33 Method 6020_
Acquired: 07/21/2009 18:50:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\034_MS.D\034_MS.D#
 Date Acquired: Jul 21 2009 06:52 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3S 10X
 Misc Info: MATRIX SPIKE
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MS
 Prep Dil. Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	4.28	0.01	ppb	3.84	40	10.7	50 - 150	
51 V	72	1	6.27	2.16	ppb	1.52	40	14.9	50 - 150	
52 Cr	72	1	4.83	0.63	ppb	4.02	40	11.9	50 - 150	
55 Mn	72	1	4.67	0.52	ppb	0.82	40	11.5	50 - 150	
59 Co	72	1	4.21	0.04	ppb	1.66	40	10.5	50 - 150	
60 Ni	72	1	4.58	0.41	ppb	2.25	40	11.3	50 - 150	
63 Cu	72	1	4.24	0.02	ppb	2.92	40	10.6	50 - 150	
66 Zn	72	1	4.53	0.31	ppb	4.27	40	11.2	50 - 150	
75 As	72	1	23.45	19.81	ppb	0.47	40	39.2	50 - 150	
78 Se	72	1	4.43	0.49	ppb	4.58	40	10.9	50 - 150	
95 Mo	72	1	6.07	1.64	ppb	2.05	40	14.6	50 - 150	
107 Ag	115	1	4.06	0.01	ppb	2.34	40	10.2	50 - 150	
111 Cd	115	1	4.28	0.01	ppb	1.30	40	10.7	50 - 150	
118 Sn	115	1	-0.29	-0.53	ppb	8.52	40	-0.7	50 - 150	
121 Sb	115	1	4.37	0.05	ppb	0.90	40	10.9	50 - 150	
137 Ba	115	1	7.57	3.31	ppb	1.41	40	17.5	50 - 150	
205 Tl	165	1	4.37	0.03	ppb	0.09	40	10.9	50 - 150	
208 Pb	165	1	4.34	0.02	ppb	0.98	40	10.9	50 - 150	
232 Th	165	1	4.70	0.62	ppb	2.44	40	11.6	50 - 150	
238 U	165	1	10.08	5.51	ppb	0.80	40	22.2	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	556944	0.45	581797	95.7	30 - 120	
45 Sc	1	2377843	1.11	2574983	92.3	30 - 120	
72 Ge	1	1122514	1.35	1211627	92.6	30 - 120	
115 In	1	3221254	0.75	3426576	94.0	30 - 120	
165 Ho	1	5362470	0.23	5647086	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\AG072109.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\AG072109.B\035_CCV.D\035_CCV.D#
 Date Acquired: Jul 21 2009 06:55 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: Jul 21 2009 05:31 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	49.42 ppb	1.97	50	98.8	90 - 110	
51	V	72	48.32 ppb	0.92	50	96.6	90 - 110	
52	Cr	72	48.98 ppb	0.92	50	98.0	90 - 110	
55	Mn	72	48.41 ppb	0.46	50	96.8	90 - 110	
59	Co	72	49.42 ppb	0.37	50	98.8	90 - 110	
60	Ni	72	49.85 ppb	0.52	50	99.7	90 - 110	
63	Cu	72	50.16 ppb	0.84	50	100.3	90 - 110	
66	Zn	72	49.95 ppb	0.90	50	99.9	90 - 110	
75	As	72	50.23 ppb	0.25	50	100.5	90 - 110	
78	Se	72	50.22 ppb	2.05	50	100.4	90 - 110	
95	Mo	72	50.05 ppb	0.52	50	100.1	90 - 110	
107	Ag	115	49.31 ppb	0.59	50	98.6	90 - 110	
111	Cd	115	49.60 ppb	0.17	50	99.2	90 - 110	
118	Sn	115	49.20 ppb	0.37	50	98.4	90 - 110	
121	Sb	115	49.37 ppb	0.88	50	98.7	90 - 110	
137	Ba	115	49.60 ppb	0.50	50	99.2	90 - 110	
205	Tl	165	50.85 ppb	1.38	50	101.7	90 - 110	
208	Pb	165	50.56 ppb	0.82	50	101.1	90 - 110	
232	Th	165	52.19 ppb	3.26	50	104.4	90 - 110	
238	U	165	51.93 ppb	1.69	50	103.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	540158	0.94	581797	92.8	30 - 120
45	Sc	1	2438139	1.30	2574983	94.7	30 - 120
72	Ge	1	1153755	0.36	1211627	95.2	30 - 120
115	In	1	3309113	0.86	3426576	96.6	30 - 120
165	Ho	1	5464053	0.74	5647086	96.8	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\AG072109.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\AG072109.B\036_CCB.D\036_CCB.D#
 Date Acquired: Jul 21 2009 06:58 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: Jul 21 2009 05:31 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

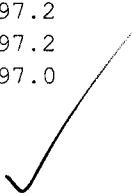
QC Summary:
Analytes: Pass
ISTD: Pass

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	-0.003 ppb	487.71	1.00	
52 Cr	72	1	-0.001 ppb	1245.80	1.00	
55 Mn	72	1	-0.013 ppb	48.53	1.00	
59 Co	72	1	0.000 ppb	382.88	1.00	
60 Ni	72	1	-0.006 ppb	152.58	1.00	
63 Cu	72	1	-0.033 ppb	14.97	1.00	
66 Zn	72	1	0.013 ppb	162.14	1.00	
75 As	72	1	-0.001 ppb	1279.80	1.00	
78 Se	72	1	0.044 ppb	96.85	1.00	
95 Mo	72	1	0.048 ppb	21.21	1.00	
107 Ag	115	1	0.007 ppb	13.19	1.00	
111 Cd	115	1	0.004 ppb	36.72	1.00	
118 Sn	115	1	-0.066 ppb	28.84	1.00	
121 Sb	115	1	0.060 ppb	6.65	1.00	
137 Ba	115	1	0.010 ppb	78.17	1.00	
205 Tl	165	1	0.019 ppb	11.00	1.00	
208 Pb	165	1	0.004 ppb	45.34	1.00	
232 Th	165	1	0.795 ppb	15.81	1.00	
238 U	165	1	0.011 ppb	4.95	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	552374	0.81	581797	94.9	30 - 120	
45 Sc	1	2446795	1.11	2574983	95.0	30 - 120	
72 Ge	1	1178029	1.15	1211627	97.2	30 - 120	
115 In	1	3329395	0.66	3426576	97.2	30 - 120	
165 Ho	1	5475567	0.43	5647086	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\AG072109.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\AG072109.B\037WASH.D\037WASH.D#
 Date Acquired: Jul 21 2009 07:01 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: Jul 21 2009 05:31 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	1.001 ppb	9.18	1.30	
51 V	72	1	5.141 ppb	2.55	6.50	
52 Cr	72	1	2.091 ppb	2.49	2.60	
55 Mn	72	1	1.005 ppb	1.26	1.30	
59 Co	72	1	1.028 ppb	5.10	1.30	
60 Ni	72	1	2.103 ppb	0.94	2.60	
63 Cu	72	1	2.128 ppb	2.55	2.60	
66 Zn	72	1	10.560 ppb	2.59	13.00	
75 As	72	1	5.192 ppb	0.09	6.50	
78 Se	72	1	6.309 ppb	1.74	6.50	
95 Mo	72	1	2.070 ppb	2.44	2.60	
107 Ag	115	1	5.185 ppb	1.03	6.50	
111 Cd	115	1	1.087 ppb	10.27	1.30	
118 Sn	115	1	9.916 ppb	0.55	13.00	
121 Sb	115	1	1.957 ppb	2.80	2.60	
137 Ba	115	1	1.051 ppb	2.71	1.30	
205 Tl	165	1	1.091 ppb	2.87	1.30	
208 Pb	165	1	1.075 ppb	0.84	1.30	
232 Th	165	1	2.350 ppb	2.29	2.60	
238 U	165	1	1.116 ppb	0.75	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	550628	0.54	581797	94.6	30 - 120	
45 Sc	1	2456537	0.83	2574983	95.4	30 - 120	
72 Ge	1	1156394	1.08	1211627	95.4	30 - 120	
115 In	1	3321593	0.50	3426576	96.9	30 - 120	
165 Ho	1	5496023	1.28	5647086	97.3	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\AG072109.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\AG072109.B\038 MSD.D\038 MSD.D#
 Date Acquired: Jul 21 2009 07:03 pm **QC Summary:**
 Acq. Method: NormISIS.M **Analytes: Pass**
 Operator: TEL **ISTD: Pass**
 Sample Name: LGCN3D 10X
 Misc Info: MATRIX SPIKE DUPLICATE
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MSD
 Dilution Factor: 10.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG072109.B\034 MS.D\034 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	1	4.06 ppb	5.70	4.28	5.18	20
51	V	72	1	6.38 ppb	1.64	6.27	1.79	20
52	Cr	72	1	4.79 ppb	0.59	4.83	0.85	20
55	Mn	72	1	4.66 ppb	1.04	4.67	0.34	20
59	Co	72	1	4.26 ppb	3.02	4.21	1.11	20
60	Ni	72	1	4.59 ppb	3.03	4.58	0.15	20
63	Cu	72	1	4.29 ppb	0.78	4.24	1.17	20
66	Zn	72	1	4.59 ppb	2.90	4.53	1.23	20
75	As	72	1	23.78 ppb	1.59	23.45	1.40	20
78	Se	72	1	4.84 ppb	10.22	4.43	8.78	20
95	Mo	72	1	5.96 ppb	2.88	6.07	1.73	20
107	Ag	115	1	4.19 ppb	3.60	4.06	2.98	20
111	Cd	115	1	4.27 ppb	1.75	4.28	0.12	20
118	Sn	115	1	-0.49 ppb	0.60	-0.29	-50.16	20
121	Sb	115	1	4.30 ppb	1.48	4.37	1.66	20
137	Ba	115	1	7.66 ppb	3.26	7.57	1.09	20
205	Tl	165	1	4.33 ppb	1.08	4.37	0.87	20
208	Pb	165	1	4.32 ppb	0.78	4.34	0.44	20
232	Th	165	1	4.77 ppb	2.43	4.70	1.33	20
238	U	165	1	9.96 ppb	0.82	10.08	1.22	20

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	546064	0.27	581797	93.9	30 - 120
45	Sc	1	2359431	0.90	2574983	91.6	30 - 120
72	Ge	1	1104590	0.97	1211627	91.2	30 - 120
115	In	1	3149159	0.41	3426576	91.9	30 - 120
165	Ho	1	5369723	0.97	5647086	95.1	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\AG072109.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\AG072109.B\039SMPL.D\039SMPL.D#
 Date Acquired: Jul 21 2009 07:06 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCQK 10X
 Misc Info: D9G100274
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	23.68	2.37	ppb	1.85	3600
52	Cr	72	1	12.40	1.24	ppb	2.95	3600
55	Mn	72	1	2.12	0.21	ppb	8.12	3600
59	Co	72	1	0.30	0.03	ppb	7.53	3600
60	Ni	72	1	3.33	0.33	ppb	5.22	3600
63	Cu	72	1	-0.20	-0.02	ppb	5.61	3600
66	Zn	72	1	2.60	0.26	ppb	8.14	3600
75	As	72	1	114.20	11.42	ppb	1.08	3600
78	Se	72	1	2.84	0.28	ppb	68.00	3600
95	Mo	72	1	42.30	4.23	ppb	2.35	3600
107	Ag	115	1	0.07	0.01	ppb	37.85	3600
111	Cd	115	1	0.07	0.01	ppb	133.86	3600
118	Sn	115	1	-5.30	-0.53	ppb	2.37	3600
121	Sb	115	1	0.28	0.03	ppb	5.21	3600
137	Ba	115	1	34.03	3.40	ppb	4.11	3600
205	Tl	165	1	0.11	0.01	ppb	30.92	3600
208	Pb	165	1	0.09	0.01	ppb	19.12	3600
232	Th	165	1	1.32	0.13	ppb	13.37	1000
238	U	165	1	6.45	0.64	ppb	0.89	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	551022	0.60	581797	94.7	30 - 120
45	Sc	1	2336691	0.75	2574983	90.7	30 - 120
72	Ge	1	1100169	0.92	1211627	90.8	30 - 120
115	In	1	3126709	0.78	3426576	91.2	30 - 120
165	Ho	1	5251243	0.64	5647086	93.0	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\AG072109.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\AG072109.B\040SMPL.D\040SMPL.D#
 Date Acquired: Jul 21 2009 07:09 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJV 10X
 Misc Info: D9G110152
 Vial Number: 2304
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.12	0.01	ppb	86.63	3600	
51 V	72	1	16.34	1.63	ppb	14.05	3600	
52 Cr	72	1	858.20	85.82	ppb	0.42	3600	
55 Mn	72	1	62.25	6.23	ppb	0.82	3600	
59 Co	72	1	0.35	0.04	ppb	4.83	3600	
60 Ni	72	1	3.24	0.32	ppb	5.41	3600	
63 Cu	72	1	-0.11	-0.01	ppb	134.88	3600	
66 Zn	72	1	0.97	0.10	ppb	20.21	3600	
75 As	72	1	137.30	13.73	ppb	1.37	3600	
78 Se	72	1	1.53	0.15	ppb	126.27	3600	
95 Mo	72	1	23.17	2.32	ppb	1.07	3600	
107 Ag	115	1	0.03	0.00	ppb	74.34	3600	
111 Cd	115	1	0.05	0.00	ppb	97.57	3600	
118 Sn	115	1	-5.16	-0.52	ppb	3.23	3600	
121 Sb	115	1	0.22	0.02	ppb	2.16	3600	
137 Ba	115	1	20.27	2.03	ppb	4.70	3600	
205 Tl	165	1	0.11	0.01	ppb	13.97	3600	
208 Pb	165	1	0.08	0.01	ppb	23.24	3600	
232 Th	165	1	0.36	0.04	ppb	9.36	1000	
238 U	165	1	7.67	0.77	ppb	2.40	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	549478	0.91	581797	94.4	30 - 120	
45 Sc	1	2376723	1.71	2574983	92.3	30 - 120	
72 Ge	1	1096432	0.47	1211627	90.5	30 - 120	
115 In	1	3124200	0.99	3426576	91.2	30 - 120	
165 Ho	1	5324718	1.58	5647086	94.3	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\AG072109.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\AG072109.B\041SMPL.D\041SMPL.D#
 Date Acquired: Jul 21 2009 07:11 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJ3 10X
 Misc Info: D9G110155
 Vial Number: 2305
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.06	0.01	ppb	173.23	3600
51	V	72	1	25.99	2.60	ppb	1.41	3600
52	Cr	72	1	90.81	9.08	ppb	1.84	3600
55	Mn	72	1	2.28	0.23	ppb	3.91	3600
59	Co	72	1	0.28	0.03	ppb	8.82	3600
60	Ni	72	1	3.42	0.34	ppb	10.30	3600
63	Cu	72	1	-0.03	0.00	ppb	414.27	3600
66	Zn	72	1	9.09	0.91	ppb	0.15	3600
75	As	72	1	86.50	8.65	ppb	2.13	3600
78	Se	72	1	1.59	0.16	ppb	168.68	3600
95	Mo	72	1	35.52	3.55	ppb	3.38	3600
107	Ag	115	1	0.02	0.00	ppb	63.47	3600
111	Cd	115	1	0.11	0.01	ppb	91.74	3600
118	Sn	115	1	-5.25	-0.52	ppb	1.50	3600
121	Sb	115	1	0.16	0.02	ppb	27.09	3600
137	Ba	115	1	26.05	2.61	ppb	2.24	3600
205	Tl	165	1	0.06	0.01	ppb	15.71	3600
208	Pb	165	1	0.10	0.01	ppb	12.74	3600
232	Th	165	1	0.18	0.02	ppb	32.01	1000
238	U	165	1	8.01	0.80	ppb	0.86	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	558798	0.28	581797	96.0	30 - 120
45	Sc	1	2360484	0.64	2574983	91.7	30 - 120
72	Ge	1	1106065	0.59	1211627	91.3	30 - 120
115	In	1	3160658	0.73	3426576	92.2	30 - 120
165	Ho	1	5332925	0.28	5647086	94.4	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\AG072109.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\AG072109.B\042SMPL.D\042SMPL.D#
 Date Acquired: Jul 21 2009 07:14 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDKR 10X
 Misc Info: D9G110159
 Vial Number: 2306
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	30.44	3.04	ppb	4.27	3600
52	Cr	72	1	17.70	1.77	ppb	1.53	3600
55	Mn	72	1	3.41	0.34	ppb	1.05	3600
59	Co	72	1	0.10	0.01	ppb	35.67	3600
60	Ni	72	1	2.63	0.26	ppb	23.26	3600
63	Cu	72	1	-0.14	-0.01	ppb	158.27	3600
66	Zn	72	1	1.23	0.12	ppb	9.20	3600
75	As	72	1	57.13	5.71	ppb	1.32	3600
78	Se	72	1	2.47	0.25	ppb	139.38	3600
95	Mo	72	1	7.30	0.73	ppb	2.20	3600
107	Ag	115	1	0.01	0.00	ppb	150.52	3600
111	Cd	115	1	0.05	0.00	ppb	86.56	3600
118	Sn	115	1	-5.31	-0.53	ppb	1.46	3600
121	Sb	115	1	0.12	0.01	ppb	36.48	3600
137	Ba	115	1	22.02	2.20	ppb	2.09	3600
205	Tl	165	1	0.03	0.00	ppb	69.45	3600
208	Pb	165	1	0.07	0.01	ppb	7.65	3600
232	Th	165	1	0.10	0.01	ppb	23.71	1000
238	U	165	1	2.22	0.22	ppb	2.65	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	564989	0.50	581797	97.1	30 - 120
45	Sc	1	2392180	0.44	2574983	92.9	30 - 120
72	Ge	1	1130770	0.41	1211627	93.3	30 - 120
115	In	1	3228355	1.24	3426576	94.2	30 - 120
165	Ho	1	5420266	0.22	5647086	96.0	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\AG072109.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 Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\043 CCV.D\043 CCV.D#
 Date Acquired: Jul 21 2009 07:17 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: Jul 21 2009 05:31 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	49.65 ppb	2.08	50	99.3	90 - 110	
51	V	72	48.04 ppb	1.47	50	96.1	90 - 110	
52	Cr	72	48.72 ppb	2.23	50	97.4	90 - 110	
55	Mn	72	48.53 ppb	1.91	50	97.1	90 - 110	
59	Co	72	49.19 ppb	1.05	50	98.4	90 - 110	
60	Ni	72	50.51 ppb	2.15	50	101.0	90 - 110	
63	Cu	72	50.79 ppb	1.69	50	101.6	90 - 110	
66	Zn	72	49.91 ppb	2.28	50	99.8	90 - 110	
75	As	72	50.09 ppb	1.74	50	100.2	90 - 110	
78	Se	72	50.55 ppb	0.24	50	101.1	90 - 110	
95	Mo	72	50.44 ppb	2.04	50	100.9	90 - 110	
107	Ag	115	49.47 ppb	1.12	50	98.9	90 - 110	
111	Cd	115	49.64 ppb	0.86	50	99.3	90 - 110	
118	Sn	115	49.52 ppb	0.62	50	99.0	90 - 110	
121	Sb	115	49.46 ppb	1.50	50	98.9	90 - 110	
137	Ba	115	49.75 ppb	0.64	50	99.5	90 - 110	
205	Tl	165	52.25 ppb	1.18	50	104.5	90 - 110	
208	Pb	165	51.38 ppb	1.02	50	102.8	90 - 110	
232	Th	165	53.11 ppb	2.44	50	106.2	90 - 110	
238	U	165	53.01 ppb	0.71	50	106.0	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	536974	0.53	581797	92.3	30 - 120
45	Sc	1	2404825	0.90	2574983	93.4	30 - 120
72	Ge	1	1144216	1.59	1211627	94.4	30 - 120
115	In	1	3295604	0.45	3426576	96.2	30 - 120
165	Ho	1	5413800	0.49	5647086	95.9	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\AG072109.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\AG072109.B\044_CCB.D\044_CCB.D#
 Date Acquired: Jul 21 2009 07:20 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: Jul 21 2009 05:31 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	0.012	ppb	188.91	1.00	
52 Cr	72	1	-0.022	ppb	45.87	1.00	
55 Mn	72	1	-0.011	ppb	53.82	1.00	
59 Co	72	1	0.002	ppb	121.88	1.00	
60 Ni	72	1	0.007	ppb	120.83	1.00	
63 Cu	72	1	-0.039	ppb	12.93	1.00	
66 Zn	72	1	0.001	ppb	1830.70	1.00	
75 As	72	1	-0.015	ppb	100.54	1.00	
78 Se	72	1	0.063	ppb	454.20	1.00	
95 Mo	72	1	0.016	ppb	20.60	1.00	
107 Ag	115	1	0.010	ppb	21.43	1.00	
111 Cd	115	1	0.005	ppb	76.54	1.00	
118 Sn	115	1	-0.106	ppb	36.09	1.00	
121 Sb	115	1	0.051	ppb	15.99	1.00	
137 Ba	115	1	0.010	ppb	31.85	1.00	
205 Tl	165	1	0.020	ppb	11.21	1.00	
208 Pb	165	1	0.003	ppb	16.50	1.00	
232 Th	165	1	0.824	ppb	16.14	1.00	
238 U	165	1	0.009	ppb	11.26	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	540872	0.73	581797	93.0	30 - 120	
45 Sc	1	2418946	1.22	2574983	93.9	30 - 120	
72 Ge	1	1139717	0.72	1211627	94.1	30 - 120	
115 In	1	3281751	0.37	3426576	95.8	30 - 120	
165 Ho	1	5438318	1.15	5647086	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\AG072109.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\AG072109.B\045WASH.D\045WASH.D#
 Date Acquired: Jul 21 2009 07:22 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: Jul 21 2009 05:31 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	1.045 ppb	12.08	1.30	
51 V	72	1	5.035 ppb	1.01	6.50	
52 Cr	72	1	2.023 ppb	2.27	2.60	
55 Mn	72	1	1.007 ppb	2.81	1.30	
59 Co	72	1	1.000 ppb	4.78	1.30	
60 Ni	72	1	2.095 ppb	4.44	2.60	
63 Cu	72	1	2.025 ppb	2.63	2.60	
66 Zn	72	1	10.370 ppb	2.29	13.00	
75 As	72	1	5.157 ppb	1.05	6.50	
78 Se	72	1	4.848 ppb	12.40	6.50	
95 Mo	72	1	2.162 ppb	0.74	2.60	
107 Ag	115	1	5.141 ppb	1.03	6.50	
111 Cd	115	1	1.004 ppb	4.06	1.30	
118 Sn	115	1	9.907 ppb	0.76	13.00	
121 Sb	115	1	1.942 ppb	1.51	2.60	
137 Ba	115	1	1.047 ppb	5.14	1.30	
205 Tl	165	1	1.098 ppb	0.61	1.30	
208 Pb	165	1	1.094 ppb	0.45	1.30	
232 Th	165	1	2.411 ppb	1.64	2.60	
238 U	165	1	1.121 ppb	1.49	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	539872	0.98	581797	92.8	30 - 120	
45 Sc	1	2370772	1.41	2574983	92.1	30 - 120	
72 Ge	1	1136181	1.05	1211627	93.8	30 - 120	
115 In	1	3268605	0.72	3426576	95.4	30 - 120	
165 Ho	1	5404596	1.26	5647086	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\AG072109.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: D9G110155

Client: Northgate Environmental

Batch(es) #: 9194272

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: K. Hill 7/22/09

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>
D9G110155	1	SE	LGDJ31AC	20090721	6020TOTA	9194272	AG072109	024
D9G110155	1	AS	LGDJ31AA	20090721	6020TOTA	9194272	AG072109	024

**METALS
PREPARATION LOGS
ICP-MS**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: 9194272

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

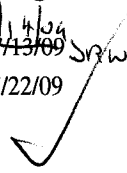
JRW

Prep Date:

7/14/09
07/13/09 *JRW*

Due Date:

07/22/09



<u>Lot</u>	<u>Work Order</u>			<u>Initial Weight/Volume</u>
D9G130000 Water	LGEER	B	Due Date: SDG:	<u>50 mL</u>
D9G130000 Water	LGEER	C	Due Date: SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total		Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total	S	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total	D	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100274 Water	LGCQK Total		Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G110152 Water	LGDJV Total		Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110155 Water	LGDJ3 Total		Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110159 Water	LGDKR Total		Due Date: 07/23/09 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
7/21/09*

*✓
2
7/22/09*

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9194272
PREP DATE: 7/14/2009

ALLIQUOTTED BY: JKH
DIGESTED BY: JRW

CONSUMABLES USED

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS267

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-2636-09	7/1/10	100uL	15
2008Cal-2	STD-2635-09	7/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO ₃	JT Baker	H12022	3

TEMPERATURE CYCLES

Thermometer ID: 2884 Block & Cup #: 2/30

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO ₃	1200	93	1615	92
HNO ₃	1630	92	1700	
HNO ₃				

Samples and QC revolved to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: [Signature]

Date: 7/14/09

**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

Jul-21-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD4841-08, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-ZN02045 Vendor's Expiration Date: 10-01-2009
Solvent: 2% HNO3
Date Prep./Opened: 09-04-2008 Date Received: 09-04-2008
Date Expires(1): 10-01-2009 (None)
Date Expires(2): 10-01-2009 (None)
(METALS)-Inventory ID: 779

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

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

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Se	1,000.0	1.0000

STD3611-09, ICP-MS 1ppm Sn/Zn

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 06-16-2009

Date Expires(1): 10-01-2009 (1 Year)

Analyst: DIAZL

Volume (ml): 10.000

Parent Std No.: STD3609-09, ICP-MS 10 ppm Zn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-01-2009 Parent Date Expires(2): 10-01-2009

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	10.000	1.0000

Parent Std No.: STD3610-09, ICP-MS 10 ppm Sn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	10.000	1.0000

STD4008-09, ICP-MS (024) INT STD BRC-HIGH

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 07-02-2009

Date Expires(1): 11-10-2009 (1 Year)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20

Volume (ml): 250.00

Parent Std No.: STD1469-09, Germanium Stock

Aliquot Amount (ml): 1.2000

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ge	1,000.0	4,800.0

Parent Std No.: STD1972-09, Lithium 6 Stock

Aliquot Amount (ml): 1.5000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Lithium6	1,000.0	6,000.0

Parent Std No.: STD1973-09, Indium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
In	1,000.0	1,600.0

Parent Std No.: STD6317-08, Scandium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sc	1,000.0	1,600.0

Parent Std No.: STD6318-08, Holmium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,600.0

STD4289-09, ICP-MS ICSEA

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 50.000

Date Prep./Opened: 07-20-2009

Date Expires(1): 08-20-2009 (1 Month)

Date Expires(2): 02-01-2010 (None)

pipettes: Met 8

Parent Std No.: STD0664-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 5.0000

Parent Date Expires(1): 02-01-2010 Parent Date Expires(2): 02-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

STD4309-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water

Volume (ml): 1,000.0

Date Prep./Opened: 07-21-2009

Date Expires(1): 08-21-2009 (1 Month)

Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD4308-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD4310-09, ICP-MS 10 ppm Sn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 03-01-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.1000
 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	10.000

STD4311-09, ICP-MS 100 ppb cal

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 50.000

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	20.000	100.00

Sb 20.000 100.00
 Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Fe	1,000.0	5,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4312-09, ICP-MS CCV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 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>
V	20.000	50.000
Zn	20.000	50.000
Ag	20.000	50.000
Al	20.000	50.000
As	20.000	50.000
Ba	20.000	50.000
Be	20.000	50.000
Cd	20.000	50.000
Co	20.000	50.000
Cr	20.000	50.000
Cu	20.000	50.000
Mn	20.000	50.000
Ni	20.000	50.000
Pb	20.000	50.000
Se	20.000	50.000
Th	20.000	50.000
Tl	20.000	50.000
U	20.000	50.000

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	50.000
Sb	20.000	50.000

Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
------------------	----------------------------	--------------------------

Fe 1,000.0 2,500.0
 Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sn	10.000	50.000

STD4313-09, ICP-MS RL STD

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 pipettes: Met 21 and Met 8

Analyst: DIAZL
 Volume (ml): 10.000

Parent Std No.: STD3611-09, ICP-MS 1ppm Sn/Zn

Aliquot Amount (ml): 0.0900

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD4311-09, ICP-MS 100 ppb cal

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 07-22-2009

Component	Initial Conc (ug/L)	Final Conc (mg/L)
V	100.00	0.0010
Zn	100.00	0.0010
Ag	100.00	0.0010
Al	100.00	0.0010
As	100.00	0.0010
Ba	100.00	0.0010
Be	100.00	0.0010
Cd	100.00	0.0010
Co	100.00	0.0010
Cr	100.00	0.0010
Cu	100.00	0.0010
Mn	100.00	0.0010
Ni	100.00	0.0010
Pb	100.00	0.0010
Se	100.00	0.0010
Th	100.00	0.0010
Tl	100.00	0.0010
U	100.00	0.0010
Mo	100.00	0.0010
Sb	100.00	0.0010
Fe	5,000.0	0.0500
Sn	100.00	0.0010

STD4314-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (2 Days)
 pipettes: Met 20 and Met 8

Volume (ml): 10.000

Parent Std No.: STD4313-09, 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
V	0.0010	0.0002
Zn	0.0010	0.0002
Ag	0.0010	0.0002
Al	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
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Fe	0.0500	0.0100
Sn	0.0010	0.0002

STD4315-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21, Met 20, and Met 8

Volume (ml): 10.000

Parent Std No.: STD1978-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-01-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.0500

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>
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.0500

Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	100.00
Sb	20.000	100.00

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4316-09, ICPMS LR STD 1000 ppb

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 10.000

Date Prep./Opened: 07-21-2009

Date Expires(1): 07-22-2009 (1 Day)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20 and Met 8

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.5000
 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>
V	20.000	1,000.0
Zn	20.000	1,000.0
Ag	20.000	1,000.0
Al	20.000	1,000.0
As	20.000	1,000.0
Ba	20.000	1,000.0
Be	20.000	1,000.0
Cd	20.000	1,000.0
Co	20.000	1,000.0
Cr	20.000	1,000.0
Cu	20.000	1,000.0
Mn	20.000	1,000.0
Ni	20.000	1,000.0
Pb	20.000	1,000.0
Se	20.000	1,000.0
Th	20.000	1,000.0
Tl	20.000	1,000.0
U	20.000	1,000.0

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	1,000.0
Sb	20.000	1,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	1,000.0

STD4317-09, ICPMS ICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 02-27-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1213-09, ICPMS ICV SOLUTION A (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Al	10.000	40.000
As	10.000	40.000
Ba	10.000	40.000
Be	10.000	40.000
Cd	10.000	40.000

Co	10.000	40.000
Cr	10.000	40.000
Cu	10.000	40.000
Fe	250.00	1,000.0
Li	10.000	40.000
Mn	10.000	40.000
Ni	10.000	40.000
Pb	10.000	40.000
Se	10.000	40.000
Th	10.000	40.000
Tl	10.000	40.000
U	10.000	40.000
V	10.000	40.000
Zn	10.000	40.000

Parent Std No.: STD1214-09, ICPMS ICV SOLUTION B (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
Ag	10.000	40.000
Mo	10.000	40.000
Sb	10.000	40.000
Sn	10.000	40.000
Zr	10.000	40.000

STD4318-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (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

STD4319-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 05-01-2010 (None)
 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

Reviewed By: _____

LRD 07/21/2009

Denver

RUN SUMMARY

Method: 6020 (ICP/MS)

ICPMS_024 (024)

Reported: 07/22/09 11:30:44

File ID: AG072109

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	DF	Analyzed Date	Comment	Q
2	Cal Blank				1.0	07/21/09 17:25		<input type="checkbox"/>
3	Cal Blank				1.0	07/21/09 17:28		<input type="checkbox"/>
4	100 ppb				1.0	07/21/09 17:31		<input type="checkbox"/>
5	ICV				1.0	07/21/09 17:33		<input type="checkbox"/>
6	RLIV				1.0	07/21/09 17:36		<input type="checkbox"/>
7	ICB				1.0	07/21/09 17:39		<input type="checkbox"/>
8	RL STD				1.0	07/21/09 17:42		<input type="checkbox"/>
9	AFCEE RL				1.0	07/21/09 17:44		<input type="checkbox"/>
10	ALTSe				1.0	07/21/09 17:47		<input type="checkbox"/>
11	ICSA				1.0	07/21/09 17:50		<input type="checkbox"/>
12	ICSAB				1.0	07/21/09 17:53		<input type="checkbox"/>
13	RINSE				1.0	07/21/09 17:55		<input type="checkbox"/>
14	LR				1.0	07/21/09 17:58		<input type="checkbox"/>
15	RINSE				1.0	07/21/09 18:00		<input type="checkbox"/>
16	CCV				1.0	07/21/09 18:03		<input type="checkbox"/>
17	CCB				1.0	07/21/09 18:06		<input type="checkbox"/>
18	RLCV				1.0	07/21/09 18:09		<input type="checkbox"/>
19	LGEE4BF	D9G130000	9194274	MD	1.0	07/21/09 18:11		<input type="checkbox"/>
20	LGEE4CF	D9G130000	9194274	MD	1.0	07/21/09 18:14		<input type="checkbox"/>
21	LGDJWF 10X	D9G110152-2	9194274	MD	10.0	07/21/09 18:17		<input type="checkbox"/>
22	LGDJWP50F	D9G110152	9194274		50.0	07/21/09 18:20		<input type="checkbox"/>
23	LGDJWZF	D9G110152-2	9194274		1.0	07/21/09 18:22		<input type="checkbox"/>
24	LGDJWSF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:25		<input type="checkbox"/>
25	LGDJWDF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:28		<input type="checkbox"/>
26	CCV				1.0	07/21/09 18:30		<input type="checkbox"/>
27	CCB				1.0	07/21/09 18:33		<input type="checkbox"/>
28	RLCV				1.0	07/21/09 18:36		<input type="checkbox"/>
29	LGEERB	D9G130000	9194272	MS	1.0	07/21/09 18:39		<input type="checkbox"/>
30	LGEERC	D9G130000	9194272	MS	1.0	07/21/09 18:41		<input type="checkbox"/>
31	LGCN3 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:44		<input type="checkbox"/>
32	LGCN3P50	D9G100272	9194272		50.0	07/21/09 18:47		<input type="checkbox"/>
33	LGCN3Z	D9G100272-1	9194272		1.0	07/21/09 18:50		<input type="checkbox"/>
34	LGCN3S 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:52		<input type="checkbox"/>
35	CCV				1.0	07/21/09 18:55		<input type="checkbox"/>
36	CCB				1.0	07/21/09 18:58		<input type="checkbox"/>
37	RLCV				1.0	07/21/09 19:01		<input type="checkbox"/>
38	LGCN3D 10X	D9G100272-1	9194272	MS	10.0	07/21/09 19:03		<input type="checkbox"/>
39	LGCQK 10X	D9G100274-1	9194272	MS	10.0	07/21/09 19:06		<input type="checkbox"/>
40	LGDJV 10X	D9G110152-1	9194272	MS	10.0	07/21/09 19:09		<input type="checkbox"/>
41	LGDJ3 10X	D9G110155-1	9194272	MS	10.0	07/21/09 19:11		<input type="checkbox"/>
42	LGDKR 10X	D9G110159-1	9194272	MS	10.0	07/21/09 19:14		<input type="checkbox"/>
43	CCV				1.0	07/21/09 19:17		<input type="checkbox"/>
44	CCB				1.0	07/21/09 19:20		<input type="checkbox"/>
45	RLCV				1.0	07/21/09 19:22		<input type="checkbox"/>
46	LGFC2B	D9G140000	9195077	46	1.0	07/21/09 19:25		<input type="checkbox"/>
47	LGFC2C	D9G140000	9195077	46	1.0	07/21/09 19:28		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 07/22/09 11:30:44
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File ID: AG072109

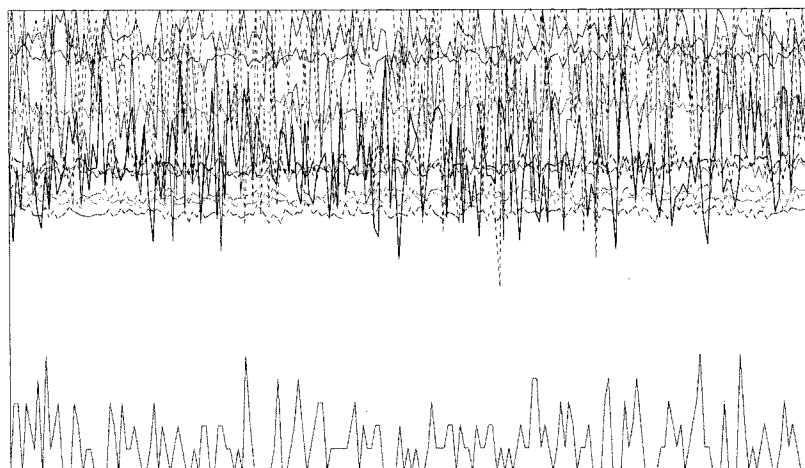
Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
48	LGEAD	D9G130118-1	9195077	U1	1.0	07/21/09 19:31	<input type="checkbox"/>
49	LGEAR	D9G130118-2	9195077	U1	1.0	07/21/09 19:33	<input type="checkbox"/>
50	LGEAX	D9G130118-3	9195077	U1	1.0	07/21/09 19:36	<input type="checkbox"/>
51	LGEA0	D9G130118-4	9195077	U1	1.0	07/21/09 19:39	<input type="checkbox"/>
52	LGEA2	D9G130118-5	9195077	U1	1.0	07/21/09 19:42	<input type="checkbox"/>
53	LGEA3	D9G130118-6	9195077	U1	1.0	07/21/09 19:44	<input type="checkbox"/>
54	CCV				1.0	07/21/09 19:47	<input type="checkbox"/>
55	CCB				1.0	07/21/09 19:50	<input type="checkbox"/>
56	RLCV				1.0	07/21/09 19:53	<input type="checkbox"/>
57	LGEA4	D9G130118-7	9195077	U1	1.0	07/21/09 19:55	<input type="checkbox"/>
58	LGEFC	D9G130118-8	9195077	U1	1.0	07/21/09 19:58	<input type="checkbox"/>
59	LGEFF	D9G130118-9	9195077	U1	1.0	07/21/09 20:01	<input type="checkbox"/>
60	LGEFH	D9G130118-10	9195077	U1	1.0	07/21/09 20:03	<input type="checkbox"/>
61	LGEFL	D9G130118-11	9195077	U1	1.0	07/21/09 20:06	<input type="checkbox"/>
62	LGEFLP5	D9G130118	9195077		5.0	07/21/09 20:09	<input type="checkbox"/>
63	LGEFLZ	D9G130118-11	9195077		1.0	07/21/09 20:11	<input type="checkbox"/>
64	LGEFLS	D9G130118-11	9195077	U1	1.0	07/21/09 20:14	<input type="checkbox"/>
65	CCV				1.0	07/21/09 20:17	<input type="checkbox"/>
66	CCB				1.0	07/21/09 20:20	<input type="checkbox"/>
67	RLCV				1.0	07/21/09 20:22	<input type="checkbox"/>
68	LGEFLD	D9G130118-11	9195077	U1	1.0	07/21/09 20:25	<input type="checkbox"/>
69	LGEFT	D9G130118-12	9195077	U1	1.0	07/21/09 20:28	<input type="checkbox"/>
70	LGEFX	D9G130118-13	9195077	U1	1.0	07/21/09 20:30	<input type="checkbox"/>
71	LGEF3	D9G130118-14	9195077	U1	1.0	07/21/09 20:33	<input type="checkbox"/>
72	LGEF4	D9G130118-15	9195077	U1	1.0	07/21/09 20:36	<input type="checkbox"/>
73	LGEF6	D9G130118-16	9195077	U1	1.0	07/21/09 20:39	<input type="checkbox"/>
74	LGEF8	D9G130118-17	9195077	U1	1.0	07/21/09 20:41	<input type="checkbox"/>
75	CCV				1.0	07/21/09 20:44	<input type="checkbox"/>
76	CCB				1.0	07/21/09 20:47	<input type="checkbox"/>
77	RLCV				1.0	07/21/09 20:50	<input type="checkbox"/>
78	LGKQWBF	D9G160000	9197227	MD	1.0	07/21/09 20:52	<input type="checkbox"/>
79	LGKQWCF	D9G160000	9197227	MD	1.0	07/21/09 20:55	<input type="checkbox"/>
80	LGH2HF 10X	D9G150224-2	9197227	MD	10.0	07/21/09 20:58	<input type="checkbox"/>
81	LGH2HP50F	D9G150224	9197227		50.0	07/21/09 21:01	<input type="checkbox"/>
82	LGH2HZF	D9G150224-2	9197227		1.0	07/21/09 21:03	<input type="checkbox"/>
83	LGH2HSF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:06	<input type="checkbox"/>
84	LGH2HDF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:09	<input type="checkbox"/>
85	CCV				1.0	07/21/09 21:12	<input type="checkbox"/>
86	CCB				1.0	07/21/09 21:14	<input type="checkbox"/>
87	RLCV				1.0	07/21/09 21:17	<input type="checkbox"/>
88	LGKQDB	D9G160000	9197220	MS	1.0	07/21/09 21:20	<input type="checkbox"/>
89	LGKQDC	D9G160000	9197220	MS	1.0	07/21/09 21:23	<input type="checkbox"/>
90	LGH2F 10X	D9G150224-1	9197220	MS	10.0	07/21/09 21:25	<input type="checkbox"/>
91	LGH2FP50	D9G150224	9197220		50.0	07/21/09 21:28	<input type="checkbox"/>
92	LGH2FZ	D9G150224-1	9197220		1.0	07/21/09 21:31	<input type="checkbox"/>

DNW 7/22/09

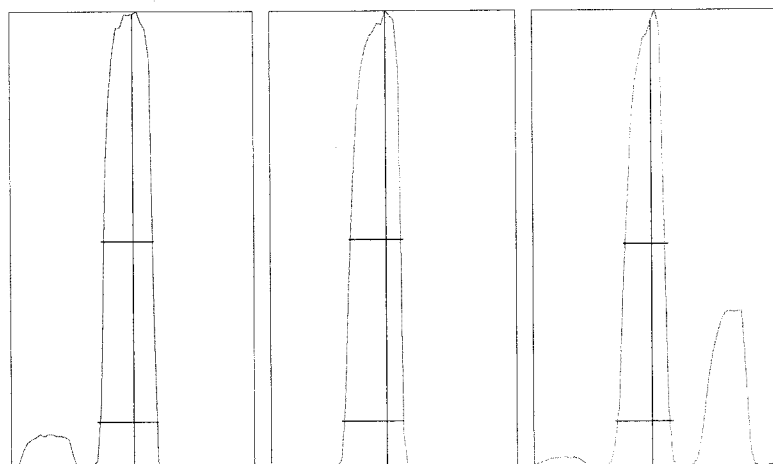
Tune Report

Tune File : NORM.U
 Comment :



Integration Time: 0.1000 sec
 Sampling Period: 1.5300 sec
 n: 200
 Oxide: 156/140 1.281%
 Doubly Charged: 70/140 0.506%

m/z	Range	Count	Mean	RSD%	Background
6	1,000	891.0	940.8	3.63	0.70
7	20,000	13129.0	13059.6	1.91	0.60
59	10,000	7602.0	7856.2	2.40	0.50
63	50	42.0	39.4	16.38	0.30
70	100	78.0	67.2	13.40	0.50
75	20	0.0	1.2	102.35	0.80
78	50	43.0	48.7	14.56	0.50
89	20,000	12125.0	12029.4	1.86	1.00
115	20,000	11842.0	11739.1	1.63	0.80
118	50	34.0	39.7	21.11	1.30
137	2,000	1330.0	1323.1	2.85	1.10
205	20,000	11244.0	11223.5	1.66	1.80
238	20,000	17300.0	17931.0	1.60	2.40
156/140	2	1.192%	1.337%	8.61	
70/140	2	0.664%	0.568%	13.49	



m/z:	7	89	205
Height:	13,051	12,146	11,336
Axis:	7.05	88.95	205.00
W-50%:	0.65	0.65	0.55
W-10%:	0.7500	0.7500	0.700

Integration Time: 0.1000 sec
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

===Plasma Condition===

RF Power : 1550 W
RF Matching : 1.7 V
Smpl Depth : 7.5 mm
Torch-H : -0.8 mm
Torch-V : -0.3 mm
Carrier Gas : 0.83 L/min
Makeup Gas : 0.2 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 : -160 V
Omega Bias-ce : -30 V
Omega Lens-ce : 0 V
Cell Entrance : -30 V
QP Focus : 7 V
Cell Exit : -30 V

===Octopole Parameters===

OctP RF : 180 V
OctP Bias : -18 V

===Q-Pole Parameters===

AMU Gain : 133
AMU Offset : 122
Axis Gain : 1.0005
Axis Offset : -0.02
QP Bias : 0 V

===Detector Parameters===

Discriminator : 8 mV
Analog HV : 1720 V
Pulse HV : 1390 V

===Reaction Cell===

Reaction Mode : OFF
H2 Gas : 0 mL/min He Gas : 0 mL/min Optional Gas : --- %

P/A Factor Tuning Report

Acquired: Jul 21 2009 04:50 pm

Mass[amu]	Element	P/A Factor
6	Li	0.061203
7	(Li)	Sensitivity too low
9	Be	0.068907
45	Sc	0.083389
51	V	0.086007
52	Cr	0.088320
53	(Cr)	Sensitivity too low
55	Mn	0.090395
59	Co	0.093203
60	Ni	Sensitivity too low
63	Cu	Sensitivity too low
66	Zn	0.096924
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
95	Mo	0.096067
98	(Mo)	0.096151
99	(Mo)	Sensitivity too low
106	(Cd)	0.101305
107	Ag	Sensitivity too low
108	(Cd)	0.101769
111	Cd	0.102139
114	Cd	0.102089
115	In	0.101222
118	Sn	0.101067
121	Sb	0.100944
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
205	Tl	0.109272
206	(Pb)	0.108216
207	(Pb)	0.108287
208	Pb	0.107820
232	Th	0.106452
238	U	0.106481

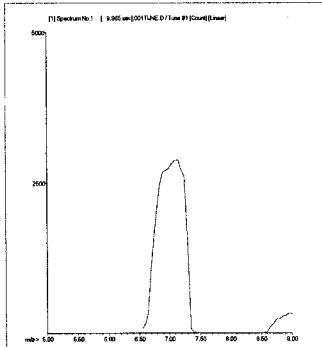
===Detector Parameters===

Discriminator: 8.0 mV
Analog HV: 1720 V
Pulse HV: 1390 V

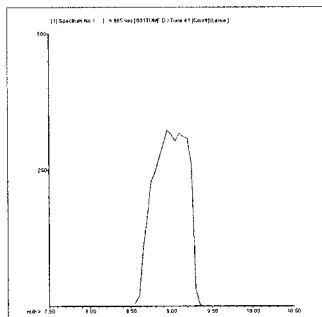
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\001TUNE.D
 Date Acquired: Jul 21 2009 05:22 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

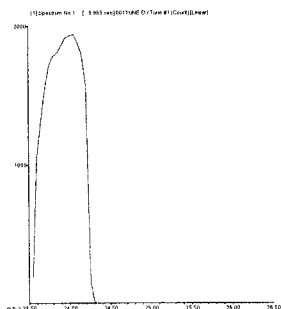
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	31515	31705	31773	31422	31500	31173	0.76	5.00	
9 Be	3503	3538	3524	3507	3428	3516	1.23	5.00	
24 Mg	22462	22829	22575	22353	22572	21980	1.41	5.00	
59 Co	93114	93607	93864	90894	94187	93020	1.41	5.00	
115 In	1915406	1918606	1914965	1924578	1915696	1903185	0.41	5.00	
208 Pb	92064	92990	92149	91680	92260	91243	0.71	5.00	
238 U	187429	191379	187170	188068	186178	184351	1.39	5.00	



7 Li
Mass Calib.
 Actual: 7.10
 Required: 6.90 - 7.10
 Flag:
Peak Width
 Actual: 0.65
 Required: 0.90
 Flag:



9 Be
Mass Calib.
 Actual: 9.05
 Required: 8.90 - 9.10
 Flag:
Peak Width
 Actual: 0.60
 Required: 0.90
 Flag:



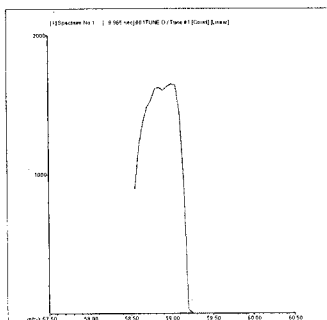
24 Mg

Mass Calib.

Actual: 24.00
Required: 23.90 - 24.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



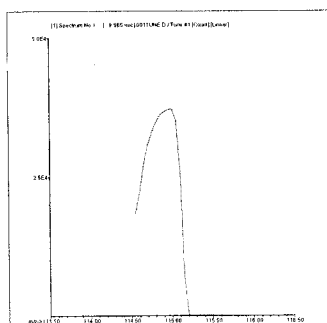
59 Co

Mass Calib.

Actual: 58.95
Required: 58.90 - 59.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



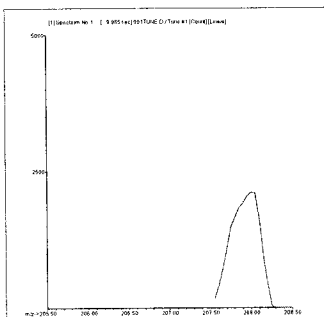
115 In

Mass Calib.

Actual: 114.95
Required: 114.90 - 115.10
Flag:

Peak Width

Actual: 0.55
Required: 0.90
Flag:



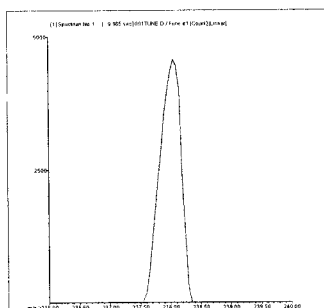
208 Pb

Mass Calib.

Actual: 207.95
Required: 207.90 - 208.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



238 U

Mass Calib.

Actual: 238.05
Required: 237.90 - 238.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:

Tune Result:

Pass

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\002CALB.D\002CALB.D#
 Date Acquired: Jul 21 2009 05:25 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	31	3276.40
52	Cr	72	1	2800	9.18
55	Mn	72	1	1283	9.62
59	Co	72	1	87	67.61
60	Ni	72	1	67	17.32
63	Cu	72	1	503	6.39
66	Zn	72	1	251	8.30
75	As	72	1	105	7.67
78	Se	72	1	513	6.26
95	Mo	72	1	73	15.75
107	Ag	115	1	7	86.60
111	Cd	115	1	9	188.13
118	Sn	115	1	2750	17.56
121	Sb	115	1	19	50.94
137	Ba	115	1	49	3.94
205	Tl	165	1	263	12.21
208	Pb	165	1	323	8.05
232	Th	165	1	220	25.31
238	U	165	1	96	8.06

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	576535	0.69
45	Sc	1	2595280	0.11
72	Ge	1	1228451	0.87
115	In	1	3471486	1.12
165	Ho	1	5707578	1.58

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\AG072109.B\003CALB.D\003CALB.D#
 Date Acquired: Jul 21 2009 05:28 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	84	380.78
52	Cr	72	1	3224	4.61
55	Mn	72	1	1180	18.88
59	Co	72	1	67	31.23
60	Ni	72	1	77	39.85
63	Cu	72	1	673	17.84
66	Zn	72	1	341	12.93
75	As	72	1	105	1.10
78	Se	72	1	570	15.79
95	Mo	72	1	90	19.25
107	Ag	115	1	10	100.00
111	Cd	115	1	6	183.92
118	Sn	115	1	4558	14.33
121	Sb	115	1	23	37.80
137	Ba	115	1	41	44.66
205	Tl	165	1	229	12.72
208	Pb	165	1	279	7.30
232	Th	165	1	273	29.57
238	U	165	1	22	43.30

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	581797	1.92
45	Sc	1	2574983	0.83
72	Ge	1	1211627	0.38
115	In	1	3426576	0.51
165	Ho	1	5647086	0.49

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\AG072109.B\004ICAL.D\004ICAL.D#
 Date Acquired: Jul 21 2009 05:31 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: Jul 21 2009 05:29 pm
 Sample Type: ICAL

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	59445	1.77
51	V	72	1239197	0.92
52	Cr	72	1240930	1.80
55	Mn	72	1500976	1.14
59	Co	72	1532853	1.14
60	Ni	72	335568	1.43
63	Cu	72	783637	0.77
66	Zn	72	184990	0.36
75	As	72	150136	1.32
78	Se	72	29896	1.27
95	Mo	72	401051	0.94
107	Ag	115	1170362	0.20
111	Cd	115	241527	0.35
118	Sn	115	706295	0.47
121	Sb	115	813196	0.45
137	Ba	115	335210	0.52
205	Tl	165	2698247	0.32
208	Pb	165	3677704	0.96
232	Th	165	3297948	2.01
238	U	165	3849572	0.35

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565258	0.19	581797	97.2	30 - 120
45	Sc	1	2567639	0.66	2574983	99.7	30 - 120
72	Ge	1	1211730	1.09	1211627	100.0	30 - 120
115	In	1	3431729	1.40	3426576	100.2	30 - 120
165	Ho	1	5634252	0.67	5647086	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\AG072109.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\AG072109.B\005_ICV.D\005_ICV.D#
 Date Acquired: Jul 21 2009 05:33 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: Jul 21 2009 05:31 pm
 Sample Type: ICV
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	39.64 ppb	0.79	40	99.1	90 - 110	
51	V	72	38.95 ppb	0.13	40	97.4	90 - 110	
52	Cr	72	39.22 ppb	0.44	40	98.1	90 - 110	
55	Mn	72	39.68 ppb	0.45	40	99.2	90 - 110	
59	Co	72	39.53 ppb	0.70	40	98.8	90 - 110	
60	Ni	72	40.23 ppb	0.53	40	100.6	90 - 110	
63	Cu	72	40.61 ppb	0.32	40	101.5	90 - 110	
66	Zn	72	40.51 ppb	1.02	40	101.3	90 - 110	
75	As	72	40.08 ppb	0.64	40	100.2	90 - 110	
78	Se	72	41.67 ppb	1.69	40	104.2	90 - 110	
95	Mo	72	39.87 ppb	0.41	40	99.7	90 - 110	
107	Ag	115	40.34 ppb	1.30	40	100.9	90 - 110	
111	Cd	115	41.12 ppb	0.91	40	102.8	90 - 110	
118	Sn	115	38.88 ppb	0.90	40	97.2	90 - 110	
121	Sb	115	38.65 ppb	1.11	40	96.6	90 - 110	
137	Ba	115	39.89 ppb	0.94	40	99.7	90 - 110	
205	Tl	165	40.05 ppb	1.21	40	100.1	90 - 110	
208	Pb	165	40.43 ppb	0.85	40	101.1	90 - 110	
232	Th	165	44.22 ppb	2.85	40	110.6	90 - 110	Fail
238	U	165	40.19 ppb	1.06	40	100.5	90 - 110	

NR

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	561236	0.19	581797	96.5	30 - 120
45	Sc	1	2582771	1.09	2574983	100.3	30 - 120
72	Ge	1	1213066	0.25	1211627	100.1	30 - 120
115	In	1	3417703	1.00	3426576	99.7	30 - 120
165	Ho	1	5664293	1.10	5647086	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\AG072109.B\003CALB.D\003CALB.D#

1 :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\AG072109.B\006WASH.D\006WASH.D#
 Date Acquired: Jul 21 2009 05:36 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: Jul 21 2009 05:31 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	1.123 ppb	10.30	1.30	
51 V	72	1	4.905 ppb	4.36	6.50	
52 Cr	72	1	2.008 ppb	1.94	2.60	
55 Mn	72	1	1.040 ppb	1.71	1.30	
59 Co	72	1	1.042 ppb	3.30	1.30	
60 Ni	72	1	2.082 ppb	1.95	2.60	
63 Cu	72	1	2.043 ppb	4.81	2.60	
66 Zn	72	1	10.290 ppb	0.55	13.00	
75 As	72	1	5.041 ppb	1.23	6.50	
78 Se	72	1	5.606 ppb	11.10	6.50	
95 Mo	72	1	2.125 ppb	3.10	2.60	
107 Ag	115	1	5.269 ppb	0.93	6.50	
111 Cd	115	1	0.985 ppb	1.12	1.30	
118 Sn	115	1	10.060 ppb	1.78	13.00	
121 Sb	115	1	2.181 ppb	4.53	2.60	
137 Ba	115	1	1.073 ppb	3.26	1.30	
205 Tl	165	1	1.130 ppb	0.27	1.30	
208 Pb	165	1	1.039 ppb	0.95	1.30	
232 Th	165	1	2.777 ppb	3.32	2.60	
238 U	165	1	1.064 ppb	0.97	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	561585	0.30	581797	96.5	30 - 120	
45 Sc	1	2567497	0.65	2574983	99.7	30 - 120	
72 Ge	1	1227558	0.55	1211627	101.3	30 - 120	
115 In	1	3427742	1.01	3426576	100.0	30 - 120	
165 Ho	1	5710214	1.06	5647086	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\AG072109.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

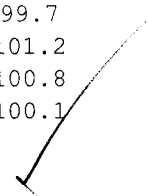
Data File: C:\ICPCHEM\1\DATA\AG072109.B\007_ICB.D\007_ICB.D#
 Date Acquired: Jul 21 2009 05:39 pm **QC Summary:**
 Operator: TEL **Analytes: Pass**
 Sample Name: ICB **ISTD: Pass**
 Misc Info:
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.03	ppb	107.86	1.00	
52 Cr	72	1	-0.02	ppb	42.01	1.00	
55 Mn	72	1	0.00	ppb	111.67	1.00	
59 Co	72	1	0.00	ppb	96.89	1.00	
60 Ni	72	1	0.00	ppb	233.62	1.00	
63 Cu	72	1	-0.01	ppb	109.12	1.00	
66 Zn	72	1	0.05	ppb	42.84	1.00	
75 As	72	1	-0.01	ppb	44.09	1.00	
78 Se	72	1	0.34	ppb	46.02	1.00	
95 Mo	72	1	0.01	ppb	40.98	1.00	
107 Ag	115	1	0.01	ppb	15.65	1.00	
111 Cd	115	1	0.00	ppb	432.82	1.00	
118 Sn	115	1	0.13	ppb	28.49	1.00	
121 Sb	115	1	0.08	ppb	2.06	1.00	
137 Ba	115	1	0.00	ppb	38.09	1.00	
205 Tl	165	1	0.03	ppb	5.05	1.00	
208 Pb	165	1	0.00	ppb	1255.10	1.00	
232 Th	165	1	0.16	ppb	5.89	1.00	
238 U	165	1	0.00	ppb	21.84	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	565985	1.59	581797	97.3	30 - 120	
45 Sc	1	2566622	0.99	2574983	99.7	30 - 120	
72 Ge	1	1225621	1.10	1211627	101.2	30 - 120	
115 In	1	3452773	0.47	3426576	100.8	30 - 120	
165 Ho	1	5650371	0.62	5647086	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\


ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\008RLST.D\008RLST.D#
 Date Acquired: Jul 21 2009 05:42 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: Jul 21 2009 05:31 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	1.05	ppb	12.11	1	104.7	50 - 150
51	V	72	1	0.93	ppb	7.33	1	93.2	50 - 150
52	Cr	72	1	0.97	ppb	3.56	1	97.0	50 - 150
55	Mn	72	1	1.00	ppb	2.49	1	100.4	50 - 150
59	Co	72	1	1.01	ppb	4.08	1	101.3	50 - 150
60	Ni	72	1	1.00	ppb	6.56	1	100.0	50 - 150
63	Cu	72	1	1.04	ppb	7.10	1	104.2	50 - 150
66	Zn	72	1	10.76	ppb	1.35	10	107.6	50 - 150
75	As	72	1	1.04	ppb	3.34	1	103.8	50 - 150
78	Se	72	1	0.82	ppb	33.53	1	81.6	50 - 150
95	Mo	72	1	1.01	ppb	7.76	1	101.0	50 - 150
107	Ag	115	1	1.02	ppb	2.10	1	101.5	50 - 150
111	Cd	115	1	1.10	ppb	3.31	1	109.6	50 - 150
118	Sn	115	1	10.23	ppb	1.35	10	102.3	50 - 150
121	Sb	115	1	1.05	ppb	1.23	1	104.8	50 - 150
137	Ba	115	1	1.05	ppb	4.58	1	104.8	50 - 150
205	Tl	165	1	1.07	ppb	2.73	1	106.5	50 - 150
208	Pb	165	1	1.05	ppb	1.07	1	104.7	50 - 150
232	Th	165	1	1.13	ppb	2.43	1	113.3	50 - 150
238	U	165	1	1.07	ppb	1.03	1	107.0	50 - 150

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565978	0.78	581797	97.3	30 - 120
45	Sc	1	2568028	1.20	2574983	99.7	30 - 120
72	Ge	1	1217338	0.15	1211627	100.5	30 - 120
115	In	1	3427497	0.45	3426576	100.0	30 - 120
165	Ho	1	5631637	1.02	5647086	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\AG072109.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\AG072109.B\009AFCE.D\009AFCE.D#
 Date Acquired: Jul 21 2009 05:44 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: Jul 21 2009 05:31 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	1	0.18 ppb	41.26	0	86.0	80 - 120	
51 V	72	1	0.12 ppb	39.38	0	67.0	80 - 120	
52 Cr	72	1	0.16 ppb	3.72	0	82.2	80 - 120	
55 Mn	72	1	0.20 ppb	3.24	0	98.6	80 - 120	
59 Co	72	1	0.20 ppb	5.85	0	99.3	80 - 120	
60 Ni	72	1	0.18 ppb	6.47	0	90.0	80 - 120	
63 Cu	72	1	0.32 ppb	10.85	0	155.1	80 - 120	
66 Zn	72	1	2.18 ppb	0.89	2	101.4	80 - 120	
75 As	72	1	0.20 ppb	9.34	0	94.3	80 - 120	
78 Se	72	1	0.27 ppb	16.59	0	168.2	80 - 120	
95 Mo	72	1	0.19 ppb	6.24	0	93.4	80 - 120	
107 Ag	115	1	0.20 ppb	4.78	0	99.7	80 - 120	
111 Cd	115	1	0.21 ppb	11.89	0	96.8	80 - 120	
118 Sn	115	1	1.58 ppb	4.76	2	77.3	80 - 120	
121 Sb	115	1	0.21 ppb	4.92	0	99.2	80 - 120	
137 Ba	115	1	0.22 ppb	2.48	0	102.6	80 - 120	
205 Tl	165	1	0.21 ppb	5.92	0	97.3	80 - 120	
208 Pb	165	1	0.20 ppb	3.45	0	95.3	80 - 120	
232 Th	165	1	0.24 ppb	4.96	0	106.3	80 - 120	
238 U	165	1	0.20 ppb	2.09	0	95.7	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	562011	1.45	581797	96.6	30 - 120	
45 Sc	1	2589915	1.12	2574983	100.6	30 - 120	
72 Ge	1	1216544	0.44	1211627	100.4	30 - 120	
115 In	1	3446931	1.30	3426576	100.6	30 - 120	
165 Ho	1	5682005	0.45	5647086	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\AG072109.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\AG072109.B\010SMPL.D\010SMPL.D#
 Date Acquired: Jul 21 2009 05:47 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: Jul 21 2009 05:31 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	-0.04	-0.04	ppb	104.30	3600	
52 Cr	72	1	-0.02	-0.02	ppb	103.76	3600	
55 Mn	72	1	0.02	0.02	ppb	16.79	3600	
59 Co	72	1	0.00	0.00	ppb	621.67	3600	
60 Ni	72	1	0.03	0.03	ppb	16.48	3600	
63 Cu	72	1	0.00	0.00	ppb	932.55	3600	
66 Zn	72	1	0.85	0.85	ppb	6.94	3600	
75 As	72	1	0.00	0.00	ppb	664.54	3600	
78 Se	72	1	2.10	2.10	ppb	12.34	3600	
95 Mo	72	1	-0.01	-0.01	ppb	45.44	3600	
107 Ag	115	1	0.00	0.00	ppb	58.87	3600	
111 Cd	115	1	0.01	0.01	ppb	69.14	3600	
118 Sn	115	1	0.05	0.05	ppb	347.56	3600	
121 Sb	115	1	0.02	0.02	ppb	33.89	3600	
137 Ba	115	1	0.02	0.02	ppb	46.40	3600	
205 Tl	165	1	0.01	0.01	ppb	7.09	3600	
208 Pb	165	1	0.01	0.01	ppb	32.33	3600	
232 Th	165	1	0.02	0.02	ppb	9.94	1000	
238 U	165	1	0.00	0.00	ppb	61.35	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	569704	0.90	581797	97.9	30 - 120	
45 Sc	1	2578530	1.74	2574983	100.1	30 - 120	
72 Ge	1	1225059	0.62	1211627	101.1	30 - 120	
115 In	1	3458256	0.73	3426576	100.9	30 - 120	
165 Ho	1	5659536	0.49	5647086	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\AG072109.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\AG072109.B\011ICSA.D\011ICSA.D#
 Date Acquired: Jul 21 2009 05:50 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: Jul 21 2009 05:31 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	86.57	1.00
51	V	72	1	-0.32 ppb	45.77	1.00
52	Cr	72	1	1.09 ppb	1.54	1.00
55	Mn	72	1	3.02 ppb	2.13	1.00
59	Co	72	1	0.14 ppb	6.32	1.00
60	Ni	72	1	1.14 ppb	8.51	1.00
63	Cu	72	1	0.52 ppb	6.79	1.00
66	Zn	72	1	4.12 ppb	0.37	10.00
75	As	72	1	0.41 ppb	6.37	1.00
78	Se	72	1	0.21 ppb	202.38	1.00
95	Mo	72	1	2029.00 ppb	1.48	2000.00
107	Ag	115	1	0.08 ppb	1.65	1.00
111	Cd	115	1	0.53 ppb	11.29	1.00
118	Sn	115	1	6.55 ppb	2.38	10.00
121	Sb	115	1	0.25 ppb	8.83	1.00
137	Ba	115	1	1.63 ppb	3.16	1.00
205	Tl	165	1	0.06 ppb	23.67	1.00
208	Pb	165	1	0.15 ppb	1.74	1.00
232	Th	165	1	0.06 ppb	7.65	1.00
238	U	165	1	0.04 ppb	4.73	1.00

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	541828	0.30	581797	93.1	30 - 120
45	Sc	1	2271867	1.39	2574983	88.2	30 - 120
72	Ge	1	1037781	0.72	1211627	85.7	30 - 120
115	In	1	2905629	2.08	3426576	84.8	30 - 120
165	Ho	1	5091704	1.12	5647086	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\013SMPL.D\013SMPL.D#
 Date Acquired: Jul 21 2009 05:55 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: Jul 21 2009 05:31 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	-0.06	-0.06	ppb	105.43	3600
52	Cr	72	1	-0.03	-0.03	ppb	42.33	3600
55	Mn	72	1	-0.01	-0.01	ppb	103.23	3600
59	Co	72	1	0.00	0.00	ppb	103.31	3600
60	Ni	72	1	0.00	0.00	ppb	490.13	3600
63	Cu	72	1	-0.01	-0.01	ppb	55.36	3600
66	Zn	72	1	0.02	0.02	ppb	39.30	3600
75	As	72	1	0.01	0.01	ppb	237.74	3600
78	Se	72	1	0.22	0.22	ppb	124.98	3600
95	Mo	72	1	1.24	1.24	ppb	2.11	3600
107	Ag	115	1	0.01	0.01	ppb	32.64	3600
111	Cd	115	1	-0.01	-0.01	ppb	87.55	3600
118	Sn	115	1	-0.44	-0.44	ppb	9.84	3600
121	Sb	115	1	0.04	0.04	ppb	10.44	3600
137	Ba	115	1	0.00	0.00	ppb	198.65	3600
205	Tl	165	1	0.00	0.00	ppb	32.40	3600
208	Pb	165	1	0.00	0.00	ppb	60.85	3600
232	Th	165	1	0.61	0.61	ppb	14.09	1000
238	U	165	1	0.01	0.01	ppb	16.27	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	617032	1.01	581797	106.1	30 - 120
45	Sc	1	2571917	0.32	2574983	99.9	30 - 120
72	Ge	1	1207363	0.62	1211627	99.6	30 - 120
115	In	1	3468973	0.41	3426576	101.2	30 - 120
165	Ho	1	5751339	0.52	5647086	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\AG072109.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\AG072109.B\014_LR.D\014_LR.D#
 Date Acquired: Jul 21 2009 05:58 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LR
 Misc Info:
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	983.10 ppb	1.47	1000	98.3	90 - 110
51	V	72	1	931.80 ppb	1.87	1000	93.2	90 - 110
52	Cr	72	1	958.10 ppb	0.33	1000	95.8	90 - 110
55	Mn	72	1	959.10 ppb	0.74	1000	95.9	90 - 110
59	Co	72	1	962.90 ppb	0.81	1000	96.3	90 - 110
60	Ni	72	1	976.00 ppb	1.67	1000	97.6	90 - 110
63	Cu	72	1	952.70 ppb	0.56	1000	95.3	90 - 110
66	Zn	72	1	1036.00 ppb	1.42	1000	103.6	90 - 110
75	As	72	1	1038.00 ppb	0.83	1000	103.8	90 - 110
78	Se	72	1	1037.00 ppb	0.75	1000	103.7	90 - 110
95	Mo	72	1	998.50 ppb	1.19	1000	99.9	90 - 110
107	Ag	115	1	960.60 ppb	0.36	1000	96.1	90 - 110
111	Cd	115	1	1018.00 ppb	1.94	1000	101.8	90 - 110
118	Sn	115	1	980.00 ppb	0.99	1000	98.0	90 - 110
121	Sb	115	1	975.20 ppb	0.25	1000	97.5	90 - 110
137	Ba	115	1	1014.00 ppb	0.78	1000	101.4	90 - 110
205	Tl	165	1	970.30 ppb	1.49	1000	97.0	90 - 110
208	Pb	165	1	959.70 ppb	1.43	1000	96.0	90 - 110
232	Th	165	1	1070.00 ppb	0.39	1000	107.0	90 - 110
238	U	165	1	1001.00 ppb	0.48	1000	100.1	90 - 110

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	602525	1.07	581797	103.6	30 - 120
45	Sc	1	2585868	0.95	2574983	100.4	30 - 120
72	Ge	1	1215769	0.81	1211627	100.3	30 - 120
115	In	1	3432627	0.12	3426576	100.2	30 - 120
165	Ho	1	5756427	0.96	5647086	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\AG072109.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\AG072109.B\015SMPL.D\015SMPL.D#
 Date Acquired: Jul 21 2009 06:00 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: Jul 21 2009 05:31 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	173.21	3600
51	V	72	1	0.00	0.00	ppb	1096.50	3600
52	Cr	72	1	-0.02	-0.02	ppb	214.11	3600
55	Mn	72	1	-0.01	-0.01	ppb	54.41	3600
59	Co	72	1	0.02	0.02	ppb	17.45	3600
60	Ni	72	1	0.02	0.02	ppb	36.35	3600
63	Cu	72	1	0.00	0.00	ppb	3434.80	3600
66	Zn	72	1	0.04	0.04	ppb	59.09	3600
75	As	72	1	0.04	0.04	ppb	18.32	3600
78	Se	72	1	0.56	0.56	ppb	27.17	3600
95	Mo	72	1	0.75	0.75	ppb	9.81	3600
107	Ag	115	1	0.03	0.03	ppb	9.09	3600
111	Cd	115	1	0.01	0.01	ppb	55.86	3600
118	Sn	115	1	0.58	0.58	ppb	22.30	3600
121	Sb	115	1	0.43	0.43	ppb	9.45	3600
137	Ba	115	1	0.02	0.02	ppb	30.56	3600
205	Tl	165	1	0.10	0.10	ppb	12.56	3600
208	Pb	165	1	0.02	0.02	ppb	9.09	3600
232	Th	165	1	3.70	3.70	ppb	19.86	1000
238	U	165	1	0.09	0.09	ppb	9.53	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	604269	1.86	581797	103.9	30 - 120
45	Sc	1	2589065	0.70	2574983	100.5	30 - 120
72	Ge	1	1243813	0.46	1211627	102.7	30 - 120
115	In	1	3483172	1.13	3426576	101.7	30 - 120
165	Ho	1	5709115	0.24	5647086	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\AG072109.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\AG072109.B\017_CCB.D\017_CCB.D#
 Date Acquired: Jul 21 2009 06:06 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: Jul 21 2009 05:31 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	0.005	ppb	173.19	1.00	
51 V	72	1	-0.062	ppb	129.47	1.00	
52 Cr	72	1	-0.026	ppb	83.65	1.00	
55 Mn	72	1	-0.007	ppb	143.47	1.00	
59 Co	72	1	0.002	ppb	146.67	1.00	
60 Ni	72	1	0.009	ppb	171.37	1.00	
63 Cu	72	1	-0.013	ppb	47.42	1.00	
66 Zn	72	1	0.004	ppb	593.06	1.00	
75 As	72	1	0.008	ppb	83.97	1.00	
78 Se	72	1	0.635	ppb	21.48	1.00	
95 Mo	72	1	0.156	ppb	13.82	1.00	
107 Ag	115	1	0.013	ppb	10.04	1.00	
111 Cd	115	1	0.005	ppb	226.51	1.00	
118 Sn	115	1	0.091	ppb	27.58	1.00	
121 Sb	115	1	0.092	ppb	4.85	1.00	
137 Ba	115	1	0.007	ppb	96.12	1.00	
205 Tl	165	1	0.044	ppb	9.42	1.00	
208 Pb	165	1	0.005	ppb	16.13	1.00	
232 Th	165	1	0.846	ppb	15.54	1.00	
238 U	165	1	0.016	ppb	7.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	582937	1.46	581797	100.2	30 - 120	
45 Sc	1	2618279	0.49	2574983	101.7	30 - 120	
72 Ge	1	1228248	0.40	1211627	101.4	30 - 120	
115 In	1	3493471	0.25	3426576	102.0	30 - 120	
165 Ho	1	5729193	0.17	5647086	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\AG072109.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\AG072109.B\018WASH.D\018WASH.D#
 Date Acquired: Jul 21 2009 06:09 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: Jul 21 2009 05:31 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	1.506 ppb	66.40	1.30	
51 V	72	1	5.354 ppb	9.73	6.50	
52 Cr	72	1	2.294 ppb	19.68	2.60	
55 Mn	72	1	1.341 ppb	40.40	1.30	
59 Co	72	1	1.372 ppb	41.06	1.30	
60 Ni	72	1	2.353 ppb	23.65	2.60	
63 Cu	72	1	2.412 ppb	17.43	2.60	
66 Zn	72	1	10.710 ppb	7.57	13.00	
75 As	72	1	5.663 ppb	11.90	6.50	
78 Se	72	1	5.717 ppb	11.15	6.50	
95 Mo	72	1	4.400 ppb	84.36	2.60	
107 Ag	115	1	5.364 ppb	3.44	6.50	
111 Cd	115	1	1.442 ppb	41.34	1.30	
118 Sn	115	1	10.180 ppb	5.67	13.00	
121 Sb	115	1	2.278 ppb	21.30	2.60	
137 Ba	115	1	1.364 ppb	42.96	1.30	
205 Tl	165	1	1.415 ppb	39.27	1.30	
208 Pb	165	1	1.446 ppb	47.86	1.30	
232 Th	165	1	2.676 ppb	20.73	2.60	
238 U	165	1	1.427 ppb	40.32	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	598481	1.35	581797	102.9	30 - 120	
45 Sc	1	2642231	1.82	2574983	102.6	30 - 120	
72 Ge	1	1250188	1.58	1211627	103.2	30 - 120	
115 In	1	3540347	1.66	3426576	103.3	30 - 120	
165 Ho	1	5791976	1.24	5647086	102.6	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\AG072109.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\AG072109.B\026_CCV.D\026_CCV.D#
 Date Acquired: Jul 21 2009 06:30 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: Jul 21 2009 05:31 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	49.60 ppb	3.76	50	99.2	90 - 110	
51	V	72	47.46 ppb	0.73	50	94.9	90 - 110	
52	Cr	72	48.46 ppb	1.90	50	96.9	90 - 110	
55	Mn	72	48.48 ppb	1.62	50	97.0	90 - 110	
59	Co	72	48.65 ppb	0.70	50	97.3	90 - 110	
60	Ni	72	49.63 ppb	1.26	50	99.3	90 - 110	
63	Cu	72	49.48 ppb	1.11	50	99.0	90 - 110	
66	Zn	72	49.17 ppb	0.85	50	98.3	90 - 110	
75	As	72	49.33 ppb	1.83	50	98.7	90 - 110	
78	Se	72	49.43 ppb	3.65	50	98.9	90 - 110	
95	Mo	72	49.52 ppb	1.74	50	99.0	90 - 110	
107	Ag	115	49.84 ppb	0.95	50	99.7	90 - 110	
111	Cd	115	49.79 ppb	0.88	50	99.6	90 - 110	
118	Sn	115	49.36 ppb	1.63	50	98.7	90 - 110	
121	Sb	115	49.58 ppb	0.60	50	99.2	90 - 110	
137	Ba	115	49.59 ppb	0.66	50	99.2	90 - 110	
205	Tl	165	50.54 ppb	0.83	50	101.1	90 - 110	
208	Pb	165	50.49 ppb	0.37	50	101.0	90 - 110	
232	Th	165	51.99 ppb	2.44	50	104.0	90 - 110	
238	U	165	51.90 ppb	0.76	50	103.8	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	571014	0.79	581797	98.1	30 - 120
45	Sc	1	2538915	1.25	2574983	98.6	30 - 120
72	Ge	1	1213633	1.83	1211627	100.2	30 - 120
115	In	1	3399341	0.85	3426576	99.2	30 - 120
165	Ho	1	5600207	0.53	5647086	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\AG072109.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\AG072109.B\027_CCB.D\027_CCB.D#
 Date Acquired: Jul 21 2009 06:33 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: Jul 21 2009 05:31 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	0.006	ppb	173.20	1.00	
51 V	72	1	-0.006	ppb	515.80	1.00	
52 Cr	72	1	-0.037	ppb	49.31	1.00	
55 Mn	72	1	-0.018	ppb	70.24	1.00	
59 Co	72	1	0.002	ppb	18.76	1.00	
60 Ni	72	1	0.005	ppb	28.03	1.00	
63 Cu	72	1	-0.039	ppb	12.85	1.00	
66 Zn	72	1	0.010	ppb	155.67	1.00	
75 As	72	1	-0.008	ppb	188.46	1.00	
78 Se	72	1	0.001	ppb	63037.00	1.00	
95 Mo	72	1	0.038	ppb	19.24	1.00	
107 Ag	115	1	0.006	ppb	44.60	1.00	
111 Cd	115	1	0.007	ppb	37.32	1.00	
118 Sn	115	1	-0.057	ppb	99.88	1.00	
121 Sb	115	1	0.059	ppb	8.11	1.00	
137 Ba	115	1	0.003	ppb	62.71	1.00	
205 Tl	165	1	0.021	ppb	14.15	1.00	
208 Pb	165	1	0.004	ppb	24.01	1.00	
232 Th	165	1	0.775	ppb	18.32	1.00	
238 U	165	1	0.010	ppb	13.56	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	568757	0.26	581797	97.8	30 - 120	
45 Sc	1	2523515	0.52	2574983	98.0	30 - 120	
72 Ge	1	1190357	0.87	1211627	98.2	30 - 120	
115 In	1	3393018	0.90	3426576	99.0	30 - 120	
165 Ho	1	5546048	0.69	5647086	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\AG072109.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\AG072109.B\028WASH.D\028WASH.D#
 Date Acquired: Jul 21 2009 06:36 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: Jul 21 2009 05:31 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	0.945 ppb	17.37	1.30	
51 V	72	1	5.047 ppb	0.91	6.50	
52 Cr	72	1	2.021 ppb	3.49	2.60	
55 Mn	72	1	1.010 ppb	5.40	1.30	
59 Co	72	1	1.024 ppb	2.85	1.30	
60 Ni	72	1	2.156 ppb	3.13	2.60	
63 Cu	72	1	2.053 ppb	0.90	2.60	
66 Zn	72	1	10.450 ppb	1.17	13.00	
75 As	72	1	5.192 ppb	1.28	6.50	
78 Se	72	1	5.235 ppb	5.22	6.50	
95 Mo	72	1	2.123 ppb	6.02	2.60	
107 Ag	115	1	5.226 ppb	1.25	6.50	
111 Cd	115	1	1.069 ppb	5.99	1.30	
118 Sn	115	1	9.851 ppb	1.45	13.00	
121 Sb	115	1	1.944 ppb	1.32	2.60	
137 Ba	115	1	1.079 ppb	5.58	1.30	
205 Tl	165	1	1.091 ppb	0.56	1.30	
208 Pb	165	1	1.065 ppb	1.02	1.30	
232 Th	165	1	2.329 ppb	1.74	2.60	
238 U	165	1	1.101 ppb	0.77	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	563752	0.35	581797	96.9	30 - 120	
45 Sc	1	2522070	0.50	2574983	97.9	30 - 120	
72 Ge	1	1195071	0.30	1211627	98.6	30 - 120	
115 In	1	3409514	0.82	3426576	99.5	30 - 120	
165 Ho	1	5555873	0.54	5647086	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\AG072109.B\003CALB.D\003CALB.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\AG072109.B\029_BLK.D\029_BLK.D#
 Date Acquired: Jul 21 2009 06:39 pm
 Operator: TEL
 Sample Name: LGEERB
 Misc Info: BLANK 9194272 6020
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.023 ppb	197.29	2.00	
52 Cr	72	1	0.079 ppb	10.06	2.00	
55 Mn	72	1	0.108 ppb	12.70	2.00	
59 Co	72	1	0.000 ppb	501.93	2.00	
60 Ni	72	1	0.025 ppb	81.97	2.00	
63 Cu	72	1	0.077 ppb	14.50	2.00	
66 Zn	72	1	0.692 ppb	2.78	2.00	
75 As	72	1	-0.001 ppb	1570.10	2.00	
78 Se	72	1	0.138 ppb	271.86	2.00	
95 Mo	72	1	0.012 ppb	30.51	2.00	
107 Ag	115	1	0.005 ppb	43.98	2.00	
111 Cd	115	1	0.003 ppb	153.49	2.00	
118 Sn	115	1	-0.388 ppb	3.06	2.00	
121 Sb	115	1	0.032 ppb	4.02	2.00	
137 Ba	115	1	0.024 ppb	41.42	2.00	
205 Tl	165	1	0.024 ppb	33.52	2.00	
208 Pb	165	1	0.010 ppb	10.00	2.00	
232 Th	165	1	0.149 ppb	18.82	2.00	
238 U	165	1	0.003 ppb	8.64	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567901	0.49	581797	97.6	30 - 120	
45 Sc	1	2536930	0.98	2574983	98.5	30 - 120	
72 Ge	1	1190052	0.57	1211627	98.2	30 - 120	
115 In	1	3404908	0.81	3426576	99.4	30 - 120	
165 Ho	1	5537384	1.21	5647086	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\030_LCS.D\030_LCS.D#
 Date Acquired: Jul 21 2009 06:41 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGEERC
 Misc Info: LCS
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	40.84	2.97	40	102.1	80 - 120
51	V	72	1	41.46	0.89	40	103.7	80 - 120
52	Cr	72	1	42.08	1.02	40	105.2	80 - 120
55	Mn	72	1	42.07	2.68	40	105.2	80 - 120
59	Co	72	1	42.43	1.84	40	106.1	80 - 120
60	Ni	72	1	43.29	2.68	40	108.2	80 - 120
63	Cu	72	1	43.58	2.40	40	109.0	80 - 120
66	Zn	72	1	41.11	1.13	40	102.8	80 - 120
75	As	72	1	41.33	1.55	40	103.3	80 - 120
78	Se	72	1	40.24	3.32	40	100.6	80 - 120
95	Mo	72	1	43.74	5.12	40	109.4	80 - 120
107	Ag	115	1	42.07	1.97	40	105.2	80 - 120
111	Cd	115	1	41.62	1.54	40	104.1	80 - 120
118	Sn	115	1	-0.06	879.10	40	-0.2	80 - 120
121	Sb	115	1	40.67	1.75	40	101.7	80 - 120
137	Ba	115	1	42.32	1.65	40	105.8	80 - 120
205	Tl	165	1	43.38	1.33	40	108.5	80 - 120
208	Pb	165	1	43.18	0.66	40	108.0	80 - 120
232	Th	165	1	46.22	3.01	40	115.6	80 - 120
238	U	165	1	44.22	0.28	40	110.6	80 - 120

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	572827	4.47	581797	98.5	30 - 120
45	Sc	1	2536116	1.65	2574983	98.5	30 - 120
72	Ge	1	1194379	2.43	1211627	98.6	30 - 120
115	In	1	3408702	2.96	3426576	99.5	30 - 120
165	Ho	1	5609006	1.65	5647086	99.3	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\AG072109.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\AG072109.B\031AREF.D\031AREF.D#
 Date Acquired: Jul 21 2009 06:44 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3 10X
 Misc Info: D9G100272
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: AllRef
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.11	0.01	ppb	86.58	3600	
51 V	72	1	21.63	2.16	ppb	7.43	3600	
52 Cr	72	1	6.32	0.63	ppb	7.96	3600	
55 Mn	72	1	5.24	0.52	ppb	6.66	3600	
59 Co	72	1	0.39	0.04	ppb	16.50	3600	
60 Ni	72	1	4.15	0.41	ppb	14.15	3600	
63 Cu	72	1	0.17	0.02	ppb	16.19	3600	
66 Zn	72	1	3.05	0.31	ppb	11.24	3600	
75 As	72	1	198.10	19.81	ppb	2.87	3600	
78 Se	72	1	4.94	0.49	ppb	39.09	3600	
95 Mo	72	1	16.44	1.64	ppb	4.40	3600	
107 Ag	115	1	0.09	0.01	ppb	63.79	3600	
111 Cd	115	1	0.13	0.01	ppb	29.31	3600	
118 Sn	115	1	-5.34	-0.53	ppb	1.82	3600	
121 Sb	115	1	0.48	0.05	ppb	8.21	3600	
137 Ba	115	1	33.07	3.31	ppb	2.19	3600	
205 Tl	165	1	0.27	0.03	ppb	15.00	3600	
208 Pb	165	1	0.16	0.02	ppb	10.80	3600	
232 Th	165	1	6.24	0.62	ppb	18.22	1000	
238 U	165	1	55.05	5.51	ppb	1.19	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567824	0.66	581797	97.6	30 - 120	
45 Sc	1	2404508	0.72	2574983	93.4	30 - 120	
72 Ge	1	1124528	1.16	1211627	92.8	30 - 120	
115 In	1	3208719	1.35	3426576	93.6	30 - 120	
165 Ho	1	5383143	1.62	5647086	95.3	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\DATA\AG072109.B\003CALB.D\003CALB.D#

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\032SDIL.D\032SDIL.D#
 Date Acquired: Jul 21 2009 06:47 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3P50
 Misc Info: SERIAL DILUTION
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SDIL
 Dilution Factor: 10.00

QC Summary:

Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG072109.B\031AREF.D\031AREF.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	0.43 ppb	23.28	0.43	99.3	90 - 110
52	Cr	72	1	0.29 ppb	4.37	0.13	229.3	90 - 110
55	Mn	72	1	0.15 ppb	6.68	0.10	144.4	90 - 110
59	Co	72	1	0.01 ppb	66.01	0.01	130.9	90 - 110
60	Ni	72	1	0.26 ppb	15.21	0.08	310.4	90 - 110
63	Cu	72	1	-0.01 ppb	106.68	0.00	-353.0	90 - 110
66	Zn	72	1	0.09 ppb	22.23	0.06	148.6	90 - 110
75	As	72	1	3.90 ppb	0.41	3.96	98.4	90 - 110
78	Se	72	1	0.05 ppb	1070.40	0.10	46.0	90 - 110
95	Mo	72	1	0.31 ppb	1.89	0.33	95.3	90 - 110
107	Ag	115	1	0.00 ppb	66.72	0.00	156.3	90 - 110
111	Cd	115	1	0.00 ppb	175.62	0.00	145.6	90 - 110
118	Sn	115	1	-0.53 ppb	3.47	-0.11	493.3	90 - 110
121	Sb	115	1	0.02 ppb	16.35	0.01	181.6	90 - 110
137	Ba	115	1	0.66 ppb	2.72	0.66	99.8	90 - 110
205	Tl	165	1	0.00 ppb	195.50	0.01	21.4	90 - 110
208	Pb	165	1	0.01 ppb	27.48	0.00	185.7	90 - 110
232	Th	165	1	0.09 ppb	13.71	0.12	75.2	90 - 110
238	U	165	1	1.10 ppb	1.87	1.10	100.1	90 - 110

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565608	0.94	581797	97.2	30 - 120
45	Sc	1	2460020	0.58	2574983	95.5	30 - 120
72	Ge	1	1155387	1.16	1211627	95.4	30 - 120
115	In	1	3303714	1.14	3426576	96.4	30 - 120
165	Ho	1	5431207	0.86	5647086	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\
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.B\003CALB.D\003CALB.D#

0 :Element Failures
 0 :ISTD Failures

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS_024 Reported: 07/22/09 08:07:22

Department: 090 (Metals) Source: Spreadsheet

Sample: LGCN3P50 Serial Dilution: 50.00 Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 32 Method 6020_
Acquired: 07/21/2009 18:47:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS_024 Reported: 07/22/09 08:07:27

Department: 090 (Metals)

Source: Spreadsheet

Sample: LGCN3Z

Spike Dilution: 1.00

Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 33 Method 6020_
Acquired: 07/21/2009 18:50:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\035_CCV.D\035_CCV.D#
 Date Acquired: Jul 21 2009 06:55 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: Jul 21 2009 05:31 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	49.42 ppb	1.97	50	98.8	90 - 110	
51	V	72	48.32 ppb	0.92	50	96.6	90 - 110	
52	Cr	72	48.98 ppb	0.92	50	98.0	90 - 110	
55	Mn	72	48.41 ppb	0.46	50	96.8	90 - 110	
59	Co	72	49.42 ppb	0.37	50	98.8	90 - 110	
60	Ni	72	49.85 ppb	0.52	50	99.7	90 - 110	
63	Cu	72	50.16 ppb	0.84	50	100.3	90 - 110	
66	Zn	72	49.95 ppb	0.90	50	99.9	90 - 110	
75	As	72	50.23 ppb	0.25	50	100.5	90 - 110	
78	Se	72	50.22 ppb	2.05	50	100.4	90 - 110	
95	Mo	72	50.05 ppb	0.52	50	100.1	90 - 110	
107	Ag	115	49.31 ppb	0.59	50	98.6	90 - 110	
111	Cd	115	49.60 ppb	0.17	50	99.2	90 - 110	
118	Sn	115	49.20 ppb	0.37	50	98.4	90 - 110	
121	Sb	115	49.37 ppb	0.88	50	98.7	90 - 110	
137	Ba	115	49.60 ppb	0.50	50	99.2	90 - 110	
205	Tl	165	50.85 ppb	1.38	50	101.7	90 - 110	
208	Pb	165	50.56 ppb	0.82	50	101.1	90 - 110	
232	Th	165	52.19 ppb	3.26	50	104.4	90 - 110	
238	U	165	51.93 ppb	1.69	50	103.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	540158	0.94	581797	92.8	30 - 120
45	Sc	1	2438139	1.30	2574983	94.7	30 - 120
72	Ge	1	1153755	0.36	1211627	95.2	30 - 120
115	In	1	3309113	0.86	3426576	96.6	30 - 120
165	Ho	1	5464053	0.74	5647086	96.8	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\AG072109.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\AG072109.B\036_CCB.D\036_CCB.D#
 Date Acquired: Jul 21 2009 06:58 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: Jul 21 2009 05:31 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

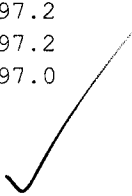
QC Summary:
Analytes: Pass
ISTD: Pass

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	-0.003 ppb	487.71	1.00	
52 Cr	72	1	-0.001 ppb	1245.80	1.00	
55 Mn	72	1	-0.013 ppb	48.53	1.00	
59 Co	72	1	0.000 ppb	382.88	1.00	
60 Ni	72	1	-0.006 ppb	152.58	1.00	
63 Cu	72	1	-0.033 ppb	14.97	1.00	
66 Zn	72	1	0.013 ppb	162.14	1.00	
75 As	72	1	-0.001 ppb	1279.80	1.00	
78 Se	72	1	0.044 ppb	96.85	1.00	
95 Mo	72	1	0.048 ppb	21.21	1.00	
107 Ag	115	1	0.007 ppb	13.19	1.00	
111 Cd	115	1	0.004 ppb	36.72	1.00	
118 Sn	115	1	-0.066 ppb	28.84	1.00	
121 Sb	115	1	0.060 ppb	6.65	1.00	
137 Ba	115	1	0.010 ppb	78.17	1.00	
205 Tl	165	1	0.019 ppb	11.00	1.00	
208 Pb	165	1	0.004 ppb	45.34	1.00	
232 Th	165	1	0.795 ppb	15.81	1.00	
238 U	165	1	0.011 ppb	4.95	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	552374	0.81	581797	94.9	30 - 120	
45 Sc	1	2446795	1.11	2574983	95.0	30 - 120	
72 Ge	1	1178029	1.15	1211627	97.2	30 - 120	
115 In	1	3329395	0.66	3426576	97.2	30 - 120	
165 Ho	1	5475567	0.43	5647086	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\AG072109.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\AG072109.B\037WASH.D\037WASH.D#
 Date Acquired: Jul 21 2009 07:01 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: Jul 21 2009 05:31 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	1.001 ppb	9.18	1.30	
51 V	72	1	5.141 ppb	2.55	6.50	
52 Cr	72	1	2.091 ppb	2.49	2.60	
55 Mn	72	1	1.005 ppb	1.26	1.30	
59 Co	72	1	1.028 ppb	5.10	1.30	
60 Ni	72	1	2.103 ppb	0.94	2.60	
63 Cu	72	1	2.128 ppb	2.55	2.60	
66 Zn	72	1	10.560 ppb	2.59	13.00	
75 As	72	1	5.192 ppb	0.09	6.50	
78 Se	72	1	6.309 ppb	1.74	6.50	
95 Mo	72	1	2.070 ppb	2.44	2.60	
107 Ag	115	1	5.185 ppb	1.03	6.50	
111 Cd	115	1	1.087 ppb	10.27	1.30	
118 Sn	115	1	9.916 ppb	0.55	13.00	
121 Sb	115	1	1.957 ppb	2.80	2.60	
137 Ba	115	1	1.051 ppb	2.71	1.30	
205 Tl	165	1	1.091 ppb	2.87	1.30	
208 Pb	165	1	1.075 ppb	0.84	1.30	
232 Th	165	1	2.350 ppb	2.29	2.60	
238 U	165	1	1.116 ppb	0.75	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	550628	0.54	581797	94.6	30 - 120	
45 Sc	1	2456537	0.83	2574983	95.4	30 - 120	
72 Ge	1	1156394	1.08	1211627	95.4	30 - 120	
115 In	1	3321593	0.50	3426576	96.9	30 - 120	
165 Ho	1	5496023	1.28	5647086	97.3	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\038 MSD.D\038 MSD.D#
 Date Acquired: Jul 21 2009 07:03 pm **QC Summary:**
 Acq. Method: NormISIS.M **Analytes: Pass**
 Operator: TEL **ISTD: Pass**
 Sample Name: LGCN3D 10X
 Misc Info: MATRIX SPIKE DUPLICATE
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MSD
 Dilution Factor: 10.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG072109.B\034 MS.D\034 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	1	4.06 ppb	5.70	4.28	5.18	20
51	V	72	1	6.38 ppb	1.64	6.27	1.79	20
52	Cr	72	1	4.79 ppb	0.59	4.83	0.85	20
55	Mn	72	1	4.66 ppb	1.04	4.67	0.34	20
59	Co	72	1	4.26 ppb	3.02	4.21	1.11	20
60	Ni	72	1	4.59 ppb	3.03	4.58	0.15	20
63	Cu	72	1	4.29 ppb	0.78	4.24	1.17	20
66	Zn	72	1	4.59 ppb	2.90	4.53	1.23	20
75	As	72	1	23.78 ppb	1.59	23.45	1.40	20
78	Se	72	1	4.84 ppb	10.22	4.43	8.78	20
95	Mo	72	1	5.96 ppb	2.88	6.07	1.73	20
107	Ag	115	1	4.19 ppb	3.60	4.06	2.98	20
111	Cd	115	1	4.27 ppb	1.75	4.28	0.12	20
118	Sn	115	1	-0.49 ppb	0.60	-0.29	-50.16	20
121	Sb	115	1	4.30 ppb	1.48	4.37	1.66	20
137	Ba	115	1	7.66 ppb	3.26	7.57	1.09	20
205	Tl	165	1	4.33 ppb	1.08	4.37	0.87	20
208	Pb	165	1	4.32 ppb	0.78	4.34	0.44	20
232	Th	165	1	4.77 ppb	2.43	4.70	1.33	20
238	U	165	1	9.96 ppb	0.82	10.08	1.22	20

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	546064	0.27	581797	93.9	30 - 120
45	Sc	1	2359431	0.90	2574983	91.6	30 - 120
72	Ge	1	1104590	0.97	1211627	91.2	30 - 120
115	In	1	3149159	0.41	3426576	91.9	30 - 120
165	Ho	1	5369723	0.97	5647086	95.1	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\AG072109.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\AG072109.B\039SMPL.D\039SMPL.D#
 Date Acquired: Jul 21 2009 07:06 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCQK 10X
 Misc Info: D9G100274
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	23.68	2.37	ppb	1.85	3600
52	Cr	72	1	12.40	1.24	ppb	2.95	3600
55	Mn	72	1	2.12	0.21	ppb	8.12	3600
59	Co	72	1	0.30	0.03	ppb	7.53	3600
60	Ni	72	1	3.33	0.33	ppb	5.22	3600
63	Cu	72	1	-0.20	-0.02	ppb	5.61	3600
66	Zn	72	1	2.60	0.26	ppb	8.14	3600
75	As	72	1	114.20	11.42	ppb	1.08	3600
78	Se	72	1	2.84	0.28	ppb	68.00	3600
95	Mo	72	1	42.30	4.23	ppb	2.35	3600
107	Ag	115	1	0.07	0.01	ppb	37.85	3600
111	Cd	115	1	0.07	0.01	ppb	133.86	3600
118	Sn	115	1	-5.30	-0.53	ppb	2.37	3600
121	Sb	115	1	0.28	0.03	ppb	5.21	3600
137	Ba	115	1	34.03	3.40	ppb	4.11	3600
205	Tl	165	1	0.11	0.01	ppb	30.92	3600
208	Pb	165	1	0.09	0.01	ppb	19.12	3600
232	Th	165	1	1.32	0.13	ppb	13.37	1000
238	U	165	1	6.45	0.64	ppb	0.89	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	551022	0.60	581797	94.7	30 - 120
45	Sc	1	2336691	0.75	2574983	90.7	30 - 120
72	Ge	1	1100169	0.92	1211627	90.8	30 - 120
115	In	1	3126709	0.78	3426576	91.2	30 - 120
165	Ho	1	5251243	0.64	5647086	93.0	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\AG072109.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\AG072109.B\040SMPL.D\040SMPL.D#
 Date Acquired: Jul 21 2009 07:09 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJV 10X
 Misc Info: D9G110152
 Vial Number: 2304
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.12	0.01	ppb	86.63	3600	
51 V	72	1	16.34	1.63	ppb	14.05	3600	
52 Cr	72	1	858.20	85.82	ppb	0.42	3600	
55 Mn	72	1	62.25	6.23	ppb	0.82	3600	
59 Co	72	1	0.35	0.04	ppb	4.83	3600	
60 Ni	72	1	3.24	0.32	ppb	5.41	3600	
63 Cu	72	1	-0.11	-0.01	ppb	134.88	3600	
66 Zn	72	1	0.97	0.10	ppb	20.21	3600	
75 As	72	1	137.30	13.73	ppb	1.37	3600	
78 Se	72	1	1.53	0.15	ppb	126.27	3600	
95 Mo	72	1	23.17	2.32	ppb	1.07	3600	
107 Ag	115	1	0.03	0.00	ppb	74.34	3600	
111 Cd	115	1	0.05	0.00	ppb	97.57	3600	
118 Sn	115	1	-5.16	-0.52	ppb	3.23	3600	
121 Sb	115	1	0.22	0.02	ppb	2.16	3600	
137 Ba	115	1	20.27	2.03	ppb	4.70	3600	
205 Tl	165	1	0.11	0.01	ppb	13.97	3600	
208 Pb	165	1	0.08	0.01	ppb	23.24	3600	
232 Th	165	1	0.36	0.04	ppb	9.36	1000	
238 U	165	1	7.67	0.77	ppb	2.40	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	549478	0.91	581797	94.4	30 - 120	
45 Sc	1	2376723	1.71	2574983	92.3	30 - 120	
72 Ge	1	1096432	0.47	1211627	90.5	30 - 120	
115 In	1	3124200	0.99	3426576	91.2	30 - 120	
165 Ho	1	5324718	1.58	5647086	94.3	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\AG072109.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\AG072109.B\041SMPL.D\041SMPL.D#
 Date Acquired: Jul 21 2009 07:11 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJ3 10X
 Misc Info: D9G110155
 Vial Number: 2305
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.06	0.01	ppb	173.23	3600
51	V	72	1	25.99	2.60	ppb	1.41	3600
52	Cr	72	1	90.81	9.08	ppb	1.84	3600
55	Mn	72	1	2.28	0.23	ppb	3.91	3600
59	Co	72	1	0.28	0.03	ppb	8.82	3600
60	Ni	72	1	3.42	0.34	ppb	10.30	3600
63	Cu	72	1	-0.03	0.00	ppb	414.27	3600
66	Zn	72	1	9.09	0.91	ppb	0.15	3600
75	As	72	1	86.50	8.65	ppb	2.13	3600
78	Se	72	1	1.59	0.16	ppb	168.68	3600
95	Mo	72	1	35.52	3.55	ppb	3.38	3600
107	Ag	115	1	0.02	0.00	ppb	63.47	3600
111	Cd	115	1	0.11	0.01	ppb	91.74	3600
118	Sn	115	1	-5.25	-0.52	ppb	1.50	3600
121	Sb	115	1	0.16	0.02	ppb	27.09	3600
137	Ba	115	1	26.05	2.61	ppb	2.24	3600
205	Tl	165	1	0.06	0.01	ppb	15.71	3600
208	Pb	165	1	0.10	0.01	ppb	12.74	3600
232	Th	165	1	0.18	0.02	ppb	32.01	1000
238	U	165	1	8.01	0.80	ppb	0.86	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	558798	0.28	581797	96.0	30 - 120
45	Sc	1	2360484	0.64	2574983	91.7	30 - 120
72	Ge	1	1106065	0.59	1211627	91.3	30 - 120
115	In	1	3160658	0.73	3426576	92.2	30 - 120
165	Ho	1	5332925	0.28	5647086	94.4	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\AG072109.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\AG072109.B\042SMPL.D\042SMPL.D#
 Date Acquired: Jul 21 2009 07:14 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDKR 10X
 Misc Info: D9G110159
 Vial Number: 2306
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	30.44	3.04	ppb	4.27	3600	
52 Cr	72	1	17.70	1.77	ppb	1.53	3600	
55 Mn	72	1	3.41	0.34	ppb	1.05	3600	
59 Co	72	1	0.10	0.01	ppb	35.67	3600	
60 Ni	72	1	2.63	0.26	ppb	23.26	3600	
63 Cu	72	1	-0.14	-0.01	ppb	158.27	3600	
66 Zn	72	1	1.23	0.12	ppb	9.20	3600	
75 As	72	1	57.13	5.71	ppb	1.32	3600	
78 Se	72	1	2.47	0.25	ppb	139.38	3600	
95 Mo	72	1	7.30	0.73	ppb	2.20	3600	
107 Ag	115	1	0.01	0.00	ppb	150.52	3600	
111 Cd	115	1	0.05	0.00	ppb	86.56	3600	
118 Sn	115	1	-5.31	-0.53	ppb	1.46	3600	
121 Sb	115	1	0.12	0.01	ppb	36.48	3600	
137 Ba	115	1	22.02	2.20	ppb	2.09	3600	
205 Tl	165	1	0.03	0.00	ppb	69.45	3600	
208 Pb	165	1	0.07	0.01	ppb	7.65	3600	
232 Th	165	1	0.10	0.01	ppb	23.71	1000	
238 U	165	1	2.22	0.22	ppb	2.65	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	564989	0.50	581797	97.1	30 - 120	
45 Sc	1	2392180	0.44	2574983	92.9	30 - 120	
72 Ge	1	1130770	0.41	1211627	93.3	30 - 120	
115 In	1	3228355	1.24	3426576	94.2	30 - 120	
165 Ho	1	5420266	0.22	5647086	96.0	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\AG072109.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 Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\043 CCV.D\043 CCV.D#
 Date Acquired: Jul 21 2009 07:17 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: Jul 21 2009 05:31 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	49.65 ppb	2.08	50	99.3	90 - 110	
51	V	72	48.04 ppb	1.47	50	96.1	90 - 110	
52	Cr	72	48.72 ppb	2.23	50	97.4	90 - 110	
55	Mn	72	48.53 ppb	1.91	50	97.1	90 - 110	
59	Co	72	49.19 ppb	1.05	50	98.4	90 - 110	
60	Ni	72	50.51 ppb	2.15	50	101.0	90 - 110	
63	Cu	72	50.79 ppb	1.69	50	101.6	90 - 110	
66	Zn	72	49.91 ppb	2.28	50	99.8	90 - 110	
75	As	72	50.09 ppb	1.74	50	100.2	90 - 110	
78	Se	72	50.55 ppb	0.24	50	101.1	90 - 110	
95	Mo	72	50.44 ppb	2.04	50	100.9	90 - 110	
107	Ag	115	49.47 ppb	1.12	50	98.9	90 - 110	
111	Cd	115	49.64 ppb	0.86	50	99.3	90 - 110	
118	Sn	115	49.52 ppb	0.62	50	99.0	90 - 110	
121	Sb	115	49.46 ppb	1.50	50	98.9	90 - 110	
137	Ba	115	49.75 ppb	0.64	50	99.5	90 - 110	
205	Tl	165	52.25 ppb	1.18	50	104.5	90 - 110	
208	Pb	165	51.38 ppb	1.02	50	102.8	90 - 110	
232	Th	165	53.11 ppb	2.44	50	106.2	90 - 110	
238	U	165	53.01 ppb	0.71	50	106.0	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	536974	0.53	581797	92.3	30 - 120
45	Sc	1	2404825	0.90	2574983	93.4	30 - 120
72	Ge	1	1144216	1.59	1211627	94.4	30 - 120
115	In	1	3295604	0.45	3426576	96.2	30 - 120
165	Ho	1	5413800	0.49	5647086	95.9	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\AG072109.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\AG072109.B\044_CCB.D\044_CCB.D#
 Date Acquired: Jul 21 2009 07:20 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: Jul 21 2009 05:31 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	0.012	ppb	188.91	1.00	
52 Cr	72	1	-0.022	ppb	45.87	1.00	
55 Mn	72	1	-0.011	ppb	53.82	1.00	
59 Co	72	1	0.002	ppb	121.88	1.00	
60 Ni	72	1	0.007	ppb	120.83	1.00	
63 Cu	72	1	-0.039	ppb	12.93	1.00	
66 Zn	72	1	0.001	ppb	1830.70	1.00	
75 As	72	1	-0.015	ppb	100.54	1.00	
78 Se	72	1	0.063	ppb	454.20	1.00	
95 Mo	72	1	0.016	ppb	20.60	1.00	
107 Ag	115	1	0.010	ppb	21.43	1.00	
111 Cd	115	1	0.005	ppb	76.54	1.00	
118 Sn	115	1	-0.106	ppb	36.09	1.00	
121 Sb	115	1	0.051	ppb	15.99	1.00	
137 Ba	115	1	0.010	ppb	31.85	1.00	
205 Tl	165	1	0.020	ppb	11.21	1.00	
208 Pb	165	1	0.003	ppb	16.50	1.00	
232 Th	165	1	0.824	ppb	16.14	1.00	
238 U	165	1	0.009	ppb	11.26	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	540872	0.73	581797	93.0	30 - 120	
45 Sc	1	2418946	1.22	2574983	93.9	30 - 120	
72 Ge	1	1139717	0.72	1211627	94.1	30 - 120	
115 In	1	3281751	0.37	3426576	95.8	30 - 120	
165 Ho	1	5438318	1.15	5647086	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\AG072109.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\AG072109.B\045WASH.D\045WASH.D#
 Date Acquired: Jul 21 2009 07:22 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: Jul 21 2009 05:31 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	1.045 ppb	12.08	1.30	
51 V	72	1	5.035 ppb	1.01	6.50	
52 Cr	72	1	2.023 ppb	2.27	2.60	
55 Mn	72	1	1.007 ppb	2.81	1.30	
59 Co	72	1	1.000 ppb	4.78	1.30	
60 Ni	72	1	2.095 ppb	4.44	2.60	
63 Cu	72	1	2.025 ppb	2.63	2.60	
66 Zn	72	1	10.370 ppb	2.29	13.00	
75 As	72	1	5.157 ppb	1.05	6.50	
78 Se	72	1	4.848 ppb	12.40	6.50	
95 Mo	72	1	2.162 ppb	0.74	2.60	
107 Ag	115	1	5.141 ppb	1.03	6.50	
111 Cd	115	1	1.004 ppb	4.06	1.30	
118 Sn	115	1	9.907 ppb	0.76	13.00	
121 Sb	115	1	1.942 ppb	1.51	2.60	
137 Ba	115	1	1.047 ppb	5.14	1.30	
205 Tl	165	1	1.098 ppb	0.61	1.30	
208 Pb	165	1	1.094 ppb	0.45	1.30	
232 Th	165	1	2.411 ppb	1.64	2.60	
238 U	165	1	1.121 ppb	1.49	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	539872	0.98	581797	92.8	30 - 120	
45 Sc	1	2370772	1.41	2574983	92.1	30 - 120	
72 Ge	1	1136181	1.05	1211627	93.8	30 - 120	
115 In	1	3268605	0.72	3426576	95.4	30 - 120	
165 Ho	1	5404596	1.26	5647086	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\AG072109.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: D9G110159

Client: Northgate Environmental

Batch(es) #: 9194272

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:  7/22/09

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>
D9G110159	1	SE	LGDKR1A	20090721	6020TOTA	9194272	AG072109	024
D9G110159	1	AS	LGDKR1AA	20090721	6020TOTA	9194272	AG072109	024

**METALS
PREPARATION LOGS
ICP-MS**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: 9194272

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date:

7/14/09
07/13/09 *JRW*

Due Date:

07/22/09

<u>Lot</u>	<u>Work Order</u>			<u>Initial Weight/Volume</u>
D9G130000 Water	LGEER	B	Due Date: SDG:	<u>50 mL</u>
D9G130000 Water	LGEER	C	Due Date: SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total		Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total	S	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100272 Water	LGCN3 Total	D	Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G100274 Water	LGCQK Total		Due Date: 07/22/09 SDG:	<u>50 mL</u>
D9G110152 Water	LGDJV Total		Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110155 Water	LGDJ3 Total		Due Date: 07/23/09 SDG:	<u>50 mL</u>
D9G110159 Water	LGDKR Total		Due Date: 07/23/09 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
7/21/09*

*✓
2
7/22/09*

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9194272
PREP DATE: 7/14/2009

ALLIQUOTTED BY: JKH
DIGESTED BY: JRW

CONSUMABLES USED

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS267

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-2636-09	7/1/10	100uL	15
2008Cal-2	STD-2635-09	7/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO ₃	JT Baker	H12022	3

TEMPERATURE CYCLES

Thermometer ID: 25864 Block & Cup #: 2/30

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO ₃	1200	93	1615	92
HNO ₃	1630	92	1700	
HNO ₃				

Samples and QC revolved to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: [Signature]

Date: 7/14/09

**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	200
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

Jul-21-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD4841-08, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-ZN02045 Vendor's Expiration Date: 10-01-2009
Solvent: 2% HNO3
Date Prep./Opened: 09-04-2008 Date Received: 09-04-2008
Date Expires(1): 10-01-2009 (None)
Date Expires(2): 10-01-2009 (None)
(METALS)-Inventory ID: 779

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

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

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Se	1,000.0	1.0000

STD3611-09, ICP-MS 1ppm Sn/Zn

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 06-16-2009

Date Expires(1): 10-01-2009 (1 Year)

Analyst: DIAZL

Volume (ml): 10.000

Parent Std No.: STD3609-09, ICP-MS 10 ppm Zn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-01-2009 Parent Date Expires(2): 10-01-2009

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	10.000	1.0000

Parent Std No.: STD3610-09, ICP-MS 10 ppm Sn

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	10.000	1.0000

STD4008-09, ICP-MS (024) INT STD BRC-HIGH

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H12022

Date Prep./Opened: 07-02-2009

Date Expires(1): 11-10-2009 (1 Year)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20

Volume (ml): 250.00

Parent Std No.: STD1469-09, Germanium Stock

Aliquot Amount (ml): 1.2000

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ge	1,000.0	4,800.0

Parent Std No.: STD1972-09, Lithium 6 Stock

Aliquot Amount (ml): 1.5000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Lithium6	1,000.0	6,000.0

Parent Std No.: STD1973-09, Indium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
In	1,000.0	1,600.0

Parent Std No.: STD6317-08, Scandium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sc	1,000.0	1,600.0

Parent Std No.: STD6318-08, Holmium Stock

Aliquot Amount (ml): 0.4000

Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,600.0

STD4289-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 50.000

Date Prep./Opened: 07-20-2009

Date Expires(1): 08-20-2009 (1 Month)

Date Expires(2): 02-01-2010 (None)

pipettes: Met 8

Parent Std No.: STD0664-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 5.0000

Parent Date Expires(1): 02-01-2010 Parent Date Expires(2): 02-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

STD4309-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water

Volume (ml): 1,000.0

Date Prep./Opened: 07-21-2009

Date Expires(1): 08-21-2009 (1 Month)

Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD4308-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD4310-09, ICP-MS 10 ppm Sn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 03-01-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.1000
 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	10.000

STD4311-09, ICP-MS 100 ppb cal

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 50.000

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	20.000	100.00

Sb 20.000 100.00
 Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Fe	1,000.0	5,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4312-09, ICP-MS CCV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.2500
 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>
V	20.000	50.000
Zn	20.000	50.000
Ag	20.000	50.000
Al	20.000	50.000
As	20.000	50.000
Ba	20.000	50.000
Be	20.000	50.000
Cd	20.000	50.000
Co	20.000	50.000
Cr	20.000	50.000
Cu	20.000	50.000
Mn	20.000	50.000
Ni	20.000	50.000
Pb	20.000	50.000
Se	20.000	50.000
Th	20.000	50.000
Tl	20.000	50.000
U	20.000	50.000

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.2500
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	50.000
Sb	20.000	50.000

Parent Std No.: STD3862-09, Iron Stock Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
------------------	----------------------------	--------------------------

Fe	1,000.0	2,500.0
Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn	Aliquot Amount (ml): 0.5000	
Parent Date Expires(1): 07-22-2009	Parent Date Expires(2): 03-01-2010	
<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	50.000

STD4313-09, ICP-MS RL STD

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 pipettes: Met 21 and Met 8

Analyst: DIAZL
 Volume (ml): 10.000

Parent Std No.: STD3611-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900

<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.: STD4311-09, ICP-MS 100 ppb cal Aliquot Amount (ml): 0.1000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 07-22-2009

<u>Component</u>	<u>Initial Conc (ug/L)</u>	<u>Final Conc (mg/L)</u>
V	100.00	0.0010
Zn	100.00	0.0010
Ag	100.00	0.0010
Al	100.00	0.0010
As	100.00	0.0010
Ba	100.00	0.0010
Be	100.00	0.0010
Cd	100.00	0.0010
Co	100.00	0.0010
Cr	100.00	0.0010
Cu	100.00	0.0010
Mn	100.00	0.0010
Ni	100.00	0.0010
Pb	100.00	0.0010
Se	100.00	0.0010
Th	100.00	0.0010
Tl	100.00	0.0010
U	100.00	0.0010
Mo	100.00	0.0010
Sb	100.00	0.0010
Fe	5,000.0	0.0500
Sn	100.00	0.0010

STD4314-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (2 Days)
 pipettes: Met 20 and Met 8

Volume (ml): 10.000

Parent Std No.: STD4313-09, 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
V	0.0010	0.0002
Zn	0.0010	0.0002
Ag	0.0010	0.0002
Al	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
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Fe	0.0500	0.0100
Sn	0.0010	0.0002

STD4315-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21, Met 20, and Met 8

Volume (ml): 10.000

Parent Std No.: STD1978-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-01-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
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

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.0500

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>
V	20.000	100.00
Zn	20.000	100.00
Ag	20.000	100.00
Al	20.000	100.00
As	20.000	100.00
Ba	20.000	100.00
Be	20.000	100.00
Cd	20.000	100.00
Co	20.000	100.00
Cr	20.000	100.00
Cu	20.000	100.00
Mn	20.000	100.00
Ni	20.000	100.00
Pb	20.000	100.00
Se	20.000	100.00
Th	20.000	100.00
Tl	20.000	100.00
U	20.000	100.00

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.0500

Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	100.00
Sb	20.000	100.00

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	100.00

STD4316-09, ICPMS LR STD 1000 ppb

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H12022

Volume (ml): 10.000

Date Prep./Opened: 07-21-2009

Date Expires(1): 07-22-2009 (1 Day)

Date Verified: 12-31--4714 by - (Verification ID: 0)

pipettes: Met 20 and Met 8

Parent Std No.: STD2637-09, ICPMS 2008CAL-2 Inorganic Ventures Aliquot Amount (ml): 0.5000
 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>
V	20.000	1,000.0
Zn	20.000	1,000.0
Ag	20.000	1,000.0
Al	20.000	1,000.0
As	20.000	1,000.0
Ba	20.000	1,000.0
Be	20.000	1,000.0
Cd	20.000	1,000.0
Co	20.000	1,000.0
Cr	20.000	1,000.0
Cu	20.000	1,000.0
Mn	20.000	1,000.0
Ni	20.000	1,000.0
Pb	20.000	1,000.0
Se	20.000	1,000.0
Th	20.000	1,000.0
Tl	20.000	1,000.0
U	20.000	1,000.0

Parent Std No.: STD3773-09, ICPMS 2008CAL-1 Inorganic Ventures Aliquot Amount (ml): 0.5000
 Parent Date Expires(1): 06-23-2010 Parent Date Expires(2): 07-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	20.000	1,000.0
Sb	20.000	1,000.0

Parent Std No.: STD4310-09, ICP-MS 10 ppm Sn Aliquot Amount (ml): 1.0000
 Parent Date Expires(1): 07-22-2009 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sn	10.000	1,000.0

STD4317-09, ICPMS ICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 02-27-2010 (None)
 Date Verified: 12-31--4714 by - (Verification ID: 0)
 pipettes: Met 21 and Met 8

Volume (ml): 10.000

Parent Std No.: STD1213-09, ICPMS ICV SOLUTION A (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Al	10.000	40.000
As	10.000	40.000
Ba	10.000	40.000
Be	10.000	40.000
Cd	10.000	40.000

Co	10.000	40.000
Cr	10.000	40.000
Cu	10.000	40.000
Fe	250.00	1,000.0
Li	10.000	40.000
Mn	10.000	40.000
Ni	10.000	40.000
Pb	10.000	40.000
Se	10.000	40.000
Th	10.000	40.000
Tl	10.000	40.000
U	10.000	40.000
V	10.000	40.000
Zn	10.000	40.000

Parent Std No.: STD1214-09, ICPMS ICV SOLUTION B (High Purity) Aliquot Amount (ml): 0.0400
 Parent Date Expires(1): 02-27-2010 Parent Date Expires(2): 02-27-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (ug/L)</u>
Ag	10.000	40.000
Mo	10.000	40.000
Sb	10.000	40.000
Sn	10.000	40.000
Zr	10.000	40.000

STD4318-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (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

STD4319-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022
 Date Prep./Opened: 07-21-2009
 Date Expires(1): 07-22-2009 (1 Day)
 Date Expires(2): 05-01-2010 (None)
 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

Reviewed By: _____

LRD 07/21/2009

Denver

RUN SUMMARY

Method: 6020 (ICP/MS)

ICPMS_024 (024)

Reported: 07/22/09 11:30:44

File ID: AG072109

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	DF	Analyzed Date	Comment	Q
2	Cal Blank				1.0	07/21/09 17:25		<input type="checkbox"/>
3	Cal Blank				1.0	07/21/09 17:28		<input type="checkbox"/>
4	100 ppb				1.0	07/21/09 17:31		<input type="checkbox"/>
5	ICV				1.0	07/21/09 17:33		<input type="checkbox"/>
6	RLIV				1.0	07/21/09 17:36		<input type="checkbox"/>
7	ICB				1.0	07/21/09 17:39		<input type="checkbox"/>
8	RL STD				1.0	07/21/09 17:42		<input type="checkbox"/>
9	AFCEE RL				1.0	07/21/09 17:44		<input type="checkbox"/>
10	ALTSe				1.0	07/21/09 17:47		<input type="checkbox"/>
11	ICSA				1.0	07/21/09 17:50		<input type="checkbox"/>
12	ICSAB				1.0	07/21/09 17:53		<input type="checkbox"/>
13	RINSE				1.0	07/21/09 17:55		<input type="checkbox"/>
14	LR				1.0	07/21/09 17:58		<input type="checkbox"/>
15	RINSE				1.0	07/21/09 18:00		<input type="checkbox"/>
16	CCV				1.0	07/21/09 18:03		<input type="checkbox"/>
17	CCB				1.0	07/21/09 18:06		<input type="checkbox"/>
18	RLCV				1.0	07/21/09 18:09		<input type="checkbox"/>
19	LGEE4BF	D9G130000	9194274	MD	1.0	07/21/09 18:11		<input type="checkbox"/>
20	LGEE4CF	D9G130000	9194274	MD	1.0	07/21/09 18:14		<input type="checkbox"/>
21	LGDJWF 10X	D9G110152-2	9194274	MD	10.0	07/21/09 18:17		<input type="checkbox"/>
22	LGDJWP50F	D9G110152	9194274		50.0	07/21/09 18:20		<input type="checkbox"/>
23	LGDJWZF	D9G110152-2	9194274		1.0	07/21/09 18:22		<input type="checkbox"/>
24	LGDJWSF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:25		<input type="checkbox"/>
25	LGDJWDF 10	D9G110152-2	9194274	MD	10.0	07/21/09 18:28		<input type="checkbox"/>
26	CCV				1.0	07/21/09 18:30		<input type="checkbox"/>
27	CCB				1.0	07/21/09 18:33		<input type="checkbox"/>
28	RLCV				1.0	07/21/09 18:36		<input type="checkbox"/>
29	LGEERB	D9G130000	9194272	MS	1.0	07/21/09 18:39		<input type="checkbox"/>
30	LGEERC	D9G130000	9194272	MS	1.0	07/21/09 18:41		<input type="checkbox"/>
31	LGCN3 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:44		<input type="checkbox"/>
32	LGCN3P50	D9G100272	9194272		50.0	07/21/09 18:47		<input type="checkbox"/>
33	LGCN3Z	D9G100272-1	9194272		1.0	07/21/09 18:50		<input type="checkbox"/>
34	LGCN3S 10X	D9G100272-1	9194272	MS	10.0	07/21/09 18:52		<input type="checkbox"/>
35	CCV				1.0	07/21/09 18:55		<input type="checkbox"/>
36	CCB				1.0	07/21/09 18:58		<input type="checkbox"/>
37	RLCV				1.0	07/21/09 19:01		<input type="checkbox"/>
38	LGCN3D 10X	D9G100272-1	9194272	MS	10.0	07/21/09 19:03		<input type="checkbox"/>
39	LGCQK 10X	D9G100274-1	9194272	MS	10.0	07/21/09 19:06		<input type="checkbox"/>
40	LGDJV 10X	D9G110152-1	9194272	MS	10.0	07/21/09 19:09		<input type="checkbox"/>
41	LGDJ3 10X	D9G110155-1	9194272	MS	10.0	07/21/09 19:11		<input type="checkbox"/>
42	LGDKR 10X	D9G110159-1	9194272	MS	10.0	07/21/09 19:14		<input type="checkbox"/>
43	CCV				1.0	07/21/09 19:17		<input type="checkbox"/>
44	CCB				1.0	07/21/09 19:20		<input type="checkbox"/>
45	RLCV				1.0	07/21/09 19:22		<input type="checkbox"/>
46	LGFC2B	D9G140000	9195077	46	1.0	07/21/09 19:25		<input type="checkbox"/>
47	LGFC2C	D9G140000	9195077	46	1.0	07/21/09 19:28		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 07/22/09 11:30:44
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File ID: AG072109

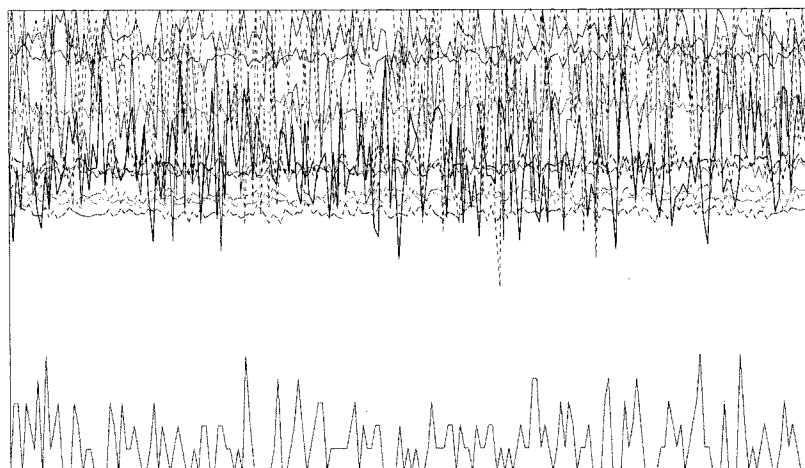
Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
48	LGEAD	D9G130118-1	9195077	U1	1.0	07/21/09 19:31	<input type="checkbox"/>
49	LGEAR	D9G130118-2	9195077	U1	1.0	07/21/09 19:33	<input type="checkbox"/>
50	LGEAX	D9G130118-3	9195077	U1	1.0	07/21/09 19:36	<input type="checkbox"/>
51	LGEA0	D9G130118-4	9195077	U1	1.0	07/21/09 19:39	<input type="checkbox"/>
52	LGEA2	D9G130118-5	9195077	U1	1.0	07/21/09 19:42	<input type="checkbox"/>
53	LGEA3	D9G130118-6	9195077	U1	1.0	07/21/09 19:44	<input type="checkbox"/>
54	CCV				1.0	07/21/09 19:47	<input type="checkbox"/>
55	CCB				1.0	07/21/09 19:50	<input type="checkbox"/>
56	RLCV				1.0	07/21/09 19:53	<input type="checkbox"/>
57	LGEA4	D9G130118-7	9195077	U1	1.0	07/21/09 19:55	<input type="checkbox"/>
58	LGEFC	D9G130118-8	9195077	U1	1.0	07/21/09 19:58	<input type="checkbox"/>
59	LGEFF	D9G130118-9	9195077	U1	1.0	07/21/09 20:01	<input type="checkbox"/>
60	LGEFH	D9G130118-10	9195077	U1	1.0	07/21/09 20:03	<input type="checkbox"/>
61	LGEFL	D9G130118-11	9195077	U1	1.0	07/21/09 20:06	<input type="checkbox"/>
62	LGEFLP5	D9G130118	9195077		5.0	07/21/09 20:09	<input type="checkbox"/>
63	LGEFLZ	D9G130118-11	9195077		1.0	07/21/09 20:11	<input type="checkbox"/>
64	LGEFLS	D9G130118-11	9195077	U1	1.0	07/21/09 20:14	<input type="checkbox"/>
65	CCV				1.0	07/21/09 20:17	<input type="checkbox"/>
66	CCB				1.0	07/21/09 20:20	<input type="checkbox"/>
67	RLCV				1.0	07/21/09 20:22	<input type="checkbox"/>
68	LGEFLD	D9G130118-11	9195077	U1	1.0	07/21/09 20:25	<input type="checkbox"/>
69	LGEFT	D9G130118-12	9195077	U1	1.0	07/21/09 20:28	<input type="checkbox"/>
70	LGEFX	D9G130118-13	9195077	U1	1.0	07/21/09 20:30	<input type="checkbox"/>
71	LGEF3	D9G130118-14	9195077	U1	1.0	07/21/09 20:33	<input type="checkbox"/>
72	LGEF4	D9G130118-15	9195077	U1	1.0	07/21/09 20:36	<input type="checkbox"/>
73	LGEF6	D9G130118-16	9195077	U1	1.0	07/21/09 20:39	<input type="checkbox"/>
74	LGEF8	D9G130118-17	9195077	U1	1.0	07/21/09 20:41	<input type="checkbox"/>
75	CCV				1.0	07/21/09 20:44	<input type="checkbox"/>
76	CCB				1.0	07/21/09 20:47	<input type="checkbox"/>
77	RLCV				1.0	07/21/09 20:50	<input type="checkbox"/>
78	LGKQWBF	D9G160000	9197227	MD	1.0	07/21/09 20:52	<input type="checkbox"/>
79	LGKQWCF	D9G160000	9197227	MD	1.0	07/21/09 20:55	<input type="checkbox"/>
80	LGH2HF 10X	D9G150224-2	9197227	MD	10.0	07/21/09 20:58	<input type="checkbox"/>
81	LGH2HP50F	D9G150224	9197227		50.0	07/21/09 21:01	<input type="checkbox"/>
82	LGH2HZF	D9G150224-2	9197227		1.0	07/21/09 21:03	<input type="checkbox"/>
83	LGH2HSF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:06	<input type="checkbox"/>
84	LGH2HDF 10	D9G150224-2	9197227	MD	10.0	07/21/09 21:09	<input type="checkbox"/>
85	CCV				1.0	07/21/09 21:12	<input type="checkbox"/>
86	CCB				1.0	07/21/09 21:14	<input type="checkbox"/>
87	RLCV				1.0	07/21/09 21:17	<input type="checkbox"/>
88	LGKQDB	D9G160000	9197220	MS	1.0	07/21/09 21:20	<input type="checkbox"/>
89	LGKQDC	D9G160000	9197220	MS	1.0	07/21/09 21:23	<input type="checkbox"/>
90	LGH2F 10X	D9G150224-1	9197220	MS	10.0	07/21/09 21:25	<input type="checkbox"/>
91	LGH2FP50	D9G150224	9197220		50.0	07/21/09 21:28	<input type="checkbox"/>
92	LGH2FZ	D9G150224-1	9197220		1.0	07/21/09 21:31	<input type="checkbox"/>

DNW 7/22/09

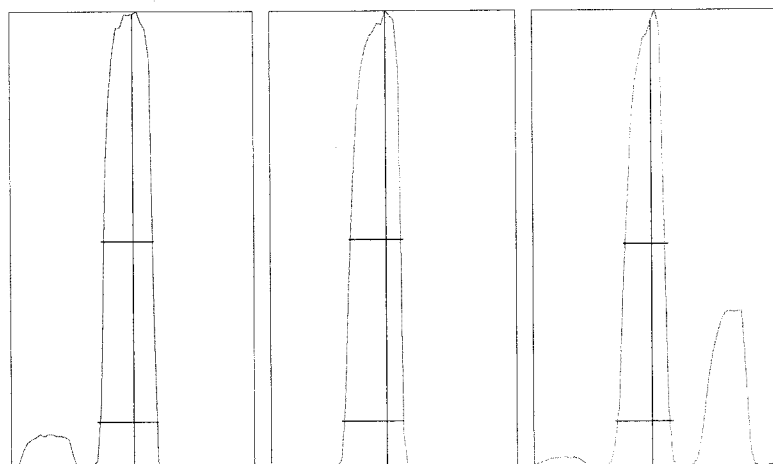
Tune Report

Tune File : NORM.U
 Comment :



Integration Time: 0.1000 sec
 Sampling Period: 1.5300 sec
 n: 200
 Oxide: 156/140 1.281%
 Doubly Charged: 70/140 0.506%

m/z	Range	Count	Mean	RSD%	Background
6	1,000	891.0	940.8	3.63	0.70
7	20,000	13129.0	13059.6	1.91	0.60
59	10,000	7602.0	7856.2	2.40	0.50
63	50	42.0	39.4	16.38	0.30
70	100	78.0	67.2	13.40	0.50
75	20	0.0	1.2	102.35	0.80
78	50	43.0	48.7	14.56	0.50
89	20,000	12125.0	12029.4	1.86	1.00
115	20,000	11842.0	11739.1	1.63	0.80
118	50	34.0	39.7	21.11	1.30
137	2,000	1330.0	1323.1	2.85	1.10
205	20,000	11244.0	11223.5	1.66	1.80
238	20,000	17300.0	17931.0	1.60	2.40
156/140	2	1.192%	1.337%	8.61	
70/140	2	0.664%	0.568%	13.49	



m/z:	7	89	205
Height:	13,051	12,146	11,336
Axis:	7.05	88.95	205.00
W-50%:	0.65	0.65	0.55
W-10%:	0.7500	0.7500	0.700

Integration Time: 0.1000 sec
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

```
===Plasma Condition===
  RF Power : 1550 W
  RF Matching : 1.7 V
  Smpl Depth : 7.5 mm
  Torch-H : -0.8 mm
  Torch-V : -0.3 mm
  Carrier Gas : 0.83 L/min
  Makeup Gas : 0.2 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 : -160 V
  Omega Bias-ce : -30 V
  Omega Lens-ce : 0 V
  Cell Entrance : -30 V
  QP Focus : 7 V
  Cell Exit : -30 V

===Q-Pole Parameters===
  AMU Gain : 133
  AMU Offset : 122
  Axis Gain : 1.0005
  Axis Offset : -0.02
  QP Bias : 0 V

===Detector Parameters===
  Discriminator : 8 mV
  Analog HV : 1720 V
  Pulse HV : 1390 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: Jul 21 2009 04:50 pm

Mass[amu]	Element	P/A Factor
6	Li	0.061203
7	(Li)	Sensitivity too low
9	Be	0.068907
45	Sc	0.083389
51	V	0.086007
52	Cr	0.088320
53	(Cr)	Sensitivity too low
55	Mn	0.090395
59	Co	0.093203
60	Ni	Sensitivity too low
63	Cu	Sensitivity too low
66	Zn	0.096924
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
95	Mo	0.096067
98	(Mo)	0.096151
99	(Mo)	Sensitivity too low
106	(Cd)	0.101305
107	Ag	Sensitivity too low
108	(Cd)	0.101769
111	Cd	0.102139
114	Cd	0.102089
115	In	0.101222
118	Sn	0.101067
121	Sb	0.100944
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
205	Tl	0.109272
206	(Pb)	0.108216
207	(Pb)	0.108287
208	Pb	0.107820
232	Th	0.106452
238	U	0.106481

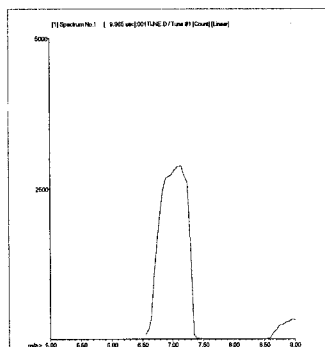
===Detector Parameters===

Discriminator: 8.0 mV
Analog HV: 1720 V
Pulse HV: 1390 V

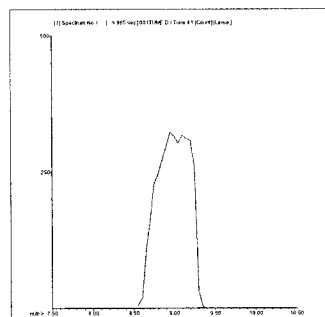
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\001TUNE.D
 Date Acquired: Jul 21 2009 05:22 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

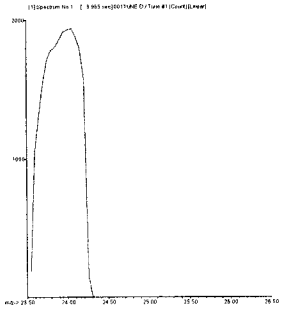
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	31515	31705	31773	31422	31500	31173	0.76	5.00	
9 Be	3503	3538	3524	3507	3428	3516	1.23	5.00	
24 Mg	22462	22829	22575	22353	22572	21980	1.41	5.00	
59 Co	93114	93607	93864	90894	94187	93020	1.41	5.00	
115 In	1915406	1918606	1914965	1924578	1915696	1903185	0.41	5.00	
208 Pb	92064	92990	92149	91680	92260	91243	0.71	5.00	
238 U	187429	191379	187170	188068	186178	184351	1.39	5.00	



7 Li
Mass Calib.
 Actual: 7.10
 Required: 6.90 - 7.10
 Flag:
Peak Width
 Actual: 0.65
 Required: 0.90
 Flag:



9 Be
Mass Calib.
 Actual: 9.05
 Required: 8.90 - 9.10
 Flag:
Peak Width
 Actual: 0.60
 Required: 0.90
 Flag:



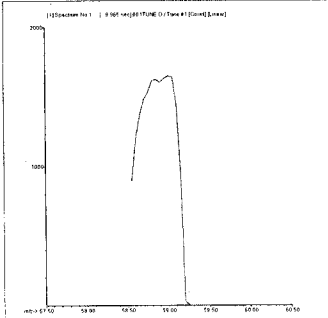
24 Mg

Mass Calib.

Actual: 24.00
Required: 23.90 - 24.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



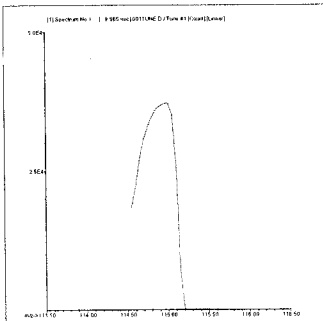
59 Co

Mass Calib.

Actual: 58.95
Required: 58.90 - 59.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



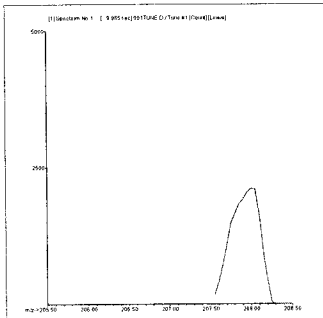
115 In

Mass Calib.

Actual: 114.95
Required: 114.90 - 115.10
Flag:

Peak Width

Actual: 0.55
Required: 0.90
Flag:



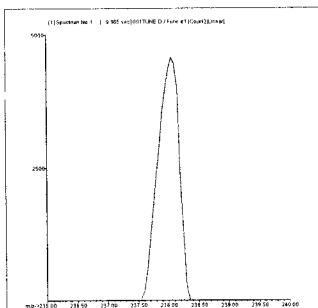
208 Pb

Mass Calib.

Actual: 207.95
Required: 207.90 - 208.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:



238 U

Mass Calib.

Actual: 238.05
Required: 237.90 - 238.10
Flag:

Peak Width

Actual: 0.60
Required: 0.90
Flag:

Tune Result:

Pass



Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\002CALB.D\002CALB.D#
 Date Acquired: Jul 21 2009 05:25 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	31	3276.40
52	Cr	72	1	2800	9.18
55	Mn	72	1	1283	9.62
59	Co	72	1	87	67.61
60	Ni	72	1	67	17.32
63	Cu	72	1	503	6.39
66	Zn	72	1	251	8.30
75	As	72	1	105	7.67
78	Se	72	1	513	6.26
95	Mo	72	1	73	15.75
107	Ag	115	1	7	86.60
111	Cd	115	1	9	188.13
118	Sn	115	1	2750	17.56
121	Sb	115	1	19	50.94
137	Ba	115	1	49	3.94
205	Tl	165	1	263	12.21
208	Pb	165	1	323	8.05
232	Th	165	1	220	25.31
238	U	165	1	96	8.06

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	576535	0.69
45	Sc	1	2595280	0.11
72	Ge	1	1228451	0.87
115	In	1	3471486	1.12
165	Ho	1	5707578	1.58

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\AG072109.B\003CALB.D\003CALB.D#
 Date Acquired: Jul 21 2009 05:28 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: Jul 21 2009 05:26 pm
 Sample Type: CalBlk

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	84	380.78
52	Cr	72	1	3224	4.61
55	Mn	72	1	1180	18.88
59	Co	72	1	67	31.23
60	Ni	72	1	77	39.85
63	Cu	72	1	673	17.84
66	Zn	72	1	341	12.93
75	As	72	1	105	1.10
78	Se	72	1	570	15.79
95	Mo	72	1	90	19.25
107	Ag	115	1	10	100.00
111	Cd	115	1	6	183.92
118	Sn	115	1	4558	14.33
121	Sb	115	1	23	37.80
137	Ba	115	1	41	44.66
205	Tl	165	1	229	12.72
208	Pb	165	1	279	7.30
232	Th	165	1	273	29.57
238	U	165	1	22	43.30

Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	581797	1.92
45	Sc	1	2574983	0.83
72	Ge	1	1211627	0.38
115	In	1	3426576	0.51
165	Ho	1	5647086	0.49

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\AG072109.B\004ICAL.D\004ICAL.D#
 Date Acquired: Jul 21 2009 05:31 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: Jul 21 2009 05:29 pm
 Sample Type: ICAL

QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	59445	1.77
51	V	72	1239197	0.92
52	Cr	72	1240930	1.80
55	Mn	72	1500976	1.14
59	Co	72	1532853	1.14
60	Ni	72	335568	1.43
63	Cu	72	783637	0.77
66	Zn	72	184990	0.36
75	As	72	150136	1.32
78	Se	72	29896	1.27
95	Mo	72	401051	0.94
107	Ag	115	1170362	0.20
111	Cd	115	241527	0.35
118	Sn	115	706295	0.47
121	Sb	115	813196	0.45
137	Ba	115	335210	0.52
205	Tl	165	2698247	0.32
208	Pb	165	3677704	0.96
232	Th	165	3297948	2.01
238	U	165	3849572	0.35

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565258	0.19	581797	97.2	30 - 120
45	Sc	1	2567639	0.66	2574983	99.7	30 - 120
72	Ge	1	1211730	1.09	1211627	100.0	30 - 120
115	In	1	3431729	1.40	3426576	100.2	30 - 120
165	Ho	1	5634252	0.67	5647086	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\AG072109.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\AG072109.B\005_ICV.D\005_ICV.D#
 Date Acquired: Jul 21 2009 05:33 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: Jul 21 2009 05:31 pm
 Sample Type: ICV
 Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	39.64 ppb	0.79	40	99.1	90 - 110	
51	V	72	38.95 ppb	0.13	40	97.4	90 - 110	
52	Cr	72	39.22 ppb	0.44	40	98.1	90 - 110	
55	Mn	72	39.68 ppb	0.45	40	99.2	90 - 110	
59	Co	72	39.53 ppb	0.70	40	98.8	90 - 110	
60	Ni	72	40.23 ppb	0.53	40	100.6	90 - 110	
63	Cu	72	40.61 ppb	0.32	40	101.5	90 - 110	
66	Zn	72	40.51 ppb	1.02	40	101.3	90 - 110	
75	As	72	40.08 ppb	0.64	40	100.2	90 - 110	
78	Se	72	41.67 ppb	1.69	40	104.2	90 - 110	
95	Mo	72	39.87 ppb	0.41	40	99.7	90 - 110	
107	Ag	115	40.34 ppb	1.30	40	100.9	90 - 110	
111	Cd	115	41.12 ppb	0.91	40	102.8	90 - 110	
118	Sn	115	38.88 ppb	0.90	40	97.2	90 - 110	
121	Sb	115	38.65 ppb	1.11	40	96.6	90 - 110	
137	Ba	115	39.89 ppb	0.94	40	99.7	90 - 110	
205	Tl	165	40.05 ppb	1.21	40	100.1	90 - 110	
208	Pb	165	40.43 ppb	0.85	40	101.1	90 - 110	
232	Th	165	44.22 ppb	2.85	40	110.6	90 - 110	Fail
238	U	165	40.19 ppb	1.06	40	100.5	90 - 110	

Fail *NR*

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	561236	0.19	581797	96.5	30 - 120
45	Sc	1	2582771	1.09	2574983	100.3	30 - 120
72	Ge	1	1213066	0.25	1211627	100.1	30 - 120
115	In	1	3417703	1.00	3426576	99.7	30 - 120
165	Ho	1	5664293	1.10	5647086	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\AG072109.B\003CALB.D\003CALB.D#

1 :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\AG072109.B\006WASH.D\006WASH.D#
 Date Acquired: Jul 21 2009 05:36 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: Jul 21 2009 05:31 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	1.123 ppb	10.30	1.30	
51 V	72	1	4.905 ppb	4.36	6.50	
52 Cr	72	1	2.008 ppb	1.94	2.60	
55 Mn	72	1	1.040 ppb	1.71	1.30	
59 Co	72	1	1.042 ppb	3.30	1.30	
60 Ni	72	1	2.082 ppb	1.95	2.60	
63 Cu	72	1	2.043 ppb	4.81	2.60	
66 Zn	72	1	10.290 ppb	0.55	13.00	
75 As	72	1	5.041 ppb	1.23	6.50	
78 Se	72	1	5.606 ppb	11.10	6.50	
95 Mo	72	1	2.125 ppb	3.10	2.60	
107 Ag	115	1	5.269 ppb	0.93	6.50	
111 Cd	115	1	0.985 ppb	1.12	1.30	
118 Sn	115	1	10.060 ppb	1.78	13.00	
121 Sb	115	1	2.181 ppb	4.53	2.60	
137 Ba	115	1	1.073 ppb	3.26	1.30	
205 Tl	165	1	1.130 ppb	0.27	1.30	
208 Pb	165	1	1.039 ppb	0.95	1.30	
232 Th	165	1	2.777 ppb	3.32	2.60	
238 U	165	1	1.064 ppb	0.97	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	561585	0.30	581797	96.5	30 - 120	
45 Sc	1	2567497	0.65	2574983	99.7	30 - 120	
72 Ge	1	1227558	0.55	1211627	101.3	30 - 120	
115 In	1	3427742	1.01	3426576	100.0	30 - 120	
165 Ho	1	5710214	1.06	5647086	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\AG072109.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\AG072109.B\008RLST.D\008RLST.D#
 Date Acquired: Jul 21 2009 05:42 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: Jul 21 2009 05:31 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	1.05	ppb	12.11	1	104.7	50 - 150
51	V	72	1	0.93	ppb	7.33	1	93.2	50 - 150
52	Cr	72	1	0.97	ppb	3.56	1	97.0	50 - 150
55	Mn	72	1	1.00	ppb	2.49	1	100.4	50 - 150
59	Co	72	1	1.01	ppb	4.08	1	101.3	50 - 150
60	Ni	72	1	1.00	ppb	6.56	1	100.0	50 - 150
63	Cu	72	1	1.04	ppb	7.10	1	104.2	50 - 150
66	Zn	72	1	10.76	ppb	1.35	10	107.6	50 - 150
75	As	72	1	1.04	ppb	3.34	1	103.8	50 - 150
78	Se	72	1	0.82	ppb	33.53	1	81.6	50 - 150
95	Mo	72	1	1.01	ppb	7.76	1	101.0	50 - 150
107	Ag	115	1	1.02	ppb	2.10	1	101.5	50 - 150
111	Cd	115	1	1.10	ppb	3.31	1	109.6	50 - 150
118	Sn	115	1	10.23	ppb	1.35	10	102.3	50 - 150
121	Sb	115	1	1.05	ppb	1.23	1	104.8	50 - 150
137	Ba	115	1	1.05	ppb	4.58	1	104.8	50 - 150
205	Tl	165	1	1.07	ppb	2.73	1	106.5	50 - 150
208	Pb	165	1	1.05	ppb	1.07	1	104.7	50 - 150
232	Th	165	1	1.13	ppb	2.43	1	113.3	50 - 150
238	U	165	1	1.07	ppb	1.03	1	107.0	50 - 150

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	565978	0.78	581797	97.3	30 - 120
45	Sc	1	2568028	1.20	2574983	99.7	30 - 120
72	Ge	1	1217338	0.15	1211627	100.5	30 - 120
115	In	1	3427497	0.45	3426576	100.0	30 - 120
165	Ho	1	5631637	1.02	5647086	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\AG072109.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\AG072109.B\009AFCE.D\009AFCE.D#
 Date Acquired: Jul 21 2009 05:44 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: Jul 21 2009 05:31 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	1	0.18 ppb	41.26	0	86.0	80 - 120	
51 V	72	1	0.12 ppb	39.38	0	67.0	80 - 120	
52 Cr	72	1	0.16 ppb	3.72	0	82.2	80 - 120	
55 Mn	72	1	0.20 ppb	3.24	0	98.6	80 - 120	
59 Co	72	1	0.20 ppb	5.85	0	99.3	80 - 120	
60 Ni	72	1	0.18 ppb	6.47	0	90.0	80 - 120	
63 Cu	72	1	0.32 ppb	10.85	0	155.1	80 - 120	
66 Zn	72	1	2.18 ppb	0.89	2	101.4	80 - 120	
75 As	72	1	0.20 ppb	9.34	0	94.3	80 - 120	
78 Se	72	1	0.27 ppb	16.59	0	168.2	80 - 120	
95 Mo	72	1	0.19 ppb	6.24	0	93.4	80 - 120	
107 Ag	115	1	0.20 ppb	4.78	0	99.7	80 - 120	
111 Cd	115	1	0.21 ppb	11.89	0	96.8	80 - 120	
118 Sn	115	1	1.58 ppb	4.76	2	77.3	80 - 120	
121 Sb	115	1	0.21 ppb	4.92	0	99.2	80 - 120	
137 Ba	115	1	0.22 ppb	2.48	0	102.6	80 - 120	
205 Tl	165	1	0.21 ppb	5.92	0	97.3	80 - 120	
208 Pb	165	1	0.20 ppb	3.45	0	95.3	80 - 120	
232 Th	165	1	0.24 ppb	4.96	0	106.3	80 - 120	
238 U	165	1	0.20 ppb	2.09	0	95.7	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	562011	1.45	581797	96.6	30 - 120	
45 Sc	1	2589915	1.12	2574983	100.6	30 - 120	
72 Ge	1	1216544	0.44	1211627	100.4	30 - 120	
115 In	1	3446931	1.30	3426576	100.6	30 - 120	
165 Ho	1	5682005	0.45	5647086	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\AG072109.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\AG072109.B\010SMPL.D\010SMPL.D#
 Date Acquired: Jul 21 2009 05:47 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: Jul 21 2009 05:31 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	-0.04	-0.04	ppb	104.30	3600	
52 Cr	72	1	-0.02	-0.02	ppb	103.76	3600	
55 Mn	72	1	0.02	0.02	ppb	16.79	3600	
59 Co	72	1	0.00	0.00	ppb	621.67	3600	
60 Ni	72	1	0.03	0.03	ppb	16.48	3600	
63 Cu	72	1	0.00	0.00	ppb	932.55	3600	
66 Zn	72	1	0.85	0.85	ppb	6.94	3600	
75 As	72	1	0.00	0.00	ppb	664.54	3600	
78 Se	72	1	2.10	2.10	ppb	12.34	3600	
95 Mo	72	1	-0.01	-0.01	ppb	45.44	3600	
107 Ag	115	1	0.00	0.00	ppb	58.87	3600	
111 Cd	115	1	0.01	0.01	ppb	69.14	3600	
118 Sn	115	1	0.05	0.05	ppb	347.56	3600	
121 Sb	115	1	0.02	0.02	ppb	33.89	3600	
137 Ba	115	1	0.02	0.02	ppb	46.40	3600	
205 Tl	165	1	0.01	0.01	ppb	7.09	3600	
208 Pb	165	1	0.01	0.01	ppb	32.33	3600	
232 Th	165	1	0.02	0.02	ppb	9.94	1000	
238 U	165	1	0.00	0.00	ppb	61.35	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	569704	0.90	581797	97.9	30 - 120	
45 Sc	1	2578530	1.74	2574983	100.1	30 - 120	
72 Ge	1	1225059	0.62	1211627	101.1	30 - 120	
115 In	1	3458256	0.73	3426576	100.9	30 - 120	
165 Ho	1	5659536	0.49	5647086	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\
 (Note: A handwritten checkmark is present next to the Se element in the QC Elements table above.)

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\011ICSA.D\011ICSA.D#
 Date Acquired: Jul 21 2009 05:50 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: Jul 21 2009 05:31 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	86.57	1.00
51	V	72	1	-0.32 ppb	45.77	1.00
52	Cr	72	1	1.09 ppb	1.54	1.00
55	Mn	72	1	3.02 ppb	2.13	1.00
59	Co	72	1	0.14 ppb	6.32	1.00
60	Ni	72	1	1.14 ppb	8.51	1.00
63	Cu	72	1	0.52 ppb	6.79	1.00
66	Zn	72	1	4.12 ppb	0.37	10.00
75	As	72	1	0.41 ppb	6.37	1.00
78	Se	72	1	0.21 ppb	202.38	1.00
95	Mo	72	1	2029.00 ppb	1.48	2000.00
107	Ag	115	1	0.08 ppb	1.65	1.00
111	Cd	115	1	0.53 ppb	11.29	1.00
118	Sn	115	1	6.55 ppb	2.38	10.00
121	Sb	115	1	0.25 ppb	8.83	1.00
137	Ba	115	1	1.63 ppb	3.16	1.00
205	Tl	165	1	0.06 ppb	23.67	1.00
208	Pb	165	1	0.15 ppb	1.74	1.00
232	Th	165	1	0.06 ppb	7.65	1.00
238	U	165	1	0.04 ppb	4.73	1.00

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	541828	0.30	581797	93.1	30 - 120
45	Sc	1	2271867	1.39	2574983	88.2	30 - 120
72	Ge	1	1037781	0.72	1211627	85.7	30 - 120
115	In	1	2905629	2.08	3426576	84.8	30 - 120
165	Ho	1	5091704	1.12	5647086	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\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\013SMPL.D\013SMPL.D#
 Date Acquired: Jul 21 2009 05:55 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: Jul 21 2009 05:31 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	-0.06	-0.06	ppb	105.43	3600
52	Cr	72	1	-0.03	-0.03	ppb	42.33	3600
55	Mn	72	1	-0.01	-0.01	ppb	103.23	3600
59	Co	72	1	0.00	0.00	ppb	103.31	3600
60	Ni	72	1	0.00	0.00	ppb	490.13	3600
63	Cu	72	1	-0.01	-0.01	ppb	55.36	3600
66	Zn	72	1	0.02	0.02	ppb	39.30	3600
75	As	72	1	0.01	0.01	ppb	237.74	3600
78	Se	72	1	0.22	0.22	ppb	124.98	3600
95	Mo	72	1	1.24	1.24	ppb	2.11	3600
107	Ag	115	1	0.01	0.01	ppb	32.64	3600
111	Cd	115	1	-0.01	-0.01	ppb	87.55	3600
118	Sn	115	1	-0.44	-0.44	ppb	9.84	3600
121	Sb	115	1	0.04	0.04	ppb	10.44	3600
137	Ba	115	1	0.00	0.00	ppb	198.65	3600
205	Tl	165	1	0.00	0.00	ppb	32.40	3600
208	Pb	165	1	0.00	0.00	ppb	60.85	3600
232	Th	165	1	0.61	0.61	ppb	14.09	1000
238	U	165	1	0.01	0.01	ppb	16.27	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	617032	1.01	581797	106.1	30 - 120
45	Sc	1	2571917	0.32	2574983	99.9	30 - 120
72	Ge	1	1207363	0.62	1211627	99.6	30 - 120
115	In	1	3468973	0.41	3426576	101.2	30 - 120
165	Ho	1	5751339	0.52	5647086	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\AG072109.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\AG072109.B\014_LR.D\014_LR.D#
 Date Acquired: Jul 21 2009 05:58 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LR
 Misc Info:
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	983.10 ppb	1.47	1000	98.3	90 - 110
51	V	72	1	931.80 ppb	1.87	1000	93.2	90 - 110
52	Cr	72	1	958.10 ppb	0.33	1000	95.8	90 - 110
55	Mn	72	1	959.10 ppb	0.74	1000	95.9	90 - 110
59	Co	72	1	962.90 ppb	0.81	1000	96.3	90 - 110
60	Ni	72	1	976.00 ppb	1.67	1000	97.6	90 - 110
63	Cu	72	1	952.70 ppb	0.56	1000	95.3	90 - 110
66	Zn	72	1	1036.00 ppb	1.42	1000	103.6	90 - 110
75	As	72	1	1038.00 ppb	0.83	1000	103.8	90 - 110
78	Se	72	1	1037.00 ppb	0.75	1000	103.7	90 - 110
95	Mo	72	1	998.50 ppb	1.19	1000	99.9	90 - 110
107	Ag	115	1	960.60 ppb	0.36	1000	96.1	90 - 110
111	Cd	115	1	1018.00 ppb	1.94	1000	101.8	90 - 110
118	Sn	115	1	980.00 ppb	0.99	1000	98.0	90 - 110
121	Sb	115	1	975.20 ppb	0.25	1000	97.5	90 - 110
137	Ba	115	1	1014.00 ppb	0.78	1000	101.4	90 - 110
205	Tl	165	1	970.30 ppb	1.49	1000	97.0	90 - 110
208	Pb	165	1	959.70 ppb	1.43	1000	96.0	90 - 110
232	Th	165	1	1070.00 ppb	0.39	1000	107.0	90 - 110
238	U	165	1	1001.00 ppb	0.48	1000	100.1	90 - 110

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	602525	1.07	581797	103.6	30 - 120
45	Sc	1	2585868	0.95	2574983	100.4	30 - 120
72	Ge	1	1215769	0.81	1211627	100.3	30 - 120
115	In	1	3432627	0.12	3426576	100.2	30 - 120
165	Ho	1	5756427	0.96	5647086	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\AG072109.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\AG072109.B\015SMPL.D\015SMPL.D#
 Date Acquired: Jul 21 2009 06:00 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: Jul 21 2009 05:31 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	173.21	3600
51	V	72	1	0.00	0.00	ppb	1096.50	3600
52	Cr	72	1	-0.02	-0.02	ppb	214.11	3600
55	Mn	72	1	-0.01	-0.01	ppb	54.41	3600
59	Co	72	1	0.02	0.02	ppb	17.45	3600
60	Ni	72	1	0.02	0.02	ppb	36.35	3600
63	Cu	72	1	0.00	0.00	ppb	3434.80	3600
66	Zn	72	1	0.04	0.04	ppb	59.09	3600
75	As	72	1	0.04	0.04	ppb	18.32	3600
78	Se	72	1	0.56	0.56	ppb	27.17	3600
95	Mo	72	1	0.75	0.75	ppb	9.81	3600
107	Ag	115	1	0.03	0.03	ppb	9.09	3600
111	Cd	115	1	0.01	0.01	ppb	55.86	3600
118	Sn	115	1	0.58	0.58	ppb	22.30	3600
121	Sb	115	1	0.43	0.43	ppb	9.45	3600
137	Ba	115	1	0.02	0.02	ppb	30.56	3600
205	Tl	165	1	0.10	0.10	ppb	12.56	3600
208	Pb	165	1	0.02	0.02	ppb	9.09	3600
232	Th	165	1	3.70	3.70	ppb	19.86	1000
238	U	165	1	0.09	0.09	ppb	9.53	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	604269	1.86	581797	103.9	30 - 120
45	Sc	1	2589065	0.70	2574983	100.5	30 - 120
72	Ge	1	1243813	0.46	1211627	102.7	30 - 120
115	In	1	3483172	1.13	3426576	101.7	30 - 120
165	Ho	1	5709115	0.24	5647086	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\AG072109.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\AG072109.B\016_CCV.D\016_CCV.D#
 Date Acquired: Jul 21 2009 06:03 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: Jul 21 2009 05:31 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	49.34 ppb	0.68	50	98.7	90 - 110	
51	V	72	49.10 ppb	0.55	50	98.2	90 - 110	
52	Cr	72	49.47 ppb	0.91	50	98.9	90 - 110	
55	Mn	72	49.47 ppb	1.10	50	98.9	90 - 110	
59	Co	72	49.92 ppb	1.17	50	99.8	90 - 110	
60	Ni	72	50.75 ppb	0.61	50	101.5	90 - 110	
63	Cu	72	50.93 ppb	0.27	50	101.9	90 - 110	
66	Zn	72	50.31 ppb	0.73	50	100.6	90 - 110	
75	As	72	50.24 ppb	1.12	50	100.5	90 - 110	
78	Se	72	50.24 ppb	0.13	50	100.5	90 - 110	
95	Mo	72	50.78 ppb	1.42	50	101.6	90 - 110	
107	Ag	115	49.22 ppb	2.02	50	98.4	90 - 110	
111	Cd	115	49.66 ppb	2.34	50	99.3	90 - 110	
118	Sn	115	49.06 ppb	1.65	50	98.1	90 - 110	
121	Sb	115	49.30 ppb	1.60	50	98.6	90 - 110	
137	Ba	115	49.04 ppb	1.67	50	98.1	90 - 110	
205	Tl	165	50.73 ppb	1.09	50	101.5	90 - 110	
208	Pb	165	49.84 ppb	1.34	50	99.7	90 - 110	
232	Th	165	52.15 ppb	2.07	50	104.3	90 - 110	
238	U	165	49.79 ppb	0.38	50	99.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	588145	2.13	581797	101.1	30 - 120
45	Sc	1	2623883	0.54	2574983	101.9	30 - 120
72	Ge	1	1228362	0.50	1211627	101.4	30 - 120
115	In	1	3530300	1.24	3426576	103.0	30 - 120
165	Ho	1	5768046	0.38	5647086	102.1	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\AG072109.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\AG072109.B\017_CCB.D\017_CCB.D#
 Date Acquired: Jul 21 2009 06:06 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: Jul 21 2009 05:31 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	0.005	ppb	173.19	1.00	
51 V	72	1	-0.062	ppb	129.47	1.00	
52 Cr	72	1	-0.026	ppb	83.65	1.00	
55 Mn	72	1	-0.007	ppb	143.47	1.00	
59 Co	72	1	0.002	ppb	146.67	1.00	
60 Ni	72	1	0.009	ppb	171.37	1.00	
63 Cu	72	1	-0.013	ppb	47.42	1.00	
66 Zn	72	1	0.004	ppb	593.06	1.00	
75 As	72	1	0.008	ppb	83.97	1.00	
78 Se	72	1	0.635	ppb	21.48	1.00	
95 Mo	72	1	0.156	ppb	13.82	1.00	
107 Ag	115	1	0.013	ppb	10.04	1.00	
111 Cd	115	1	0.005	ppb	226.51	1.00	
118 Sn	115	1	0.091	ppb	27.58	1.00	
121 Sb	115	1	0.092	ppb	4.85	1.00	
137 Ba	115	1	0.007	ppb	96.12	1.00	
205 Tl	165	1	0.044	ppb	9.42	1.00	
208 Pb	165	1	0.005	ppb	16.13	1.00	
232 Th	165	1	0.846	ppb	15.54	1.00	
238 U	165	1	0.016	ppb	7.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	582937	1.46	581797	100.2	30 - 120	
45 Sc	1	2618279	0.49	2574983	101.7	30 - 120	
72 Ge	1	1228248	0.40	1211627	101.4	30 - 120	
115 In	1	3493471	0.25	3426576	102.0	30 - 120	
165 Ho	1	5729193	0.17	5647086	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\AG072109.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\AG072109.B\018WASH.D\018WASH.D#
 Date Acquired: Jul 21 2009 06:09 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: Jul 21 2009 05:31 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	1.506 ppb	66.40	1.30	
51 V	72	1	5.354 ppb	9.73	6.50	
52 Cr	72	1	2.294 ppb	19.68	2.60	
55 Mn	72	1	1.341 ppb	40.40	1.30	
59 Co	72	1	1.372 ppb	41.06	1.30	
60 Ni	72	1	2.353 ppb	23.65	2.60	
63 Cu	72	1	2.412 ppb	17.43	2.60	
66 Zn	72	1	10.710 ppb	7.57	13.00	
75 As	72	1	5.663 ppb	11.90	6.50	
78 Se	72	1	5.717 ppb	11.15	6.50	
95 Mo	72	1	4.400 ppb	84.36	2.60	
107 Ag	115	1	5.364 ppb	3.44	6.50	
111 Cd	115	1	1.442 ppb	41.34	1.30	
118 Sn	115	1	10.180 ppb	5.67	13.00	
121 Sb	115	1	2.278 ppb	21.30	2.60	
137 Ba	115	1	1.364 ppb	42.96	1.30	
205 Tl	165	1	1.415 ppb	39.27	1.30	
208 Pb	165	1	1.446 ppb	47.86	1.30	
232 Th	165	1	2.676 ppb	20.73	2.60	
238 U	165	1	1.427 ppb	40.32	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	598481	1.35	581797	102.9	30 - 120	
45 Sc	1	2642231	1.82	2574983	102.6	30 - 120	
72 Ge	1	1250188	1.58	1211627	103.2	30 - 120	
115 In	1	3540347	1.66	3426576	103.3	30 - 120	
165 Ho	1	5791976	1.24	5647086	102.6	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\AG072109.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\AG072109.B\026_CCV.D\026_CCV.D#
 Date Acquired: Jul 21 2009 06:30 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: Jul 21 2009 05:31 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	49.60 ppb	3.76	50	99.2	90 - 110	
51	V	72	47.46 ppb	0.73	50	94.9	90 - 110	
52	Cr	72	48.46 ppb	1.90	50	96.9	90 - 110	
55	Mn	72	48.48 ppb	1.62	50	97.0	90 - 110	
59	Co	72	48.65 ppb	0.70	50	97.3	90 - 110	
60	Ni	72	49.63 ppb	1.26	50	99.3	90 - 110	
63	Cu	72	49.48 ppb	1.11	50	99.0	90 - 110	
66	Zn	72	49.17 ppb	0.85	50	98.3	90 - 110	
75	As	72	49.33 ppb	1.83	50	98.7	90 - 110	
78	Se	72	49.43 ppb	3.65	50	98.9	90 - 110	
95	Mo	72	49.52 ppb	1.74	50	99.0	90 - 110	
107	Ag	115	49.84 ppb	0.95	50	99.7	90 - 110	
111	Cd	115	49.79 ppb	0.88	50	99.6	90 - 110	
118	Sn	115	49.36 ppb	1.63	50	98.7	90 - 110	
121	Sb	115	49.58 ppb	0.60	50	99.2	90 - 110	
137	Ba	115	49.59 ppb	0.66	50	99.2	90 - 110	
205	Tl	165	50.54 ppb	0.83	50	101.1	90 - 110	
208	Pb	165	50.49 ppb	0.37	50	101.0	90 - 110	
232	Th	165	51.99 ppb	2.44	50	104.0	90 - 110	
238	U	165	51.90 ppb	0.76	50	103.8	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	571014	0.79	581797	98.1	30 - 120
45	Sc	1	2538915	1.25	2574983	98.6	30 - 120
72	Ge	1	1213633	1.83	1211627	100.2	30 - 120
115	In	1	3399341	0.85	3426576	99.2	30 - 120
165	Ho	1	5600207	0.53	5647086	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\AG072109.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\AG072109.B\027_CCB.D\027_CCB.D#
 Date Acquired: Jul 21 2009 06:33 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: Jul 21 2009 05:31 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	0.006	ppb	173.20	1.00	
51 V	72	1	-0.006	ppb	515.80	1.00	
52 Cr	72	1	-0.037	ppb	49.31	1.00	
55 Mn	72	1	-0.018	ppb	70.24	1.00	
59 Co	72	1	0.002	ppb	18.76	1.00	
60 Ni	72	1	0.005	ppb	28.03	1.00	
63 Cu	72	1	-0.039	ppb	12.85	1.00	
66 Zn	72	1	0.010	ppb	155.67	1.00	
75 As	72	1	-0.008	ppb	188.46	1.00	
78 Se	72	1	0.001	ppb	63037.00	1.00	
95 Mo	72	1	0.038	ppb	19.24	1.00	
107 Ag	115	1	0.006	ppb	44.60	1.00	
111 Cd	115	1	0.007	ppb	37.32	1.00	
118 Sn	115	1	-0.057	ppb	99.88	1.00	
121 Sb	115	1	0.059	ppb	8.11	1.00	
137 Ba	115	1	0.003	ppb	62.71	1.00	
205 Tl	165	1	0.021	ppb	14.15	1.00	
208 Pb	165	1	0.004	ppb	24.01	1.00	
232 Th	165	1	0.775	ppb	18.32	1.00	
238 U	165	1	0.010	ppb	13.56	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	568757	0.26	581797	97.8	30 - 120	
45 Sc	1	2523515	0.52	2574983	98.0	30 - 120	
72 Ge	1	1190357	0.87	1211627	98.2	30 - 120	
115 In	1	3393018	0.90	3426576	99.0	30 - 120	
165 Ho	1	5546048	0.69	5647086	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\AG072109.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\AG072109.B\028WASH.D\028WASH.D#
 Date Acquired: Jul 21 2009 06:36 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: Jul 21 2009 05:31 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	0.945 ppb	17.37	1.30	
51 V	72	1	5.047 ppb	0.91	6.50	
52 Cr	72	1	2.021 ppb	3.49	2.60	
55 Mn	72	1	1.010 ppb	5.40	1.30	
59 Co	72	1	1.024 ppb	2.85	1.30	
60 Ni	72	1	2.156 ppb	3.13	2.60	
63 Cu	72	1	2.053 ppb	0.90	2.60	
66 Zn	72	1	10.450 ppb	1.17	13.00	
75 As	72	1	5.192 ppb	1.28	6.50	
78 Se	72	1	5.235 ppb	5.22	6.50	
95 Mo	72	1	2.123 ppb	6.02	2.60	
107 Ag	115	1	5.226 ppb	1.25	6.50	
111 Cd	115	1	1.069 ppb	5.99	1.30	
118 Sn	115	1	9.851 ppb	1.45	13.00	
121 Sb	115	1	1.944 ppb	1.32	2.60	
137 Ba	115	1	1.079 ppb	5.58	1.30	
205 Tl	165	1	1.091 ppb	0.56	1.30	
208 Pb	165	1	1.065 ppb	1.02	1.30	
232 Th	165	1	2.329 ppb	1.74	2.60	
238 U	165	1	1.101 ppb	0.77	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	563752	0.35	581797	96.9	30 - 120	
45 Sc	1	2522070	0.50	2574983	97.9	30 - 120	
72 Ge	1	1195071	0.30	1211627	98.6	30 - 120	
115 In	1	3409514	0.82	3426576	99.5	30 - 120	
165 Ho	1	5555873	0.54	5647086	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\AG072109.B\003CALB.D\003CALB.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\AG072109.B\029_BLK.D\029_BLK.D#
 Date Acquired: Jul 21 2009 06:39 pm
 Operator: TEL
 Sample Name: LGEERB
 Misc Info: BLANK 9194272 6020
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal Update: Jul 21 2009 05:31 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	-0.023 ppb	197.29	2.00	
52 Cr	72	1	0.079 ppb	10.06	2.00	
55 Mn	72	1	0.108 ppb	12.70	2.00	
59 Co	72	1	0.000 ppb	501.93	2.00	
60 Ni	72	1	0.025 ppb	81.97	2.00	
63 Cu	72	1	0.077 ppb	14.50	2.00	
66 Zn	72	1	0.692 ppb	2.78	2.00	
75 As	72	1	-0.001 ppb	1570.10	2.00	
78 Se	72	1	0.138 ppb	271.86	2.00	
95 Mo	72	1	0.012 ppb	30.51	2.00	
107 Ag	115	1	0.005 ppb	43.98	2.00	
111 Cd	115	1	0.003 ppb	153.49	2.00	
118 Sn	115	1	-0.388 ppb	3.06	2.00	
121 Sb	115	1	0.032 ppb	4.02	2.00	
137 Ba	115	1	0.024 ppb	41.42	2.00	
205 Tl	165	1	0.024 ppb	33.52	2.00	
208 Pb	165	1	0.010 ppb	10.00	2.00	
232 Th	165	1	0.149 ppb	18.82	2.00	
238 U	165	1	0.003 ppb	8.64	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567901	0.49	581797	97.6	30 - 120	
45 Sc	1	2536930	0.98	2574983	98.5	30 - 120	
72 Ge	1	1190052	0.57	1211627	98.2	30 - 120	
115 In	1	3404908	0.81	3426576	99.4	30 - 120	
165 Ho	1	5537384	1.21	5647086	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\
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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\AG072109.B\030_LCS.D\030_LCS.D#
 Date Acquired: Jul 21 2009 06:41 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGEERC
 Misc Info: LCS
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 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	40.84	2.97	40	102.1	80 - 120
51	V	72	1	41.46	0.89	40	103.7	80 - 120
52	Cr	72	1	42.08	1.02	40	105.2	80 - 120
55	Mn	72	1	42.07	2.68	40	105.2	80 - 120
59	Co	72	1	42.43	1.84	40	106.1	80 - 120
60	Ni	72	1	43.29	2.68	40	108.2	80 - 120
63	Cu	72	1	43.58	2.40	40	109.0	80 - 120
66	Zn	72	1	41.11	1.13	40	102.8	80 - 120
75	As	72	1	41.33	1.55	40	103.3	80 - 120
78	Se	72	1	40.24	3.32	40	100.6	80 - 120
95	Mo	72	1	43.74	5.12	40	109.4	80 - 120
107	Ag	115	1	42.07	1.97	40	105.2	80 - 120
111	Cd	115	1	41.62	1.54	40	104.1	80 - 120
118	Sn	115	1	-0.06	879.10	40	-0.2	80 - 120
121	Sb	115	1	40.67	1.75	40	101.7	80 - 120
137	Ba	115	1	42.32	1.65	40	105.8	80 - 120
205	Tl	165	1	43.38	1.33	40	108.5	80 - 120
208	Pb	165	1	43.18	0.66	40	108.0	80 - 120
232	Th	165	1	46.22	3.01	40	115.6	80 - 120
238	U	165	1	44.22	0.28	40	110.6	80 - 120

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	572827	4.47	581797	98.5	30 - 120
45	Sc	1	2536116	1.65	2574983	98.5	30 - 120
72	Ge	1	1194379	2.43	1211627	98.6	30 - 120
115	In	1	3408702	2.96	3426576	99.5	30 - 120
165	Ho	1	5609006	1.65	5647086	99.3	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\AG072109.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\AG072109.B\031AREF.D\031AREF.D#
 Date Acquired: Jul 21 2009 06:44 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3 10X
 Misc Info: D9G100272
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: AllRef
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.11	0.01	ppb	86.58	3600	
51 V	72	1	21.63	2.16	ppb	7.43	3600	
52 Cr	72	1	6.32	0.63	ppb	7.96	3600	
55 Mn	72	1	5.24	0.52	ppb	6.66	3600	
59 Co	72	1	0.39	0.04	ppb	16.50	3600	
60 Ni	72	1	4.15	0.41	ppb	14.15	3600	
63 Cu	72	1	0.17	0.02	ppb	16.19	3600	
66 Zn	72	1	3.05	0.31	ppb	11.24	3600	
75 As	72	1	198.10	19.81	ppb	2.87	3600	
78 Se	72	1	4.94	0.49	ppb	39.09	3600	
95 Mo	72	1	16.44	1.64	ppb	4.40	3600	
107 Ag	115	1	0.09	0.01	ppb	63.79	3600	
111 Cd	115	1	0.13	0.01	ppb	29.31	3600	
118 Sn	115	1	-5.34	-0.53	ppb	1.82	3600	
121 Sb	115	1	0.48	0.05	ppb	8.21	3600	
137 Ba	115	1	33.07	3.31	ppb	2.19	3600	
205 Tl	165	1	0.27	0.03	ppb	15.00	3600	
208 Pb	165	1	0.16	0.02	ppb	10.80	3600	
232 Th	165	1	6.24	0.62	ppb	18.22	1000	
238 U	165	1	55.05	5.51	ppb	1.19	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	567824	0.66	581797	97.6	30 - 120	
45 Sc	1	2404508	0.72	2574983	93.4	30 - 120	
72 Ge	1	1124528	1.16	1211627	92.8	30 - 120	
115 In	1	3208719	1.35	3426576	93.6	30 - 120	
165 Ho	1	5383143	1.62	5647086	95.3	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\AG072109.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\AG072109.B\032SDIL.D\032SDIL.D#
 Date Acquired: Jul 21 2009 06:47 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3P50
 Misc Info: SERIAL DILUTION
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SDIL
 Dilution Factor: 10.00

QC Summary:

Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG072109.B\031AREF.D\031AREF.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	0.0	90 - 110	
51 V	72	1	0.43 ppb	23.28	0.43	99.3	90 - 110	
52 Cr	72	1	0.29 ppb	4.37	0.13	229.3	90 - 110	
55 Mn	72	1	0.15 ppb	6.68	0.10	144.4	90 - 110	
59 Co	72	1	0.01 ppb	66.01	0.01	130.9	90 - 110	
60 Ni	72	1	0.26 ppb	15.21	0.08	310.4	90 - 110	
63 Cu	72	1	-0.01 ppb	106.68	0.00	-353.0	90 - 110	
66 Zn	72	1	0.09 ppb	22.23	0.06	148.6	90 - 110	
75 As	72	1	3.90 ppb	0.41	3.96	98.4	90 - 110	
78 Se	72	1	0.05 ppb	1070.40	0.10	46.0	90 - 110	
95 Mo	72	1	0.31 ppb	1.89	0.33	95.3	90 - 110	
107 Ag	115	1	0.00 ppb	66.72	0.00	156.3	90 - 110	
111 Cd	115	1	0.00 ppb	175.62	0.00	145.6	90 - 110	
118 Sn	115	1	-0.53 ppb	3.47	-0.11	493.3	90 - 110	
121 Sb	115	1	0.02 ppb	16.35	0.01	181.6	90 - 110	
137 Ba	115	1	0.66 ppb	2.72	0.66	99.8	90 - 110	
205 Tl	165	1	0.00 ppb	195.50	0.01	21.4	90 - 110	
208 Pb	165	1	0.01 ppb	27.48	0.00	185.7	90 - 110	
232 Th	165	1	0.09 ppb	13.71	0.12	75.2	90 - 110	
238 U	165	1	1.10 ppb	1.87	1.10	100.1	90 - 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	565608	0.94	581797	97.2	30 - 120	
45 Sc	1	2460020	0.58	2574983	95.5	30 - 120	
72 Ge	1	1155387	1.16	1211627	95.4	30 - 120	
115 In	1	3303714	1.14	3426576	96.4	30 - 120	
165 Ho	1	5431207	0.86	5647086	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\
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG072109.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: 07/22/09 08:07:22

Department: 090 (Metals) Source: Spreadsheet

Sample: LGCN3P50 Serial Dilution: 50.00 Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 #32 Method 6020_
Acquired: 07/21/2009 18:47:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS_024 Reported: 07/22/09 08:07:27

Department: 090 (Metals)

Source: Spreadsheet

Sample: LGCN3Z

Spike Dilution: 1.00

Sample Dilution: 10.00

Instrument: Agilent7500 Channel 272
File: AG072109 # 33 Method 6020_
Acquired: 07/21/2009 18:50:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 07/21/2009 17:28:00 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: [Signature] Date: 7/22/09

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\034_MS.D\034_MS.D#
 Date Acquired: Jul 21 2009 06:52 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCN3S 10X
 Misc Info: MATRIX SPIKE
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MS
 Prep Dil. Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	4.28	0.01	ppb	3.84	40	10.7	50 - 150	
51 V	72	1	6.27	2.16	ppb	1.52	40	14.9	50 - 150	
52 Cr	72	1	4.83	0.63	ppb	4.02	40	11.9	50 - 150	
55 Mn	72	1	4.67	0.52	ppb	0.82	40	11.5	50 - 150	
59 Co	72	1	4.21	0.04	ppb	1.66	40	10.5	50 - 150	
60 Ni	72	1	4.58	0.41	ppb	2.25	40	11.3	50 - 150	
63 Cu	72	1	4.24	0.02	ppb	2.92	40	10.6	50 - 150	
66 Zn	72	1	4.53	0.31	ppb	4.27	40	11.2	50 - 150	
75 As	72	1	23.45	19.81	ppb	0.47	40	39.2	50 - 150	
78 Se	72	1	4.43	0.49	ppb	4.58	40	10.9	50 - 150	
95 Mo	72	1	6.07	1.64	ppb	2.05	40	14.6	50 - 150	
107 Ag	115	1	4.06	0.01	ppb	2.34	40	10.2	50 - 150	
111 Cd	115	1	4.28	0.01	ppb	1.30	40	10.7	50 - 150	
118 Sn	115	1	-0.29	-0.53	ppb	8.52	40	-0.7	50 - 150	
121 Sb	115	1	4.37	0.05	ppb	0.90	40	10.9	50 - 150	
137 Ba	115	1	7.57	3.31	ppb	1.41	40	17.5	50 - 150	
205 Tl	165	1	4.37	0.03	ppb	0.09	40	10.9	50 - 150	
208 Pb	165	1	4.34	0.02	ppb	0.98	40	10.9	50 - 150	
232 Th	165	1	4.70	0.62	ppb	2.44	40	11.6	50 - 150	
238 U	165	1	10.08	5.51	ppb	0.80	40	22.2	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	556944	0.45	581797	95.7	30 - 120	
45 Sc	1	2377843	1.11	2574983	92.3	30 - 120	
72 Ge	1	1122514	1.35	1211627	92.6	30 - 120	
115 In	1	3221254	0.75	3426576	94.0	30 - 120	
165 Ho	1	5362470	0.23	5647086	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\AG072109.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\AG072109.B\035_CCV.D\035_CCV.D#
 Date Acquired: Jul 21 2009 06:55 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: Jul 21 2009 05:31 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	49.42 ppb	1.97	50	98.8	90 - 110	
51	V	72	48.32 ppb	0.92	50	96.6	90 - 110	
52	Cr	72	48.98 ppb	0.92	50	98.0	90 - 110	
55	Mn	72	48.41 ppb	0.46	50	96.8	90 - 110	
59	Co	72	49.42 ppb	0.37	50	98.8	90 - 110	
60	Ni	72	49.85 ppb	0.52	50	99.7	90 - 110	
63	Cu	72	50.16 ppb	0.84	50	100.3	90 - 110	
66	Zn	72	49.95 ppb	0.90	50	99.9	90 - 110	
75	As	72	50.23 ppb	0.25	50	100.5	90 - 110	
78	Se	72	50.22 ppb	2.05	50	100.4	90 - 110	
95	Mo	72	50.05 ppb	0.52	50	100.1	90 - 110	
107	Ag	115	49.31 ppb	0.59	50	98.6	90 - 110	
111	Cd	115	49.60 ppb	0.17	50	99.2	90 - 110	
118	Sn	115	49.20 ppb	0.37	50	98.4	90 - 110	
121	Sb	115	49.37 ppb	0.88	50	98.7	90 - 110	
137	Ba	115	49.60 ppb	0.50	50	99.2	90 - 110	
205	Tl	165	50.85 ppb	1.38	50	101.7	90 - 110	
208	Pb	165	50.56 ppb	0.82	50	101.1	90 - 110	
232	Th	165	52.19 ppb	3.26	50	104.4	90 - 110	
238	U	165	51.93 ppb	1.69	50	103.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	540158	0.94	581797	92.8	30 - 120
45	Sc	1	2438139	1.30	2574983	94.7	30 - 120
72	Ge	1	1153755	0.36	1211627	95.2	30 - 120
115	In	1	3309113	0.86	3426576	96.6	30 - 120
165	Ho	1	5464053	0.74	5647086	96.8	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\AG072109.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\AG072109.B\036_CCB.D\036_CCB.D#
 Date Acquired: Jul 21 2009 06:58 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: Jul 21 2009 05:31 pm
 Sample Type: CCB
 Total Dil Factor: 1.00

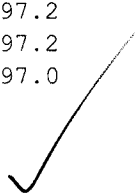
QC Summary:
Analytes: Pass
ISTD: Pass

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	-0.003 ppb	487.71	1.00	
52 Cr	72	1	-0.001 ppb	1245.80	1.00	
55 Mn	72	1	-0.013 ppb	48.53	1.00	
59 Co	72	1	0.000 ppb	382.88	1.00	
60 Ni	72	1	-0.006 ppb	152.58	1.00	
63 Cu	72	1	-0.033 ppb	14.97	1.00	
66 Zn	72	1	0.013 ppb	162.14	1.00	
75 As	72	1	-0.001 ppb	1279.80	1.00	
78 Se	72	1	0.044 ppb	96.85	1.00	
95 Mo	72	1	0.048 ppb	21.21	1.00	
107 Ag	115	1	0.007 ppb	13.19	1.00	
111 Cd	115	1	0.004 ppb	36.72	1.00	
118 Sn	115	1	-0.066 ppb	28.84	1.00	
121 Sb	115	1	0.060 ppb	6.65	1.00	
137 Ba	115	1	0.010 ppb	78.17	1.00	
205 Tl	165	1	0.019 ppb	11.00	1.00	
208 Pb	165	1	0.004 ppb	45.34	1.00	
232 Th	165	1	0.795 ppb	15.81	1.00	
238 U	165	1	0.011 ppb	4.95	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	552374	0.81	581797	94.9	30 - 120	
45 Sc	1	2446795	1.11	2574983	95.0	30 - 120	
72 Ge	1	1178029	1.15	1211627	97.2	30 - 120	
115 In	1	3329395	0.66	3426576	97.2	30 - 120	
165 Ho	1	5475567	0.43	5647086	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\AG072109.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\AG072109.B\038 MSD.D\038 MSD.D#
 Date Acquired: Jul 21 2009 07:03 pm **QC Summary:**
 Acq. Method: NormISIS.M **Analytes: Pass**
 Operator: TEL **ISTD: Pass**
 Sample Name: LGCN3D 10X
 Misc Info: MATRIX SPIKE DUPLICATE
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: MSD
 Dilution Factor: 10.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG072109.B\034 MS.D\034 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	1	4.06 ppb	5.70	4.28	5.18	20
51	V	72	1	6.38 ppb	1.64	6.27	1.79	20
52	Cr	72	1	4.79 ppb	0.59	4.83	0.85	20
55	Mn	72	1	4.66 ppb	1.04	4.67	0.34	20
59	Co	72	1	4.26 ppb	3.02	4.21	1.11	20
60	Ni	72	1	4.59 ppb	3.03	4.58	0.15	20
63	Cu	72	1	4.29 ppb	0.78	4.24	1.17	20
66	Zn	72	1	4.59 ppb	2.90	4.53	1.23	20
75	As	72	1	23.78 ppb	1.59	23.45	1.40	20
78	Se	72	1	4.84 ppb	10.22	4.43	8.78	20
95	Mo	72	1	5.96 ppb	2.88	6.07	1.73	20
107	Ag	115	1	4.19 ppb	3.60	4.06	2.98	20
111	Cd	115	1	4.27 ppb	1.75	4.28	0.12	20
118	Sn	115	1	-0.49 ppb	0.60	-0.29	-50.16	20
121	Sb	115	1	4.30 ppb	1.48	4.37	1.66	20
137	Ba	115	1	7.66 ppb	3.26	7.57	1.09	20
205	Tl	165	1	4.33 ppb	1.08	4.37	0.87	20
208	Pb	165	1	4.32 ppb	0.78	4.34	0.44	20
232	Th	165	1	4.77 ppb	2.43	4.70	1.33	20
238	U	165	1	9.96 ppb	0.82	10.08	1.22	20

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	546064	0.27	581797	93.9	30 - 120
45	Sc	1	2359431	0.90	2574983	91.6	30 - 120
72	Ge	1	1104590	0.97	1211627	91.2	30 - 120
115	In	1	3149159	0.41	3426576	91.9	30 - 120
165	Ho	1	5369723	0.97	5647086	95.1	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\AG072109.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\AG072109.B\039SMPL.D\039SMPL.D#
 Date Acquired: Jul 21 2009 07:06 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGCQK 10X
 Misc Info: D9G100274
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	23.68	2.37	ppb	1.85	3600
52	Cr	72	1	12.40	1.24	ppb	2.95	3600
55	Mn	72	1	2.12	0.21	ppb	8.12	3600
59	Co	72	1	0.30	0.03	ppb	7.53	3600
60	Ni	72	1	3.33	0.33	ppb	5.22	3600
63	Cu	72	1	-0.20	-0.02	ppb	5.61	3600
66	Zn	72	1	2.60	0.26	ppb	8.14	3600
75	As	72	1	114.20	11.42	ppb	1.08	3600
78	Se	72	1	2.84	0.28	ppb	68.00	3600
95	Mo	72	1	42.30	4.23	ppb	2.35	3600
107	Ag	115	1	0.07	0.01	ppb	37.85	3600
111	Cd	115	1	0.07	0.01	ppb	133.86	3600
118	Sn	115	1	-5.30	-0.53	ppb	2.37	3600
121	Sb	115	1	0.28	0.03	ppb	5.21	3600
137	Ba	115	1	34.03	3.40	ppb	4.11	3600
205	Tl	165	1	0.11	0.01	ppb	30.92	3600
208	Pb	165	1	0.09	0.01	ppb	19.12	3600
232	Th	165	1	1.32	0.13	ppb	13.37	1000
238	U	165	1	6.45	0.64	ppb	0.89	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	551022	0.60	581797	94.7	30 - 120
45	Sc	1	2336691	0.75	2574983	90.7	30 - 120
72	Ge	1	1100169	0.92	1211627	90.8	30 - 120
115	In	1	3126709	0.78	3426576	91.2	30 - 120
165	Ho	1	5251243	0.64	5647086	93.0	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\AG072109.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\AG072109.B\040SMPL.D\040SMPL.D#
 Date Acquired: Jul 21 2009 07:09 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJV 10X
 Misc Info: D9G110152
 Vial Number: 2304
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.12	0.01	ppb	86.63	3600	
51 V	72	1	16.34	1.63	ppb	14.05	3600	
52 Cr	72	1	858.20	85.82	ppb	0.42	3600	
55 Mn	72	1	62.25	6.23	ppb	0.82	3600	
59 Co	72	1	0.35	0.04	ppb	4.83	3600	
60 Ni	72	1	3.24	0.32	ppb	5.41	3600	
63 Cu	72	1	-0.11	-0.01	ppb	134.88	3600	
66 Zn	72	1	0.97	0.10	ppb	20.21	3600	
75 As	72	1	137.30	13.73	ppb	1.37	3600	
78 Se	72	1	1.53	0.15	ppb	126.27	3600	
95 Mo	72	1	23.17	2.32	ppb	1.07	3600	
107 Ag	115	1	0.03	0.00	ppb	74.34	3600	
111 Cd	115	1	0.05	0.00	ppb	97.57	3600	
118 Sn	115	1	-5.16	-0.52	ppb	3.23	3600	
121 Sb	115	1	0.22	0.02	ppb	2.16	3600	
137 Ba	115	1	20.27	2.03	ppb	4.70	3600	
205 Tl	165	1	0.11	0.01	ppb	13.97	3600	
208 Pb	165	1	0.08	0.01	ppb	23.24	3600	
232 Th	165	1	0.36	0.04	ppb	9.36	1000	
238 U	165	1	7.67	0.77	ppb	2.40	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	549478	0.91	581797	94.4	30 - 120	
45 Sc	1	2376723	1.71	2574983	92.3	30 - 120	
72 Ge	1	1096432	0.47	1211627	90.5	30 - 120	
115 In	1	3124200	0.99	3426576	91.2	30 - 120	
165 Ho	1	5324718	1.58	5647086	94.3	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\AG072109.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\AG072109.B\041SMPL.D\041SMPL.D#
 Date Acquired: Jul 21 2009 07:11 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDJ3 10X
 Misc Info: D9G110155
 Vial Number: 2305
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	0.06	0.01	ppb	173.23	3600
51	V	72	1	25.99	2.60	ppb	1.41	3600
52	Cr	72	1	90.81	9.08	ppb	1.84	3600
55	Mn	72	1	2.28	0.23	ppb	3.91	3600
59	Co	72	1	0.28	0.03	ppb	8.82	3600
60	Ni	72	1	3.42	0.34	ppb	10.30	3600
63	Cu	72	1	-0.03	0.00	ppb	414.27	3600
66	Zn	72	1	9.09	0.91	ppb	0.15	3600
75	As	72	1	86.50	8.65	ppb	2.13	3600
78	Se	72	1	1.59	0.16	ppb	168.68	3600
95	Mo	72	1	35.52	3.55	ppb	3.38	3600
107	Ag	115	1	0.02	0.00	ppb	63.47	3600
111	Cd	115	1	0.11	0.01	ppb	91.74	3600
118	Sn	115	1	-5.25	-0.52	ppb	1.50	3600
121	Sb	115	1	0.16	0.02	ppb	27.09	3600
137	Ba	115	1	26.05	2.61	ppb	2.24	3600
205	Tl	165	1	0.06	0.01	ppb	15.71	3600
208	Pb	165	1	0.10	0.01	ppb	12.74	3600
232	Th	165	1	0.18	0.02	ppb	32.01	1000
238	U	165	1	8.01	0.80	ppb	0.86	3600

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	558798	0.28	581797	96.0	30 - 120
45	Sc	1	2360484	0.64	2574983	91.7	30 - 120
72	Ge	1	1106065	0.59	1211627	91.3	30 - 120
115	In	1	3160658	0.73	3426576	92.2	30 - 120
165	Ho	1	5332925	0.28	5647086	94.4	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\AG072109.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\AG072109.B\042SMPL.D\042SMPL.D#
 Date Acquired: Jul 21 2009 07:14 pm
 Acq. Method: NormISIS.M
 Operator: TEL
 Sample Name: LGDKR 10X
 Misc Info: D9G110159
 Vial Number: 2306
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
 Last Cal. Update: Jul 21 2009 05:31 pm
 Sample Type: SA
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

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	30.44	3.04	ppb	4.27	3600	
52	Cr	72	1	17.70	1.77	ppb	1.53	3600	
55	Mn	72	1	3.41	0.34	ppb	1.05	3600	
59	Co	72	1	0.10	0.01	ppb	35.67	3600	
60	Ni	72	1	2.63	0.26	ppb	23.26	3600	
63	Cu	72	1	-0.14	-0.01	ppb	158.27	3600	
66	Zn	72	1	1.23	0.12	ppb	9.20	3600	
75	As	72	1	57.13	5.71	ppb	1.32	3600	
78	Se	72	1	2.47	0.25	ppb	139.38	3600	
95	Mo	72	1	7.30	0.73	ppb	2.20	3600	
107	Ag	115	1	0.01	0.00	ppb	150.52	3600	
111	Cd	115	1	0.05	0.00	ppb	86.56	3600	
118	Sn	115	1	-5.31	-0.53	ppb	1.46	3600	
121	Sb	115	1	0.12	0.01	ppb	36.48	3600	
137	Ba	115	1	22.02	2.20	ppb	2.09	3600	
205	Tl	165	1	0.03	0.00	ppb	69.45	3600	
208	Pb	165	1	0.07	0.01	ppb	7.65	3600	
232	Th	165	1	0.10	0.01	ppb	23.71	1000	
238	U	165	1	2.22	0.22	ppb	2.65	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	564989	0.50	581797	97.1	30 - 120
45	Sc	1	2392180	0.44	2574983	92.9	30 - 120
72	Ge	1	1130770	0.41	1211627	93.3	30 - 120
115	In	1	3228355	1.24	3426576	94.2	30 - 120
165	Ho	1	5420266	0.22	5647086	96.0	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\AG072109.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 Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG072109.B\043 CCV.D\043 CCV.D#
 Date Acquired: Jul 21 2009 07:17 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: Jul 21 2009 05:31 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	49.65 ppb	2.08	50	99.3	90 - 110	
51	V	72	48.04 ppb	1.47	50	96.1	90 - 110	
52	Cr	72	48.72 ppb	2.23	50	97.4	90 - 110	
55	Mn	72	48.53 ppb	1.91	50	97.1	90 - 110	
59	Co	72	49.19 ppb	1.05	50	98.4	90 - 110	
60	Ni	72	50.51 ppb	2.15	50	101.0	90 - 110	
63	Cu	72	50.79 ppb	1.69	50	101.6	90 - 110	
66	Zn	72	49.91 ppb	2.28	50	99.8	90 - 110	
75	As	72	50.09 ppb	1.74	50	100.2	90 - 110	
78	Se	72	50.55 ppb	0.24	50	101.1	90 - 110	
95	Mo	72	50.44 ppb	2.04	50	100.9	90 - 110	
107	Ag	115	49.47 ppb	1.12	50	98.9	90 - 110	
111	Cd	115	49.64 ppb	0.86	50	99.3	90 - 110	
118	Sn	115	49.52 ppb	0.62	50	99.0	90 - 110	
121	Sb	115	49.46 ppb	1.50	50	98.9	90 - 110	
137	Ba	115	49.75 ppb	0.64	50	99.5	90 - 110	
205	Tl	165	52.25 ppb	1.18	50	104.5	90 - 110	
208	Pb	165	51.38 ppb	1.02	50	102.8	90 - 110	
232	Th	165	53.11 ppb	2.44	50	106.2	90 - 110	
238	U	165	53.01 ppb	0.71	50	106.0	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	536974	0.53	581797	92.3	30 - 120
45	Sc	1	2404825	0.90	2574983	93.4	30 - 120
72	Ge	1	1144216	1.59	1211627	94.4	30 - 120
115	In	1	3295604	0.45	3426576	96.2	30 - 120
165	Ho	1	5413800	0.49	5647086	95.9	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\AG072109.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\AG072109.B\044_CCB.D\044_CCB.D#
 Date Acquired: Jul 21 2009 07:20 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: Jul 21 2009 05:31 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	0.012	ppb	188.91	1.00	
52 Cr	72	1	-0.022	ppb	45.87	1.00	
55 Mn	72	1	-0.011	ppb	53.82	1.00	
59 Co	72	1	0.002	ppb	121.88	1.00	
60 Ni	72	1	0.007	ppb	120.83	1.00	
63 Cu	72	1	-0.039	ppb	12.93	1.00	
66 Zn	72	1	0.001	ppb	1830.70	1.00	
75 As	72	1	-0.015	ppb	100.54	1.00	
78 Se	72	1	0.063	ppb	454.20	1.00	
95 Mo	72	1	0.016	ppb	20.60	1.00	
107 Ag	115	1	0.010	ppb	21.43	1.00	
111 Cd	115	1	0.005	ppb	76.54	1.00	
118 Sn	115	1	-0.106	ppb	36.09	1.00	
121 Sb	115	1	0.051	ppb	15.99	1.00	
137 Ba	115	1	0.010	ppb	31.85	1.00	
205 Tl	165	1	0.020	ppb	11.21	1.00	
208 Pb	165	1	0.003	ppb	16.50	1.00	
232 Th	165	1	0.824	ppb	16.14	1.00	
238 U	165	1	0.009	ppb	11.26	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	540872	0.73	581797	93.0	30 - 120	
45 Sc	1	2418946	1.22	2574983	93.9	30 - 120	
72 Ge	1	1139717	0.72	1211627	94.1	30 - 120	
115 In	1	3281751	0.37	3426576	95.8	30 - 120	
165 Ho	1	5438318	1.15	5647086	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\AG072109.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\AG072109.B\045WASH.D\045WASH.D#
Date Acquired: Jul 21 2009 07:22 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: Jul 21 2009 05:31 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	1.045 ppb	12.08	1.30	
51 V	72	1	5.035 ppb	1.01	6.50	
52 Cr	72	1	2.023 ppb	2.27	2.60	
55 Mn	72	1	1.007 ppb	2.81	1.30	
59 Co	72	1	1.000 ppb	4.78	1.30	
60 Ni	72	1	2.095 ppb	4.44	2.60	
63 Cu	72	1	2.025 ppb	2.63	2.60	
66 Zn	72	1	10.370 ppb	2.29	13.00	
75 As	72	1	5.157 ppb	1.05	6.50	
78 Se	72	1	4.848 ppb	12.40	6.50	
95 Mo	72	1	2.162 ppb	0.74	2.60	
107 Ag	115	1	5.141 ppb	1.03	6.50	
111 Cd	115	1	1.004 ppb	4.06	1.30	
118 Sn	115	1	9.907 ppb	0.76	13.00	
121 Sb	115	1	1.942 ppb	1.51	2.60	
137 Ba	115	1	1.047 ppb	5.14	1.30	
205 Tl	165	1	1.098 ppb	0.61	1.30	
208 Pb	165	1	1.094 ppb	0.45	1.30	
232 Th	165	1	2.411 ppb	1.64	2.60	
238 U	165	1	1.121 ppb	1.49	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	539872	0.98	581797	92.8	30 - 120	
45 Sc	1	2370772	1.41	2574983	92.1	30 - 120	
72 Ge	1	1136181	1.05	1211627	93.8	30 - 120	
115 In	1	3268605	0.72	3426576	95.4	30 - 120	
165 Ho	1	5404596	1.26	5647086	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\AG072109.B\003CALB.D\003CALB.D#

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