SDG # 8304644

Close Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Tronox LLC, Henderson

SDG: 8304644
Lot #: D9K120520

Frank Hagar

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

TestAmerica Laboratories, Inc.

Michael P. Phillips
Project Manager

November 28, 2009

Case Narrative
SDG 8304644

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
Two samples were received under chain of custody at a temperature of 4.5°C on November 12 2009, and were logged under lot D9K120520. This lot is reported here under SDG 8304644.

Total and Dissolved Arsenic and Selenium – SW846 Method 6020/Collision Cell
The method required MS/MSD was performed for Total Metals QC batch 9320068 using sample D9K120520-001 (M-122B), and exhibited MS/MSD recoveries for Selenium that were above the QC control limits. The acceptable LCS and Method Blank results indicated that the analytical system was operating in control; therefore, corrective action was deemed unnecessary.

The method required MS/MSD was performed for Dissolved Metals QC batch 9320075 using sample D9K120520-002 (M-122BDISS), and exhibited MS/MSD recoveries for both Arsenic and Selenium that were above the QC control limits. The acceptable LCS and Method Blank results indicated that the analytical system was operating in control; therefore, corrective action was deemed unnecessary.

The post digestion spike associated with QC batch 9320075 was recovered outside the QC control limits for Selenium in sample D9K120520-002 (M-122BDISS) due to matrix interference.

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, ie., 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

8304644 : D9K120520

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
M-122B 11/11/09 13:35 001				
Arsenic	48	5.0	ug/L	SW846 6020
Selenium	12	5.0	ug/L	SW846 6020
M-122BDISS 11/11/09 13:35 002				
Arsenic - DISSOLVED	49	5.0	ug/L	SW846 6020
Selenium - DISSOLVED	12	5.0	ug/L	SW846 6020

METHODS SUMMARY

8304644

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
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

8304644

ANALYTICAL METHOD	ANALYST	ANALYST ID
SW846 6020	Thomas Lill	6929

References:

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

SAMPLE SUMMARY

8304644 : D9K120520

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LPCR0	001	M-122B	11/11/09	13:35
LPCR2	002	M-122BDISS	11/11/09	13:35

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

8304644 : D9K120520

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WG	SW846 6020		9320068	9320037
002	WG	SW846 6020		9320075	9320039

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Total Metals

CLP-Like Forms

Lot ID: D9K120520

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001

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Total Metals Analysis

COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc. SDG No.: D9K120520

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

SOW No.: _____

Sample ID.	Lab Sample No.
M-122B	D9K120520-001
M-122B MS	D9K120520-001S
M-122B MSD	D9K120520-001SD

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

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

Comments:

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

Signature: Janice Collins Name: Janice Collins

Date: 11/24/09 Title: Metals Analyst

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Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-122B
Lot/SDG Number:	D9K120520	**Lab Sample ID:**	D9K120520-001
Matrix:	WATER	**Lab WorkOrder:**	LPCR0
% Moisture:	N/A	**Date/Time Collected:**	11/11/09 13:35
Basis:	Wet	**Date/Time Received:**	11/12/09 09:30
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320068	**Date/Time Analyzed:**	11/19/09 20:19
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	**48**	0.21	5.0	
7782-49-2	Selenium	**12**	0.70	5.0	

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	39.8	99.5	50.0	50.5	101.0	52.0	104.0	M
Selenium	40.0	40.6	101.5	50.0	49.2	98.4	48.9	97.8	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.: D9K120520

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Arsenic				50.0	52.2	104.4			M
Selenium				50.0	49.8	99.6			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.: D9K120520

AA CRDL Standard Source: _____

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				1.00	0.990	99.0		
Selenium				1.00	1.062	106.2		

Comments:

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THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9K120520	**Lab Sample ID:**	D9K160000-068B
Matrix:	WATER	**Lab WorkOrder:**	LPJLL
% Moisture:		**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320068	**Date/Time Analyzed:**	11/19/09 20:13
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

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

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Total Metals Analysis

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BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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) 1	C	2	C	3	C	Preparation Blank	C	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:

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Total Metals Analysis

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ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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	0.44	95.69	95.7			
Selenium	0.0	100.0	-0.19	98.15	98.2			

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THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-122B
Lot/SDG Number:	D9K120520	**MS Lab Sample ID:**	D9K120520-001S
Matrix:	WATER	**MS Lab WorkOrder:**	LPCR0
% Moisture:	N/A	**Date/Time Collected:**	11/11/09 13:35
Basis:	Wet	**Date/Time Received:**	11/12/09 09:30
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320068	**Date/Time Analyzed:**	11/19/09 20:27
MS Sample Aliquot:	50 mL	**Instrument ID:**	024
MS Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	48		93.2		114		85 - 117
Selenium	40.0	12		61.7		125	N	77 - 122

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Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-122B
Lot/SDG Number:	D9K120520	**MSD Lab Sample ID:**	D9K120520-001D
Matrix:	WATER	**MSD Lab WorkOrder:**	LPCR0
% Moisture:	N/A	**Date/Time Collected:**	11/11/09 13:35
Basis:	Wet	**Date/Time Received:**	11/12/09 09:30
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320068	**Date/Time Analyzed:**	11/19/09 20:30
MSD Sample Aliquot:	50 mL	**Instrument ID:**	024
MSD Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	48		93.8		115		0.68		85 - 117	20
Selenium	40.0	12		64.8		132	N	4.8		77 - 122	20

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Total Metals Analysis
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: M-122B PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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	264.800		47.680		200.00	108.6		M
Selenium	75 - 125	258.800		11.800		200.00	123.5		M

Comments: _____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9K120520	**Lab Sample ID:**	D9K160000-068C
Matrix:	WATER	**Lab WorkOrder:**	LPJLL
% Moisture:	N/A	**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320068	**Date/Time Analyzed:**	11/19/09 20:16
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	39.8	99		85 - 117
Selenium	40.0	36.6	91		77 - 122

Total Metals Analysis

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ICP SERIAL DILUTIONS

SAMPLE NO.

M-122B SER

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	47.680		43.935		7.9		M
Selenium	11.800		9.140	B	22.5		M

Comments: _____

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Total Metals Analysis

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DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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: _____

TestAmerica

Total Metals Analysis
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ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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

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

Comments: _____

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Total Metals Analysis

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PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
M-122B	11/16/2009	50.0	50.0
M-122B MS	11/16/2009	50.0	50.0
M-122B MSD	11/16/2009	50.0	50.0
MB9320068	11/16/2009	50.0	50.0
Check Sample	11/16/2009	50.0	50.0

Comments:

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Total Metals Analysis
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ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9K120520

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/19/2009 End Date: 11/19/2009

Sample ID.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CAL BLANK	1.00	17:59				X															X						
100 PPB	1.00	18:02				X															X						
ICV	1.00	18:05				X															X						
ICB	1.00	18:10				X															X						
RL STD	1.00	18:13				X															X						
ICSA	1.00	18:22				X															X						
ICSAB	1.00	18:25				X															X						
RINSE	1.00	18:28				X															X						
LR	1.00	18:31				X															X						
RINSE	1.00	18:34				X															X						
LR2	1.00	18:37				X															X						
RINSE	1.00	18:40				X															X						
CCV	1.00	18:43				X															X						
CCB	1.00	18:48				X															X						
CCV	1.00	20:04				X															X						
CCB	1.00	20:07				X															X						
MB9320068	1.00	20:13				X															X						
Check Sample	1.00	20:16				X															X						
M-122B	1.00	20:19				X															X						
M-122B SER	5.00	20:21				X															X						
M-122B PDS	1.00	20:24				X															X						
M-122B MS	1.00	20:27				X															X						
M-122B MSD	1.00	20:30				X															X						
CCV	1.00	20:33				X															X						
CCB	1.00	20:36				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: D9K120520

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 002

TestAmerica

Dissolved Metals Analysis

COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9K120520

Lab Code: _____ Case No.: _____

SAS No.: _____

SOW No.: _____

Sample ID.	Lab Sample No.
M-122BDISS	D9K120520-002
M-122BDISS MS	D9K120520-002S
M-122BDISS MSD	D9K120520-002SD

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

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

Comments:

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

Signature: Janice Collins Name: Janice Collins

Date: 11/24/09 Title: Metals Analyst

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Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-122BDISS
Lot/SDG Number:	D9K120520	**Lab Sample ID:**	D9K120520-002
Matrix:	WATER	**Lab WorkOrder:**	LPCR2
% Moisture:	N/A	**Date/Time Collected:**	11/11/09 13:35
Basis:	Wet	**Date/Time Received:**	11/12/09 09:30
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320075	**Date/Time Analyzed:**	11/18/09 04:32
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	**49**	0.21	5.0	
7782-49-2	Selenium	**12**	0.70	5.0	

TestAmerica

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Arsenic	40.0	39.2	98.0	50.0	49.4	98.8	48.8	97.6	M
Selenium	40.0	38.5	96.2	50.0	49.6	99.2	47.1	94.2	M

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

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Arsenic				50.0	49.5	99.0	49.8	99.6	M
Selenium				50.0	48.0	96.0	49.0	98.0	M

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

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Arsenic				50.0	51.0	102.0	51.4	102.8	M
Selenium				50.0	50.6	101.2	50.1	100.2	M

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

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Arsenic				50.0	50.8	101.6			M
Selenium				50.0	49.6	99.2			M

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

Dissolved Metals Analysis

-2B-

CRDL STANDARD FOR AA AND ICP

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9K120520

AA CRDL Standard Source: _____

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				1.00	1.040	104.0		
Selenium				1.00	0.961	96.1		

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9K120520	**Lab Sample ID:**	D9K160000-075B
Matrix:	WATER	**Lab WorkOrder:**	LPJLQ
% Moisture:		**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320075	**Date/Time Analyzed:**	11/18/09 04:27
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

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

TestAmerica

Dissolved Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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) 1	C	2	C	3	C	Preparation Blank	C	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:

TestAmerica

Dissolved Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic			0.210	U	0.210	U	0.210	U			M
Selenium			0.700	U	0.700	U	0.700	U			M

Comments:

TestAmerica

Dissolved Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic			0.210	U							M
Selenium			0.700	U							M

Comments:

TestAmerica

Dissolved Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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	0.56	98.31	98.3	0.41	99.02	99.0
Selenium	0.0	100.0	0.17	102.40	102.4	-0.18	103.40	103.4

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-122BDISS
Lot/SDG Number:	D9K120520	**MS Lab Sample ID:**	D9K120520-002S
Matrix:	WATER	**MS Lab WorkOrder:**	LPCR2
% Moisture:	N/A	**Date/Time Collected:**	11/11/09 13:35
Basis:	Wet	**Date/Time Received:**	11/12/09 09:30
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320075	**Date/Time Analyzed:**	11/18/09 04:41
MS Sample Aliquot:	50 mL	**Instrument ID:**	024
MS Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	49		96.3		119	N	85 - 117
Selenium	40.0	12		66.9		137	N	77 - 122

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-122BDISS
Lot/SDG Number:	D9K120520	**MSD Lab Sample ID:**	D9K120520-002D
Matrix:	WATER	**MSD Lab WorkOrder:**	LPCR2
% Moisture:	N/A	**Date/Time Collected:**	11/11/09 13:35
Basis:	Wet	**Date/Time Received:**	11/12/09 09:30
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320075	**Date/Time Analyzed:**	11/18/09 04:44
MSD Sample Aliquot:	50 mL	**Instrument ID:**	024
MSD Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	49		96.3		119	N	0.010		85 - 117	20
Selenium	40.0	12		71.5		149	N	6.7		77 - 122	20

TestAmerica

Dissolved Metals Analysis
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: M-122BDISS PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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	266.800		48.650		200.00	109.1		M
Selenium	75 - 125	281.900		11.920		200.00	135.0	N	M

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9K120520	**Lab Sample ID:**	D9K160000-075C
Matrix:	WATER	**Lab WorkOrder:**	LPJLQ
% Moisture:	N/A	**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	11/16/09 14:00
QC Batch ID:	9320075	**Date/Time Analyzed:**	11/18/09 04:30
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	41.0	103		85 - 117
Selenium	40.0	39.9	100		77 - 122

Dissolved Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

M-122BDISS SER

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	48.650		43.665		10.2		M
Selenium	11.920		10.170	B	14.7		M

Comments: _____

TestAmerica

Dissolved Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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: _____

TestAmerica

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

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

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

Comments: _____

Form XII - IN

TestAmerica

Dissolved Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9K120520

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
M-122BDISS	11/16/2009	50.0	50.0
M-122BDISS MS	11/16/2009	50.0	50.0
M-122BDISS MSD	11/16/2009	50.0	50.0
MB9320075	11/16/2009	50.0	50.0
Check Sample	11/16/2009	50.0	50.0

Comments:

Dissolved Metals Analysis

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ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9K120520

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/17/2009 End Date: 11/18/2009

Sample ID.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CAL BLANK	1.00	16:52				X															X						
100 PPB	1.00	16:55				X															X						
ICV	1.00	16:57				X															X						
ICB	1.00	17:03				X															X						
RL STD	1.00	17:06				X															X						
ICSA	1.00	17:14				X															X						
ICSAB	1.00	17:17				X															X						
RINSE	1.00	17:19				X															X						
LR	1.00	17:22				X															X						
RINSE	1.00	17:25				X															X						
CCV	1.00	17:27				X															X						
CCB	1.00	17:30				X															X						
CAL BLANK	1.00	19:07				X															X						
100 PPB	1.00	19:10				X															X						
CCV	1.00	19:13				X															X						
CCB	1.00	19:16				X															X						
CCV	1.00	20:41				X															X						
CCB	1.00	20:44				X															X						
ICSA	1.00	20:49				X															X						
ICSAB	1.00	20:52				X															X						
WASH	1.00	20:55				X															X						
CCV	1.00	20:58				X															X						
CCB	1.00	21:00				X															X						
CAL BLANK	1.00	02:46				X															X						
100 PPB	1.00	02:49				X															X						
CCV	1.00	02:52				X															X						
CCB	1.00	02:55				X															X						
CCV	1.00	04:18				X															X						
CCB	1.00	04:21				X															X						
MB9320075	1.00	04:27				X															X						
Check Sample	1.00	04:30				X															X						
M-122BDISS	1.00	04:32				X															X						
M-122BDISS SER	5.00	04:35				X															X						

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

Dissolved Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9K120520

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/17/2009 End Date: 11/18/2009

Sample ID.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
M-122BDISS PDS	1.00	04:38				X															X						
M-122BDISS MS	1.00	04:41				X															X						
M-122BDISS MSD	1.00	04:44				X															X						
CCV	1.00	04:46				X															X						
CCB	1.00	04:49				X															X						

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

4.5
CHK
IRJ
11.12.09

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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

COC No. 2027.001.01140
Page: 1 of 1
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:

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

Required Project Information:

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

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush	Mark One
If Rush, Date due			
QC level Required: Standard		Special	EPA Stage 4 / Mark one
NJ Reduced Deliverable Package?			
MA MCP Cert?		CT RCP Cert?	Mark One

Lab Project ID (lab use)

Valid Matrix Codes: DRINKING WATER (WP), GROUND WATER (WG), WASTE WATER (WW), FREE PRODUCT (LF), SOIL (SO), OIL (OIL), WIPE (SW), AMBIENT AIR (AA), SVE AIR (AE), SOIL GAS (GS), WATER (W), SURFACE WATER (WS), WATER QC (WQ), SLUDGE (SL), RINSEATE (WR), OTHER (OT), ANIMAL TISSUE (TA)

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8020/Collision Ce	EPA 8141A OPP Pest	Comments/Lab Sample I.D.
1	M-122B	WG	G	11/11/09	1335	1	N			X						X		500 ml Plastic
2	M-122BDISS	WG	G	11/11/09	1335	1	Y			X						X		500 ml Plastic
3																		
4																		
5																		
6	JWO																	
7																		
8																		
9																		
10																		
11																		
12																		

Additional Comments/Special Instructions:

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Josh W Otis GES	11/11	1500	GES	11/11	1500
GES	11/11	1645	Green	11/12	0930

Sample Receipt Conditions

Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Josh W Otis

SIGNATURE of SAMPLER: Josh W Otis DATE Signed 11/11/09 Time: 1430

Table of Contents

TestAmerica

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TestAmerica Denver

Sample Receiving Checklist

Lot #: D9K120520 Date/Time Received: 11/12/9 0930

Company Name & Sampling Site: Northgate - TRONOX

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

Quote #: 83046

Special Instructions:

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

Unpacking Checks:

Cooler #(s): 1

Temperatures (°C): 4.5

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

TestAmerica Denver

Sample Receiving Checklist

Lot # D9K120520

Login Checks:

Initials AG

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

☑	☐	☐	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: D9K120520

Client: Northgate Environmental

Batch(es) #: 9320075

Associated Samples: 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: 11/18/09

Metals Raw Data RoadMap

LotID		*Metal*	*WorkOrder*	*Anal Date*	*TestDesc*	*Batch*	*File Id*	*Instr*
D9K120520	2 D	SE	LPCR21AH	20091118	6020DSVD	9320075	AG111709	024
D9K120520	2 S	SE	LPCR21AG	20091118	6020DSVD	9320075	AG111709	024
D9K120520	2 D	AS	LPCR21AF	20091118	6020DSVD	9320075	AG111709	024
D9K120520	2 S	AS	LPCR21AE	20091118	6020DSVD	9320075	AG111709	024
D9K120520	2	SE	LPCR21AC	20091118	6020DSVD	9320075	AG111709	024
D9K120520	2	AS	LPCR21AA	20091118	6020DSVD	9320075	AG111709	024

METALS
PREPARATION LOGS
ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Table of Contents

Batch Number: **9320075**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: JNW

Prep Date: 11/16/09
Due Date: 11/24/09

Lot	Work Order			Initial Weight/Volume
D9K160000 Water	**LPJLQ**	B	Due Date: SDG:	50 mL
D9K160000 Water	**LPJLQ**	C	Due Date: SDG:	50 mL
D9K120520 Water	**LPCR2** Dissolved		Due Date: 11/24/09 SDG: 8304644	50 mL
D9K120520 Water	**LPCR2** Dissolved	S	Due Date: 11/24/09 SDG: 8304644	50 mL
D9K120520 Water	**LPCR2** Dissolved	D	Due Date: 11/24/09 SDG: 8304644	50 mL

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

checked 11/17/09

11/18/09

METALS PREP SHEET
SOP: DEN-IP-0014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Denver

DISSOLVED WATER DIGESTION FOR ICPMS (Prep code MD)

BATCH # 9320075 **ALLIQUOTTED BY:** KS
PREP DATE: 11/16/2009 **DIGESTED BY:** JRW

CONSUMABLES USED

Digestion Cups: **Manufacturer:** Environmental Express **Lot #:** A905LS269

Were samples filtered in the lab? ☐ Yes ☒ No

If "yes", then the method blank and the LCS were filtered prior to digestion.

Analyst(s) Initials:

STANDARDS USED

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6473-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO_3	JT Baker	H14024	2

TEMPERATURE CYCLES

Thermometer ID: 1x68 Block & Cup # : 16/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3/HCl	1430	91	1730	92

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

COMMENTS:

I certify that all information above is correct and complete.

Signature: *JRW* ***Date:*** 11/16/09

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)
CCV = Continuing Calibration Verification

ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank

TestAmerica Denver

Standards Preparation Logbook Record

Nov-17-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-SE02003 Vendor's Expiration Date: 12-01-2009
Solvent: 2% HNO3
Date Prep./Opened: 11-25-2008 Date Received: 11-25-2008
Date Expires(1): 12-01-2009 (None)
Date Expires(2): 12-01-2009 (None)
(METALS)-Inventory ID: 803

Component	Initial Conc (mg/L)	Final Conc (mg/L)
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

Component	Initial Conc (mg/L)	Final Conc (mg/L)
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

STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010
Solvent: 2% HNO3
Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009
Date Expires(1): 05-01-2010 (None)
Date Expires(2): 05-01-2010 (None)
(METALS)-Inventory ID: 856

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

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 10-31-2009
Date Expires(1): 03-01-2010 (1 Year)
Date Expires(2): 03-01-2010 (None)

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

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

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500
Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD7008-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 11-16-2009
Date Expires(1): 12-16-2009 (1 Month)
Date Expires(2): 11-01-2010 (None)
pipettes: Met 8

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000
Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000

P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD7014-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00
Date Prep./Opened: 11-16-2009
Date Expires(1): 03-16-2010 (1 Year)
Date Expires(2): 04-01-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)
pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500
Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500
Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

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

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000
Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500
Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

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

STD7036-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water Volume (ml): 1,000.0
Date Prep./Opened: 11-17-2009
Date Expires(1): 05-17-2010 (6 Months)
Date Expires(2): 05-17-2010 (6 Months)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7035-09, NITRIC ACID Aliquot Amount (ml): 50.000

Component	Initial Conc (%)	Final Conc (%)
HNO3	100.00	5.0000

STD7037-09, ICP-MS CAL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

STD7038-09, ICP-MS CCV STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.2500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0500
As	20.000	0.0500
Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500

Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.2500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

STD7039-09, ICP-MS RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

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

Parent Std No.: STD7037-09, ICP-MS CAL STD Aliquot Amount (ml): 0.1000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010

Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010

STD7040-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)

Parent Std No.: STD7039-09, ICP-MS RL STD Aliquot Amount (ml): 2.0000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002

STD7041-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)
Date Expires(2): 08-01-2010 (None)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.0500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000

Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.0500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD4542-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010 Parent Date Expires(2): 08-01-2010

Component	Initial Conc (ug/ml)	Final Conc (mg/L)
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD7042-09, ICP-MS LR STD Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	1.0000
As	20.000	1.0000
Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000

Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000

STD7043-09, ICP-MS ICV STD Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)
Date Expires(2): 04-21-2010 (None)

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0400

Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

STD7044-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)
pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se Aliquot Amount (ml): 0.1000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Se	1.0000	0.0020

STD7045-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 11-17-2009
Date Expires(1): 11-18-2009 (1 Day)
Date Expires(2): 11-01-2010 (None)
pipettes: Met 20

Parent Std No.: STD6469-09, ICP-MS LLCCV 1 Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000
Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000

Parent Std No.: STD6470-09, ICP-MS LLCCV 2 Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

File: AG111709

Reviewed By: LRD 11/17/2009

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Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/18/09 09:37:00

File ID: AG111709 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	11/17/09 16:52		☐
4	100 ppb				1.0	11/17/09 16:55		☐
5	ICV				1.0	11/17/09 16:57		☐
6	RLIV				1.0	11/17/09 17:00		☐
7	ICB				1.0	11/17/09 17:03		☐
8	RL STD				1.0	11/17/09 17:06		☐
9	AFCEE RL				1.0	11/17/09 17:08		☐
10	ALTSe				1.0	11/17/09 17:11		☐
11	ICSA				1.0	11/17/09 17:14		☐
12	ICSAB				1.0	11/17/09 17:17		☐
13	RINSE				1.0	11/17/09 17:19		☐
14	LR				1.0	11/17/09 17:22		☐
15	RINSE				1.0	11/17/09 17:25		☐
16	CCV				1.0	11/17/09 17:27		☐
17	CCB				1.0	11/17/09 17:30		☐
18	RLCV				1.0	11/17/09 17:33		☐
19	LNWJRB	D9K050000	9309190	MS	1.0	11/17/09 17:36		☐
20	LNWJRC	D9K050000	9309190	MS	1.0	11/17/09 17:39		☐
21	LNVRC	D9K040611-1	9309190	MS	1.0	11/17/09 17:42		☐
22	LNVR7	D9K040611-2	9309190	MS	1.0	11/17/09 17:44		☐
23	LNVR7P5	D9K040611	9309190		5.0	11/17/09 17:47		☐
24	LNVR7Z	D9K040611-2	9309190		1.0	11/17/09 17:50		☐
25	LNVR7S	D9K040611-2	9309190	MS	1.0	11/17/09 17:53		☐
26	LNVR7D	D9K040611-2	9309190	MS	1.0	11/17/09 17:55		☐
27	LNVR9	D9K040611-3	9309190	MS	1.0	11/17/09 17:58		☐
28	LNVTE	D9K040611-4	9309190	MS	1.0	11/17/09 18:01		☐
29	CCV				1.0	11/17/09 18:04		☐
30	CCB				1.0	11/17/09 18:06		☐
31	RLCV				1.0	11/17/09 18:09		☐
32	LN27VD	D9K060662-1	9313493	MS	1.0	11/17/09 18:12	Pb, Tl, U only. 11/18/09	☐
33	LN271 2X	D9K060662-2	9313493	MS	2.0	11/17/09 18:15		☐
34	LN274 2X	D9K060662-3	9313493	MS	2.0	11/17/09 18:17		☐
35	LN28G 2X	D9K060663-1	9313493	MS	2.0	11/17/09 18:20		☐
36	LN28K 2X	D9K060663-2	9313493	MS	2.0	11/17/09 18:23		☐
37	CCV				1.0	11/17/09 18:26		☐
38	CCB				1.0	11/17/09 18:29		☐
39	RLCV				1.0	11/17/09 18:31		☐
40	LPANLB	D9K120000	9316094	04	1.0 2.5	11/17/09 18:34	Pb only. 11/18/09	☐
41	LPANLC	D9K120000	9316094	04	2.5	11/17/09 18:37		☐
42	LN8K0	D9K110453-1	9316094	04	2.5	11/17/09 18:40		☐
43	LN842	D9K110453-4	9316094	04	2.5	11/17/09 18:42		☐
44	LN842S	D9K110453-4	9316094	04	2.5	11/17/09 18:45		☐
45	LN842D	D9K110453-4	9316094	04	2.5	11/17/09 18:48		☐
46	CCV				X 11/18/09	11/17/09 18:51		☐
47	CCB				1.0	11/17/09 18:54		☐
48	RLCV				1.0	11/17/09 18:56		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/18/09 09:37:00

File ID: AG111709 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	~~RINSE~~				~~1.0~~	~~11/17/09 18:59~~		☐
50	RINSE				1.0	11/17/09 19:02		☐
51	~~Cal Blank~~				~~1.0~~	~~11/17/09 19:05~~	RT 11/18/09	☐
52	Cal Blank				1.0	11/17/09 19:07		☐
53	100 ppb				1.0	11/17/09 19:10		☐
54	CCV				1.0	11/17/09 19:13		☐
55	CCB				1.0	11/17/09 19:16		☐
56	RLCV				1.0	11/17/09 19:18		☐
57	LN538B	D9K100000	9314209	46	1.0	11/17/09 19:21		☐
58	LN538C	D9K100000	9314209	46	1.0	11/17/09 19:24		☐
59	LN1JP	D9K060488-1	9314209	46	1.0	11/17/09 19:27		☐
60	LN1JPP5	D9K060488	9314209		5.0	11/17/09 19:29		☐
61	LN1JPZ	D9K060488-1	9314209		1.0	11/17/09 19:32		☐
62	LN1JPS	D9K060488-1	9314209	46	1.0	11/17/09 19:35		☐
63	LN1JPD	D9K060488-1	9314209	46	1.0	11/17/09 19:38		☐
64	LN1J9	D9K060488-2	9314209	46	1.0	11/17/09 19:40		☐
65	CCV				1.0	11/17/09 19:43		☐
66	CCB				1.0	11/17/09 19:46		☐
67	RLCV				1.0	11/17/09 19:49		☐
68	LN1KD	D9K060488-3	9314209	46	1.0	11/17/09 19:51		☐
69	LN1KE	D9K060488-4	9314209	46	1.0	11/17/09 19:54		☐
70	LN1KG	D9K060488-5	9314209	46	1.0	11/17/09 19:57		☐
71	LN1KV	D9K060488-6	9314209	46	1.0	11/17/09 20:00		☐
72	LN1KX	D9K060488-7	9314209	46	1.0	11/17/09 20:02		☐
73	LN1K1	D9K060488-8	9314209	46	1.0	11/17/09 20:05		☐
74	LN1K3	D9K060488-9	9314209	46	1.0	11/17/09 20:08		☐
75	LN1K4	D9K060488-10	9314209	46	1.0	11/17/09 20:11		☐
76	CCV				1.0	11/17/09 20:13		☐
77	CCB				1.0	11/17/09 20:16		☐
78	RLCV				1.0	11/17/09 20:19		☐
79	LN1K5	D9K060488-11	9314209	46	1.0	11/17/09 20:22		☐
80	LN1K6	D9K060488-12	9314209	46	1.0	11/17/09 20:24		☐
81	LN1K9	D9K060488-13	9314209	46	1.0	11/17/09 20:27		☐
82	LN1LA	D9K060488-14	9314209	46	1.0	11/17/09 20:30		☐
83	LN1LF	D9K060488-15	9314209	46	1.0	11/17/09 20:33		☐
84	LN1LG	D9K060488-16	9314209	46	1.0	11/17/09 20:36		☐
85	LN1LJ	D9K060488-17	9314209	46	1.0	11/17/09 20:38		☐
86	CCV				1.0	11/17/09 20:41		☐
87	CCB				1.0	11/17/09 20:44		☐
88	RLCV				1.0	11/17/09 20:47		☐
89	ICSA				1.0	11/17/09 20:49		☐
90	ICSAB				1.0	11/17/09 20:52		☐
91	WASH				1.0	11/17/09 20:55		☐
92	CCV				1.0	11/17/09 20:58		☐
93	CCB				1.0	11/17/09 21:00		☐
94	RLCV				1.0	11/17/09 21:03		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/18/09 09:37:00

File ID: AG111709 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
95	LN40KB	D9K090000	9313231	MS	1.0	11/17/09 21:06		☐
96	LN40KC	D9K090000	9313231	MS	1.0	11/17/09 21:09		☐
97	LN2KG	D9K060585-8	9313231	MS	1.0	11/17/09 21:11		☐
98	LN2KR	D9K060585-13	9313231	MS	1.0	11/17/09 21:14		☐
99	LN2KRP5	D9K060585	9313231		5.0	11/17/09 21:17		☐
100	LN2KRZ	D9K060585-13	9313231		1.0	11/17/09 21:20		☐
101	LN2KRS	D9K060585-13	9313231	MS	1.0	11/17/09 21:22		☐
102	LN2KRD	D9K060585-13	9313231	MS	1.0	11/17/09 21:25		☐
103	CCV				1.0	11/17/09 21:28		☐
104	CCB				1.0	11/17/09 21:31		☐
105	RLCV				1.0	11/17/09 21:33		☐
106	~~LPEC2BF~~	~~D9K130000~~	9317063	87	~~2.5~~	~~11/17/09 21:40~~	~~RF~~ 11/18/09 Did not use.	☐
107	LPEC2CF	D9K130000	9317063	87	1.0 2.5	11/17/09 21:43		☐
108	LPCHGF	D9K120487-1	9317063	87	2.5	11/17/09 21:46		☐
109	LPEC2BF	D9K130000	9317063	87	2.5	11/17/09 21:48		☐
110	LPCHGSF	D9K120487-1	9317063	87	2.5	11/17/09 21:51		☐
111	LPCHGDF	D9K120487-1	9317063	87	2.5	11/17/09 21:54		☐
112	CCV				1.0	11/17/09 21:57		☐
113	CCB				1.0	11/17/09 22:00		☐
114	RLCV				1.0	11/17/09 22:03		☐
115	LPHG0B	D9K140000	9318127	MS	1.0	11/17/09 22:06		☐
116	LPHG0C	D9K140000	9318127	MS	1.0	11/17/09 22:09		☐
117	LN92C	D9K110631-1	9318127	MS	1.0	11/17/09 22:12		☐
118	LN92N	D9K110631-2	9318127	MS	1.0	11/17/09 22:14		☐
119	LN92R	D9K110631-3	9318127	MS	1.0	11/17/09 22:17		☐
120	LN92RP5	D9K110631	9318127		5.0	11/17/09 22:20		☐
121	LN92RZ	D9K110631-3	9318127		1.0	11/17/09 22:23		☐
122	CCV				1.0	11/17/09 22:25		☐
123	CCB				1.0	11/17/09 22:28		☐
124	RLCV				1.0	11/17/09 22:31		☐
125	LN92RS	D9K110631-3	9318127	MS	1.0	11/17/09 22:34		☐
126	LN92RD	D9K110631-3	9318127	MS	1.0	11/17/09 22:37		☐
127	LN92T	D9K110631-4	9318127	MS	1.0	11/17/09 22:39		☐
128	LPEX5	D9K130467-1	9318127	MS	1.0	11/17/09 22:42		☐
129	LPE0G	D9K130467-3	9318127	MS	1.0	11/17/09 22:45		☐
130	LPE0H	D9K130467-4	9318127	MS	1.0	11/17/09 22:48		☐
131	LPE0M	D9K130467-5	9318127	MS	1.0	11/17/09 22:50		☐
132	CCV				1.0	11/17/09 22:53		☐
133	CCB				1.0	11/17/09 22:58		☐
134	RLCV				1.0	11/17/09 23:00		☐
135	LPHAMBF	D9K140000	9318095	MD	1.0	11/17/09 23:03		☐
136	LPHAMCF	D9K140000	9318095	MD	1.0	11/17/09 23:07		☐
137	LN8NXF	D9K110470-1	9318095	MD	1.0	11/17/09 23:10		☐
138	LN8NXP5F	D9K110470	9318095		5.0	11/17/09 23:13		☐
139	LN8NXZF	D9K110470-1	9318095		1.0	11/17/09 23:16		☐
140	LN8NXSF	D9K110470-1	9318095	MD	1.0	11/17/09 23:18		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/18/09 09:37:00

File ID: AG111709 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	LN8NXDF	D9K110470-1	9318095	MD	1.0	11/17/09 23:21		☐
142	CCV				1.0	11/17/09 23:24		☐
143	CCB				1.0	11/17/09 23:27		☐
144	RLCV				1.0	11/17/09 23:29		☐
145	~~LPF1EB~~	~~D9K130000~~	~~9317507~~	~~MS~~	~~1.0~~	~~11/17/09 23:32~~		☐
146	LPF1EC	D9K130000	9317507	MS	1.0	11/17/09 23:35		☐
147	LPCPF	D9K120508-1	9317507	MS	1.0	11/17/09 23:38		☐
148	LPCQG	D9K120508-2	9317507	MS	1.0	11/17/09 23:41		☐
149	LPCQJ	D9K120508-3	9317507	MS	1.0	11/17/09 23:43		☐
150	LPCQK	D9K120508-4	9317507	MS	1.0	11/17/09 23:46		☐
151	LPCQKP5	D9K120508	9317507		5.0	11/17/09 23:49		☐
152	LPCQKZ	D9K120508-4	9317507		1.0	11/17/09 23:52		☐
153	CCV				1.0	11/17/09 23:54		☐
154	CCB				1.0	11/17/09 23:57		☐
155	RLCV				1.0	11/18/09 00:00		☐
156	LPCQKS	D9K120508-4	9317507	MS	1.0	11/18/09 00:03		☐
157	LPCQKD	D9K120508-4	9317507	MS	1.0	11/18/09 00:05		☐
158	LPCQL	D9K120508-5	9317507	MS	1.0	11/18/09 00:08		☐
159	LPCQM	D9K120508-6	9317507	MS	1.0	11/18/09 00:11		☐
160	LPCQP	D9K120508-7	9317507	MS	1.0	11/18/09 00:14		☐
161	LPCQR	D9K120508-8	9317507	MS	1.0	11/18/09 00:17		☐
162	LPCQT	D9K120508-9	9317507	MS	1.0	11/18/09 00:19		☐
163	LPCQV	D9K120508-10	9317507	MS	1.0	11/18/09 00:22		☐
164	CCV				1.0	11/18/09 00:25		☐
165	CCB				1.0	11/18/09 00:28		☐
166	RLCV				1.0	11/18/09 00:30		☐
167	RINSE				1.0	11/18/09 00:33		☐
168	RINSE				1.0	11/18/09 00:36		☐
169	RINSE				1.0	11/18/09 00:39		☐
170	RINSE				1.0	11/18/09 00:41		☐
171	RINSE				1.0	11/18/09 00:44		☐
172	~~Cal Blank~~				~~1.0~~	~~11/18/09 00:47~~	KF 11/18/09 Did not use.	☐
173	Cal Blank				1.0	11/18/09 00:50		☐
174	100 ppb				1.0	11/18/09 00:52		☐
175	CCV				1.0	11/18/09 00:55		☐
176	CCB				1.0	11/18/09 00:58		☐
177	RLCV				1.0	11/18/09 01:01		☐
178	LPHA3B	D9K140000	9318098	MS	1.0	11/18/09 01:03		☐
179	LPHA3C	D9K140000	9318098	MS	1.0	11/18/09 01:06		☐
180	LN8NX	D9K110470-1	9318098	MS	1.0	11/18/09 01:09		☐
181	LN8NXP5	D9K110470	9318098		5.0	11/18/09 01:12		☐
182	LN8NXZ	D9K110470-1	9318098		1.0	11/18/09 01:15		☐
183	LN8NXS	D9K110470-1	9318098	MS	1.0	11/18/09 01:17		☐
184	LN8NXD	D9K110470-1	9318098	MS	1.0	11/18/09 01:20		☐
185	CCV				1.0	11/18/09 01:23		☐
186	CCB				1.0	11/18/09 01:26		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/18/09 09:37:00

File ID: AG111709 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
187	RLCV				1.0	11/18/09 01:28		☐
188	LPHK3B	D9K140000	9318133	MS	1.0	11/18/09 01:31		☐
189	LPHK3C	D9K140000	9318133	MS	1.0	11/18/09 01:34		☐
190	LPA9M	D9K120459-1	9318133	MS	1.0	11/18/09 01:37		☐
191	LPA9MP5	D9K120459	9318133		5.0	11/18/09 01:39		☐
192	LPA9MZ	D9K120459-1	9318133		1.0	11/18/09 01:42		☐
193	LPA9MS	D9K120459-1	9318133	MS	1.0	11/18/09 01:45		☐
194	LPA9MD	D9K120459-1	9318133	MS	1.0	11/18/09 01:48		☐
195	LPCMC	D9K120500-1	9318133	MS	1.0	11/18/09 01:51		☐
196	LPCMG	D9K120500-2	9318133	MS	1.0	11/18/09 01:53		☐
197	CCV				1.0	11/18/09 01:56		☐
198	CCB				1.0	11/18/09 01:59		☐
199	RLCV				1.0	11/18/09 02:02		☐
200	LPCMH	D9K120500-3	9318133	MS	1.0	11/18/09 02:05		☐
201	LPCMJ	D9K120500-4	9318133	MS	1.0	11/18/09 02:07		☐
202	LPCMK	D9K120500-5	9318133	MS	1.0	11/18/09 02:10		☐
203	LPCMM	D9K120500-6	9318133	MS	1.0	11/18/09 02:13		☐
204	LPCMP	D9K120500-7	9318133	MS	1.0	11/18/09 02:16		☐
205	LPCMQ	D9K120500-8	9318133	MS	1.0	11/18/09 02:19		☐
206	LPC97	D9K120564-1	9318133	MS	1.0	11/18/09 02:21		☐
207	LPDAK	D9K120564-2	9318133	MS	1.0	11/18/09 02:24		☐
208	LPF8L	D9K130611-1	9318133	MS	1.0	11/18/09 02:27		☐
209	CCV				1.0	11/18/09 02:30		☐
210	CCB				1.0	11/18/09 02:33		☐
211	RLCV				1.0	11/18/09 02:35		☐
212	~~RINSE~~				~~1.0~~	~~11/18/09 02:38~~		☐
213	RINSE				1.0	11/18/09 02:41		☐
214	~~Cal Blank~~				~~1.0~~	~~11/18/09 02:44~~	KF 11/18/09 Did not use.	☐
215	Cal Blank				1.0	11/18/09 02:46		☐
216	100 ppb				1.0	11/18/09 02:49		☐
217	CCV				1.0	11/18/09 02:52		☐
218	CCB				1.0	11/18/09 02:55		☐
219	RLCV				1.0	11/18/09 02:57		☐
220	LPG3EB	D9K140000	9318035	04	1.0 2.5	11/18/09 03:00		☐
221	LPG3EC	D9K140000	9318035	04	2.5	11/18/09 03:03		☐
222	LN9NQ	D9K110602-2	9318035	04	2.5	11/18/09 03:06		☐
223	LN9NQS	D9K110602-2	9318035	04	2.5	11/18/09 03:09		☐
224	LN9NQD	D9K110602-2	9318035	04	2.5	11/18/09 03:11		☐
225	LN9PA	D9K110602-4	9318035	04	2.5	11/18/09 03:14		☐
226	CCV				1.0	11/18/09 03:17		☐
227	CCB				1.0	11/18/09 03:20		☐
228	RLCV				1.0	11/18/09 03:22		☐
229	LPEFWB	D9K130000	9317104	MS	1.0	11/18/09 03:25		☐
230	LPEFWC	D9K130000	9317104	MS	1.0	11/18/09 03:28		☐
231	LPC8Q	D9K120563-1	9317104	MS	1.0	11/18/09 03:31		☐
232	LPC9K	D9K120563-2	9317104	MS	1.0	11/18/09 03:34		☐

Denver RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/18/09 09:37:00

File ID: AG111709 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
233	LPC9L	D9K120563-3	9317104	MS	1.0	11/18/09 03:36		☐
234	LPC9M	D9K120563-4	9317104	MS	1.0	11/18/09 03:39		☐
235	LPC9MP5	D9K120563	9317104		5.0	11/18/09 03:42		☐
236	LPC9MZ	D9K120563-4	9317104		1.0	11/18/09 03:45		☐
237	CCV				1.0	11/18/09 03:48		☐
238	CCB				1.0	11/18/09 03:50		☐
239	RLCV				1.0	11/18/09 03:53		☐
240	LPC9MS	D9K120563-4	9317104	MS	1.0	11/18/09 03:56		☐
241	LPC9MD	D9K120563-4	9317104	MS	1.0	11/18/09 03:59		☐
242	LPC9P	D9K120563-5	9317104	MS	1.0	11/18/09 04:02		☐
243	LPC9V	D9K120563-6	9317104	MS	1.0	11/18/09 04:04		☐
244	LPC90	D9K120563-7	9317104	MS	1.0	11/18/09 04:07		☐
245	LPC94	D9K120563-8	9317104	MS	1.0	11/18/09 04:10		☐
246	LPC95	D9K120563-9	9317104	MS	1.0	11/18/09 04:13		☐
247	LPC96	D9K120563-10	9317104	MS	1.0	11/18/09 04:16		☐
248	CCV				1.0	11/18/09 04:18		☐
249	CCB				1.0	11/18/09 04:21		☐
250	RLCV				1.0	11/18/09 04:24		☐
251	LPJLQBF	D9K160000	9320075	MD	1.0	11/18/09 04:27		☐
252	LPJLQCF	D9K160000	9320075	MD	1.0	11/18/09 04:30		☐
253	LPCR2F	D9K120520-2	9320075	MD	1.0	11/18/09 04:32		☐
254	LPCR2P5F	D9K120520	9320075		5.0	11/18/09 04:35		☐
255	LPCR2ZF	D9K120520-2	9320075		1.0	11/18/09 04:38		☐
256	LPCR2SF	D9K120520-2	9320075	MD	1.0	11/18/09 04:41		☐
257	LPCR2DF	D9K120520-2	9320075	MD	1.0	11/18/09 04:44		☐
258	CCV				1.0	11/18/09 04:46		☐
259	CCB				1.0	11/18/09 04:49		☐
260	RLCV				1.0	11/18/09 04:52		☐
261	~~RINSE~~				~~1.0~~	~~11/18/09 04:55~~		☐
262	RINSE				1.0	11/18/09 04:57		☐
263	~~Cal Blank~~				~~1.0~~	~~11/18/09 05:00~~	11/18/09 did not use.	☐
264	Cal Blank				1.0	11/18/09 05:03		☐
265	100 ppb				1.0	11/18/09 05:06		☐
266	CCV				1.0	11/18/09 05:08		☐
267	CCB				1.0	11/18/09 05:11		☐
268	RLCV				1.0	11/18/09 05:14		☐
269	LPEFHBF	D9K130000	9317093	MD	1.0	11/18/09 05:17		☐
270	LPEFHCF	D9K130000	9317093	MD	1.0	11/18/09 05:19		☐
271	LPDEMF	D9K120575-1	9317093	MD	1.0	11/18/09 05:22		☐
272	LPDE3F	D9K120575-2	9317093	MD	1.0	11/18/09 05:25		☐
273	LPDE4F	D9K120575-3	9317093	MD	1.0	11/18/09 05:28		☐
274	LPDE5F	D9K120575-4	9317093	MD	1.0	11/18/09 05:31		☐
275	LPDE6F	D9K120575-5	9317093	MD	1.0	11/18/09 05:34		☐
276	LPDE8F	D9K120575-6	9317093	MD	1.0	11/18/09 05:37		☐
277	CCV				1.0	11/18/09 05:39		☐
278	CCB				1.0	11/18/09 05:42		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/18/09 09:37:00

File ID: AG111709 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
279	RLCV				1.0	11/18/09 05:45		☐
280	LPDFCF	D9K120575-7	9317093	MD	1.0	11/18/09 05:48		☐
281	LPDFCP5F	D9K120575	9317093		5.0	11/18/09 05:51		☐
282	LPDFCZF	D9K120575-7	9317093		1.0	11/18/09 05:53		☐
283	LPDFCSF	D9K120575-7	9317093	MD	1.0	11/18/09 05:56		☐
284	LPDFCDF	D9K120575-7	9317093	MD	1.0	11/18/09 05:59		☐
285	LPDFDF	D9K120575-8	9317093	MD	1.0	11/18/09 06:02		☐
286	LPDFEF	D9K120575-9	9317093	MD	1.0	11/18/09 06:05		☐
287	CCV				1.0	11/18/09 06:07		☐
288	CCB				1.0	11/18/09 06:10		☐
289	RLCV				1.0	11/18/09 06:13		☐
290	LPDFKF	D9K120575-10	9317093	MD	1.0	11/18/09 06:16		☐
291	LPDFPF	D9K120575-11	9317093	MD	1.0	11/18/09 06:19		☐
292	LPDFRF	D9K120575-12	9317093	MD	1.0	11/18/09 06:21		☐
293	LPDFTF	D9K120575-13	9317093	MD	1.0	11/18/09 06:24		☐
294	LPDFXF	D9K120575-14	9317093	MD	1.0	11/18/09 06:27		☐
295	LPDF1F	D9K120575-15	9317093	MD	1.0	11/18/09 06:30		☐
296	LPDF3F	D9K120575-16	9317093	MD	1.0	11/18/09 06:33		☐
297	CCV				1.0	11/18/09 06:35		☐
298	CCB				1.0	11/18/09 06:38		☐
299	RLCV				1.0	11/18/09 06:41		☐
300	Cal Blank				1.0	11/18/09 06:44		☐
301	100 ppb				1.0	11/18/09 06:46		☐
302	CCV				1.0	11/18/09 06:49		☐
303	CCB				1.0	11/18/09 06:52		☐
304	RLCV				1.0	11/18/09 06:55		☐
305	LPHPMBF	D9K140000	9318152	MD	1.0	11/18/09 06:57		☐
306	LPHPMCF	D9K140000	9318152	MD	1.0	11/18/09 07:00		☐
307	LPCEXF	D9K120474-1	9318152	MD	1.0	11/18/09 07:03		☐
308	LPCFDF	D9K120474-2	9318152	MD	1.0	11/18/09 07:06		☐
309	LPCFHF	D9K120474-3	9318152	MD	1.0	11/18/09 07:08		☐
310	LPCFJF	D9K120474-4	9318152	MD	1.0	11/18/09 07:11		☐
311	LPCFMF	D9K120474-5	9318152	MD	1.0	11/18/09 07:14		☐
312	LPEWJF	D9K130462-1	9318152	MD	1.0	11/18/09 07:17		☐
313	LPEWNF	D9K130462-2	9318152	MD	1.0	11/18/09 07:20		☐
314	CCV				1.0	11/18/09 07:22		☐
315	CCB				1.0	11/18/09 07:25		☐
316	RLCV				1.0	11/18/09 07:28		☐
317	LPEWQF	D9K130462-3	9318152	MD	1.0	11/18/09 07:31		☐
318	LPEWQP5F	D9K130462	9318152		5.0	11/18/09 07:33		☐
319	LPEWQZF	D9K130462-3	9318152		1.0	11/18/09 07:36		☐
320	LPEWQSF	D9K130462-3	9318152	MD	1.0	11/18/09 07:39		☐
321	LPEWQDF	D9K130462-3	9318152	MD	1.0	11/18/09 07:42		☐
322	LPEWRF	D9K130462-4	9318152	MD	1.0	11/18/09 07:44		☐
323	LPEWTF	D9K130462-5	9318152	MD	1.0	11/18/09 07:47		☐
324	LPEWVF	D9K130462-6	9318152	MD	1.0	11/18/09 07:50		☐

Denver

RUN SUMMARY

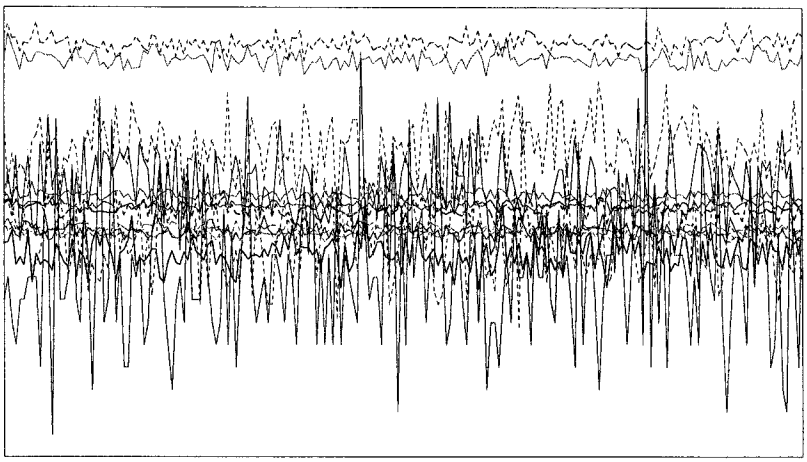
Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/18/09 09:37:00

File ID: AG111709 **Analyst:** TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
325	LPEWXF	D9K130462-7	9318152 MD	1.0	11/18/09 07:53		☐
326	CCV			1.0	11/18/09 07:56		☐
327	CCB			1.0	11/18/09 07:58		☐
328	RLCV			1.0	11/18/09 08:01		☐
329	280304-02 PI			1.0	11/18/09 08:04		☐
330	280304-02 T			1.0	11/18/09 08:07		☐
331	CCV			1.0	11/18/09 08:10		☐
332	CCB			1.0	11/18/09 08:12		☐
333	RLCV			1.0	11/18/09 08:15		☐

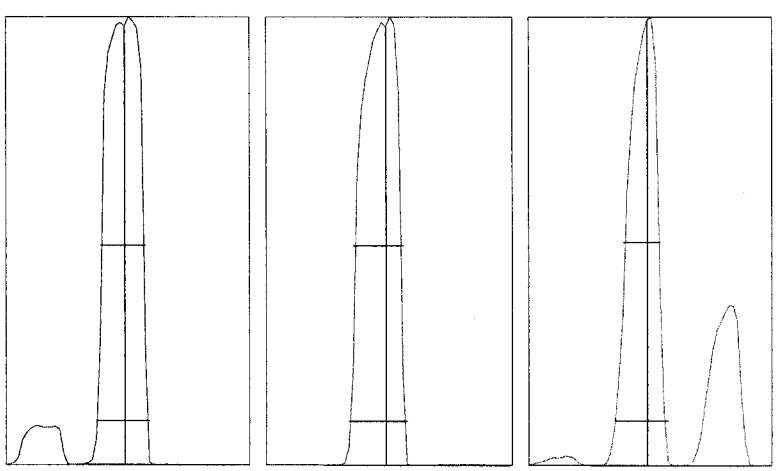
Tune Report

Tune File : NORM.U
Comment :



Integration Time: 0.1000 sec
Sampling Period: 1.5300 sec
n: 200
Oxide: 156/140 1.698%
Doubly Charged: 70/140 0.900%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2426.0	2515.2	2.89	1.10
7	50,000	28535.0	29131.9	1.65	0.30
59	20,000	17972.0	17672.6	1.88	0.80
63	100	53.0	59.9	11.82	0.60
70	500	258.0	226.1	7.63	1.00
75	20	13.0	8.2	39.13	0.80
78	200	142.0	137.6	8.81	0.80
89	50,000	25234.0	25475.7	1.70	1.30
115	50,000	25184.0	24853.3	1.60	2.20
118	100	38.0	48.4	16.63	1.60
137	5,000	2717.0	2754.7	2.40	2.60
205	20,000	18720.0	18410.7	1.79	3.20
238	50,000	28266.0	28013.3	1.34	2.70
156/140	5	2.011%	1.750%	6.91	
70/140	2	1.055%	0.934%	8.02	



m/z:	7	89	205
Height:	28,673	25,333	18,673
Axis:	7.00	89.00	205.00
W-50%:	0.55	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec

Y axis : Linear

Generated : Nov 17, 2009 15:54:10
Printed : Nov 17, 2009 15:54:13

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

===Plasma Condition===			===Ion Lenses===			===Q-Pole Parameters===		
RF Power	:	1600 W	Extract 1	:	0 V	AMU Gain	:	134
RF Matching	:	1.7 V	Extract 2	:	-170 V	AMU Offset	:	125
Smpl Depth	:	8 mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007
Torch-H	:	-0.8 mm	Omega Lens-ce	:	1.2 V	Axis Offset	:	-0.03
Torch-V	:	-0.3 mm	Cell Entrance	:	-30 V	QP Bias	:	-3 V
Carrier Gas	:	0.82 L/min	QP Focus	:	7 V			
Makeup Gas	:	0.23 L/min	Cell Exit	:	-30 V	===Detector Parameters===		
Optional Gas	:	--- %				Discriminator	:	8 mV
Nebulizer Pump	:	0.1 rps	===Octopole Parameters===			Analog HV	:	1760 V
Sample Pump	:	--- rps	OctP RF	:	180 V	Pulse HV	:	1600 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	:	--- %

Generated : Nov 17, 2009 15:54:10
Printed : Nov 17, 2009 15:54:15

P/A Factor Tuning Report

Acquired:Nov 17 2009 04:11 pm

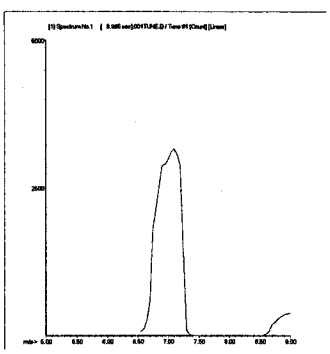
Mass[amu]	Element	P/A Factor
6	Li	0.063242
7	(Li)	Sensitivity too low
9	Be	0.071229
23	Na	0.079858
24	Mg	0.083016
27	Al	0.085206
39	K	0.084084
43	Ca	Sensitivity too low
45	Sc	0.085403
51	V	0.086417
52	Cr	0.090030
53	(Cr)	Sensitivity too low
55	Mn	0.091915
57	Fe	Sensitivity too low
59	Co	0.095517
60	Ni	0.096961
63	Cu	0.099035
66	Zn	0.098673
72	Ge	0.097432
75	As	0.096736
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.097992
98	(Mo)	0.097912
99	(Mo)	0.099340
105	Pd	0.102918
106	(Cd)	0.102875
107	Ag	Sensitivity too low
108	(Cd)	0.103753
111	Cd	0.104242
115	In	0.103742
118	Sn	0.103188
121	Sb	0.102989
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.112766
206	(Pb)	0.111171
207	(Pb)	0.111079
208	Pb	0.110740
232	Th	0.109497
238	U	0.109585

===Detector Parameters===
Discriminator: 8.0 mV
Analog HV: 1760 V
Pulse HV: 1600 V

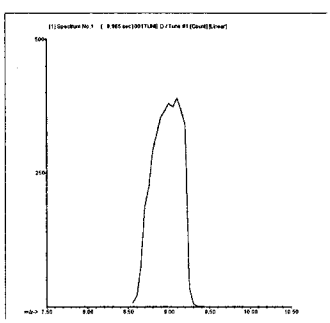
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\001TUNE.D
Date Acquired: Nov 17 2009 04:46 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	29991	30071	29858	29793	30213	30021	0.56	5.00	
9 Be	3740	3770	3760	3717	3738	3712	0.68	5.00	
24 Mg	17048	17321	17041	17015	16888	16978	0.96	5.00	
59 Co	55452	55728	55611	56051	55723	54147	1.35	5.00	
115 In	939653	944547	935048	937476	938138	943055	0.42	5.00	
208 Pb	64158	65153	64091	64361	62944	64242	1.24	5.00	
238 U	133210	135758	132138	133480	133309	131365	1.25	5.00	

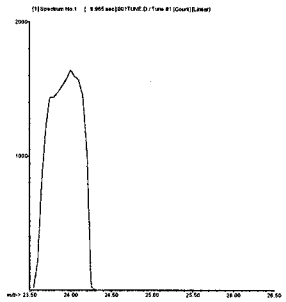


7 Li
Mass Calib.
Actual: 7.05
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



9 Be
Mass Calib.
Actual: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

C:\ICPCHEM\1\DATA\AG111709.B\001TUNE.D



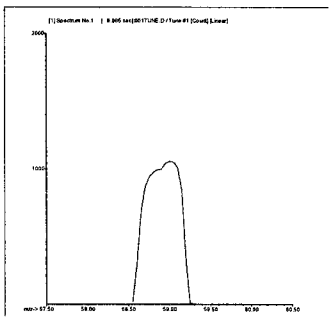
24 Mg

Mass Calib.

Actual:	24.00		
Required:	23.90	-	24.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



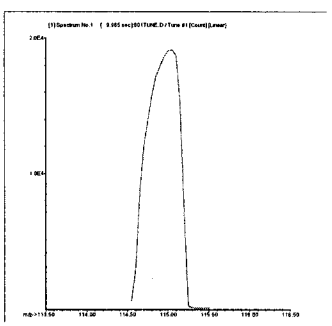
59 Co

Mass Calib.

Actual:	59.00		
Required:	58.90	-	59.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



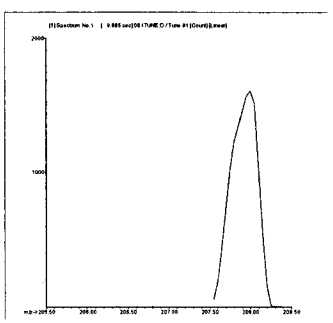
115 In

Mass Calib.

Actual:	115.00		
Required:	114.90	-	115.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



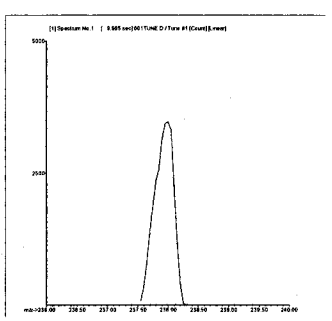
208 Pb

Mass Calib.

Actual:	207.95		
Required:	207.90	-	208.10
Flag:			

Peak Width

Actual:	0.55		
Required:	0.90		
Flag:			



238 U

Mass Calib.

Actual:	237.95		
Required:	237.90	-	238.10
Flag:			

Peak Width

Actual:	0.55		
Required:	0.90		
Flag:			

Tune Result: Pass

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\002CALB.D\002CALB.D#
Date Acquired: Nov 17 2009 04:49 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: Cal Blank
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 17 2009 04:50 pm
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	517	7.33
52	Cr	72	1	2177	8.38
55	Mn	72	1	630	5.50
59	Co	72	1	30	33.33
60	Ni	72	1	63	91.16
63	Cu	72	1	207	12.18
66	Zn	72	1	207	13.21
75	As	72	1	31	42.43
78	Se	72	1	160	10.83
95	Mo	72	1	27	57.28
107	Ag	115	1	13	173.21
111	Cd	115	1	-10	76.65
118	Sn	115	1	777	17.48
121	Sb	115	1	17	60.00
137	Ba	115	1	8	98.97
205	Tl	165	1	99	12.76
208	Pb	165	1	252	5.00
232	Th	165	1	120	30.05
238	U	165	1	84	12.69

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	648031	1.66
45	Sc	1	1347390	1.05
72	Ge	1	554982	0.21
115	In	1	1771790	0.70
165	Ho	1	3306290	0.37

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\AG111709.B\003CALB.D\003CALB.D#
Date Acquired:	Nov 17 2009 04:52 pm
Acq. Method:	NormISIS.M
Operator:	TEL
Sample Name:	Cal Blank
Misc Info:	
Vial Number:	2101
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update:	Nov 17 2009 04:50 pm
Sample Type:	CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	490	14.14
52	Cr	72	1	2450	4.71
55	Mn	72	1	757	12.28
59	Co	72	1	50	52.92
60	Ni	72	1	80	54.49
63	Cu	72	1	180	25.46
66	Zn	72	1	137	3.67
75	As	72	1	37	16.37
78	Se	72	1	177	8.65
95	Mo	72	1	43	35.25
107	Ag	115	1	13	86.60
111	Cd	115	1	7	257.95
118	Sn	115	1	967	10.57
121	Sb	115	1	20	44.10
137	Ba	115	1	16	32.73
205	Tl	165	1	70	16.50
208	Pb	165	1	197	12.22
232	Th	165	1	117	27.55
238	U	165	1	31	26.96

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	646538	1.46
45	Sc	1	1363118	0.19
72	Ge	1	556850	0.35
115	In	1	1768810	0.88
165	Ho	1	3327830	0.76

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\AG111709.B\004ICAL.D\004ICAL.D#
Date Acquired: Nov 17 2009 04:55 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: 100 ppb
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 17 2009 04:53 pm
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	69472	0.20
51	V	72	1	738766	0.28
52	Cr	72	1	753830	0.38
55	Mn	72	1	880611	0.40
59	Co	72	1	911913	0.29
60	Ni	72	1	202457	0.73
63	Cu	72	1	477692	1.00
66	Zn	72	1	109001	1.05
75	As	72	1	80643	0.27
78	Se	72	1	16484	4.03
95	Mo	72	1	227616	0.64
107	Ag	115	1	709039	1.30
111	Cd	115	1	145705	0.67
118	Sn	115	1	406059	0.96
121	Sb	115	1	448664	0.46
137	Ba	115	1	193855	0.33
205	Tl	165	1	1895942	0.72
208	Pb	165	1	2611793	0.49
232	Th	165	1	2744590	0.71
238	U	165	1	2953838	1.00

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	649133	0.54	646538	100.4	30 - 120	
45	Sc	1	1361707	0.71	1363118	99.9	30 - 120	
72	Ge	1	545266	0.84	556850	97.9	30 - 120	
115	In	1	1765663	1.54	1768810	99.8	30 - 120	
165	Ho	1	3305494	0.45	3327830	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\AG111709.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\AG111709.B\005 ICV.D\005 ICV.D#
Date Acquired: Nov 17 2009 04:57 pm
Operator: TEL
Sample Name: ICV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 pm
Sample Type: ICV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	39.54	ppb	1.31	40	98.9	90 - 110	
51 V	72	1	40.43	ppb	0.49	40	101.1	90 - 110	
52 Cr	72	1	40.13	ppb	0.61	40	100.3	90 - 110	
55 Mn	72	1	40.59	ppb	0.62	40	101.5	90 - 110	
59 Co	72	1	40.72	ppb	0.54	40	101.8	90 - 110	
60 Ni	72	1	40.34	ppb	1.74	40	100.9	90 - 110	
63 Cu	72	1	39.81	ppb	0.27	40	99.5	90 - 110	
66 Zn	72	1	39.81	ppb	0.33	40	99.5	90 - 110	
75 As	72	1	39.16	ppb	0.07	40	97.9	90 - 110	
78 Se	72	1	38.48	ppb	3.95	40	96.2	90 - 110	
95 Mo	72	1	40.37	ppb	0.71	40	100.9	90 - 110	
107 Ag	115	1	40.59	ppb	0.25	40	101.5	90 - 110	
111 Cd	115	1	40.18	ppb	1.25	40	100.5	90 - 110	
118 Sn	115	1	40.63	ppb	0.88	40	101.6	90 - 110	
121 Sb	115	1	40.32	ppb	1.00	40	100.8	90 - 110	
137 Ba	115	1	40.50	ppb	0.89	40	101.3	90 - 110	
205 Tl	165	1	39.46	ppb	1.06	40	98.7	90 - 110	
208 Pb	165	1	40.40	ppb	1.03	40	101.0	90 - 110	
232 Th	165	1	40.74	ppb	1.12	40	101.9	90 - 110	
238 U	165	1	40.94	ppb	0.86	40	102.4	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	647237	1.27	646538	100.1	30 - 120	
45 Sc	1	1340588	0.92	1363118	98.3	30 - 120	
72 Ge	1	543830	0.06	556850	97.7	30 - 120	
115 In	1	1754066	0.74	1768810	99.2	30 - 120	
165 Ho	1	3285083	1.00	3327830	98.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.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\AG111709.B\006WASH.D\006WASH.D#
Date Acquired: Nov 17 2009 05:00 pm
Operator: TEL
Sample Name: RLIV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 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	0.989 ppb	5.37	1.30	
51 V	72	1	5.082 ppb	2.36	6.50	
52 Cr	72	1	2.062 ppb	1.86	2.60	
55 Mn	72	1	0.998 ppb	3.19	1.30	
59 Co	72	1	1.029 ppb	5.05	1.30	
60 Ni	72	1	1.975 ppb	4.49	2.60	
63 Cu	72	1	2.028 ppb	4.42	2.60	
66 Zn	72	1	10.110 ppb	0.58	13.00	
75 As	72	1	5.050 ppb	1.80	6.50	
78 Se	72	1	5.026 ppb	6.41	6.50	
95 Mo	72	1	2.111 ppb	7.30	2.60	
107 Ag	115	1	5.280 ppb	2.69	6.50	
111 Cd	115	1	1.063 ppb	6.18	1.30	
118 Sn	115	1	10.320 ppb	2.67	13.00	
121 Sb	115	1	2.178 ppb	4.24	2.60	
137 Ba	115	1	1.007 ppb	7.30	1.30	
205 Tl	165	1	1.217 ppb	1.82	1.30	
208 Pb	165	1	1.026 ppb	0.93	1.30	
232 Th	165	1	2.090 ppb	1.10	2.60	
238 U	165	1	1.052 ppb	1.92	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	649251	1.14	646538	100.4	30 - 120	
45 Sc	1	1354281	0.36	1363118	99.4	30 - 120	
72 Ge	1	554871	0.24	556850	99.6	30 - 120	
115 In	1	1782441	1.54	1768810	100.8	30 - 120	
165 Ho	1	3302042	0.47	3327830	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\AG111709.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\AG111709.B\007 ICB.D\007 ICB.D#
Date Acquired: Nov 17 2009 05:03 pm
Operator: TEL
Sample Name: ICB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 pm
Sample Type: ICB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	-0.02	ppb	48.45	1.00	
52 Cr	72	1	0.05	ppb	30.53	1.00	
55 Mn	72	1	-0.02	ppb	25.65	1.00	
59 Co	72	1	0.00	ppb	314.80	1.00	
60 Ni	72	1	0.01	ppb	300.62	1.00	
63 Cu	72	1	-0.01	ppb	79.78	1.00	
66 Zn	72	1	0.00	ppb	1822.90	1.00	
75 As	72	1	0.02	ppb	54.37	1.00	
78 Se	72	1	-0.08	ppb	160.80	1.00	
95 Mo	72	1	0.01	ppb	137.66	1.00	
107 Ag	115	1	0.01	ppb	17.95	1.00	
111 Cd	115	1	-0.01	ppb	95.49	1.00	
118 Sn	115	1	0.01	ppb	228.40	1.00	
121 Sb	115	1	0.08	ppb	11.10	1.00	
137 Ba	115	1	0.00	ppb	181.45	1.00	
205 Tl	165	1	0.03	ppb	18.90	1.00	
208 Pb	165	1	0.00	ppb	35.65	1.00	
232 Th	165	1	0.02	ppb	15.57	1.00	
238 U	165	1	0.00	ppb	43.36	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	655969	0.71	646538	101.5	30 - 120	
45 Sc	1	1357786	1.08	1363118	99.6	30 - 120	
72 Ge	1	556393	0.45	556850	99.9	30 - 120	
115 In	1	1763079	0.22	1768810	99.7	30 - 120	
165 Ho	1	3298424	0.51	3327830	99.1	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\AG111709.B\003CALB.D\003CALB.D#

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

RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\008RLST.D\008RLST.D#
Date Acquired: Nov 17 2009 05:06 pm
Operator: TEL
Sample Name: RL STD
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 pm
Sample Type: RLSTD
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1.03	ppb	4.83	1	103.4	50 - 150	
51 V	72	1	1.00	ppb	3.68	1	99.8	50 - 150	
52 Cr	72	1	1.04	ppb	8.32	1	104.3	50 - 150	
55 Mn	72	1	1.00	ppb	0.69	1	100.2	50 - 150	
59 Co	72	1	1.00	ppb	1.90	1	99.5	50 - 150	
60 Ni	72	1	0.97	ppb	2.43	1	97.1	50 - 150	
63 Cu	72	1	0.97	ppb	5.39	1	96.6	50 - 150	
66 Zn	72	1	9.69	ppb	1.84	10	96.9	50 - 150	
75 As	72	1	1.04	ppb	8.50	1	104.0	50 - 150	
78 Se	72	1	0.96	ppb	31.67	1	96.1	50 - 150	
95 Mo	72	1	0.96	ppb	2.36	1	95.6	50 - 150	
107 Ag	115	1	0.97	ppb	4.32	1	97.5	50 - 150	
111 Cd	115	1	0.99	ppb	9.50	1	98.5	50 - 150	
118 Sn	115	1	10.15	ppb	3.33	10	101.5	50 - 150	
121 Sb	115	1	1.04	ppb	0.20	1	103.8	50 - 150	
137 Ba	115	1	0.96	ppb	1.71	1	96.1	50 - 150	
205 Tl	165	1	1.04	ppb	1.17	1	103.9	50 - 150	
208 Pb	165	1	1.02	ppb	1.03	1	102.4	50 - 150	
232 Th	165	1	1.04	ppb	1.06	1	103.7	50 - 150	
238 U	165	1	1.02	ppb	1.19	1	101.9	50 - 150	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	659710	2.10	646538	102.0	30 - 120	
45 Sc	1	1343107	0.86	1363118	98.5	30 - 120	
72 Ge	1	556680	0.25	556850	100.0	30 - 120	
115 In	1	1774184	1.44	1768810	100.3	30 - 120	
165 Ho	1	3292222	0.14	3327830	98.9	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.B\003CALB.D\003CALB.D#

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

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\009AFCE.D\009AFCE.D#
Date Acquired: Nov 17 2009 05:08 pm
Operator: TEL
Sample Name: AFCEE RL
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 pm
Sample Type: AFCEERL
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.22	ppb	15.38	0	105.4	80 - 120	
51 V	72	1	0.18	ppb	18.45	0	92.2	80 - 120	
52 Cr	72	1	0.15	ppb	8.17	0	73.2	80 - 120	
55 Mn	72	1	0.18	ppb	20.06	0	87.8	80 - 120	
59 Co	72	1	0.19	ppb	0.94	0	96.5	80 - 120	
60 Ni	72	1	0.20	ppb	22.63	0	101.9	80 - 120	
63 Cu	72	1	0.20	ppb	9.44	0	103.1	80 - 120	
66 Zn	72	1	1.91	ppb	4.36	2	98.4	80 - 120	
75 As	72	1	0.18	ppb	10.29	0	85.6	80 - 120	
78 Se	72	1	0.25	ppb	286.61	0	129.4	80 - 120	
95 Mo	72	1	0.18	ppb	20.39	0	93.8	80 - 120	
107 Ag	115	1	0.21	ppb	6.31	0	107.7	80 - 120	
111 Cd	115	1	0.20	ppb	5.38	0	101.7	80 - 120	
118 Sn	115	1	1.80	ppb	2.55	2	88.7	80 - 120	
121 Sb	115	1	0.24	ppb	5.63	0	114.8	80 - 120	
137 Ba	115	1	0.19	ppb	9.88	0	97.8	80 - 120	
205 Tl	165	1	0.21	ppb	1.28	0	99.5	80 - 120	
208 Pb	165	1	0.20	ppb	2.65	0	96.0	80 - 120	
232 Th	165	1	0.19	ppb	5.50	0	92.8	80 - 120	
238 U	165	1	0.20	ppb	1.00	0	99.7	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	656654	1.97	646538	101.6	30 - 120	
45 Sc	1	1357871	0.64	1363118	99.6	30 - 120	
72 Ge	1	561344	0.35	556850	100.8	30 - 120	
115 In	1	1774216	1.57	1768810	100.3	30 - 120	
165 Ho	1	3304846	1.48	3327830	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\AG111709.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\AG111709.B\010SMPL.D\010SMPL.D#
Date Acquired: Nov 17 2009 05:11 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ALTSe
Misc Info: 2 ppb
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 17 2009 04:55 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	173.19	3600	
51 V	72	1	-0.01	-0.01	ppb	63.41	3600	
52 Cr	72	1	-0.04	-0.04	ppb	86.47	3600	
55 Mn	72	1	-0.01	-0.01	ppb	67.99	3600	
59 Co	72	1	0.00	0.00	ppb	92.37	3600	
60 Ni	72	1	0.01	0.01	ppb	276.29	3600	
63 Cu	72	1	0.00	0.00	ppb	418.72	3600	
66 Zn	72	1	0.24	0.24	ppb	12.53	3600	
75 As	72	1	0.00	0.00	ppb	148.70	3600	
78 Se	72	1	2.18	2.18	ppb	7.95	3600	
95 Mo	72	1	0.00	0.00	ppb	2000.00	3600	
107 Ag	115	1	0.00	0.00	ppb	217.01	3600	
111 Cd	115	1	-0.01	-0.01	ppb	110.06	3600	
118 Sn	115	1	-0.06	-0.06	ppb	29.76	3600	
121 Sb	115	1	0.02	0.02	ppb	33.79	3600	
137 Ba	115	1	0.00	0.00	ppb	228.29	3600	
205 Tl	165	1	0.00	0.00	ppb	33.41	3600	
208 Pb	165	1	0.00	0.00	ppb	327.24	3600	
232 Th	165	1	0.00	0.00	ppb	52.75	1000	
238 U	165	1	0.00	0.00	ppb	140.79	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	659924	0.21	646538	102.1	30 - 120	
45 Sc	1	1356934	0.71	1363118	99.5	30 - 120	
72 Ge	1	560559	0.47	556850	100.7	30 - 120	
115 In	1	1774738	1.09	1768810	100.3	30 - 120	
165 Ho	1	3286841	0.44	3327830	98.8	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\AG111709.B\003CALB.D\003CALB.D#

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

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\011ICSA.D\011ICSA.D#
Date Acquired: Nov 17 2009 05:14 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSA
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 17 2009 04:55 pm
Sample Type: ICSA
Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9 Be	6	1	0.01 ppb	173.14	1.00	
51 V	72	1	4.61 ppb	8.93	1.00	
52 Cr	72	1	1.92 ppb	1.12	1.00	
55 Mn	72	1	2.67 ppb	4.57	1.00	
59 Co	72	1	0.14 ppb	17.32	1.00	
60 Ni	72	1	1.18 ppb	4.01	1.00	
63 Cu	72	1	0.63 ppb	10.37	1.00	
66 Zn	72	1	4.09 ppb	3.05	10.00	
75 As	72	1	0.56 ppb	14.53	1.00	
78 Se	72	1	0.17 ppb	191.03	1.00	
95 Mo	72	1	2027.00 ppb	0.37	2000.00	
107 Ag	115	1	0.03 ppb	20.45	1.00	
111 Cd	115	1	0.52 ppb	57.27	1.00	
118 Sn	115	1	0.47 ppb	20.71	10.00	
121 Sb	115	1	0.93 ppb	4.19	1.00	
137 Ba	115	1	0.04 ppb	23.81	1.00	
205 Tl	165	1	0.06 ppb	11.15	1.00	
208 Pb	165	1	0.99 ppb	3.02	1.00	
232 Th	165	1	0.01 ppb	22.55	1.00	
238 U	165	1	0.00 ppb	4.77	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	489583	0.05	646538	75.7	30 - 120	
45 Sc	1	1022866	0.91	1363118	75.0	30 - 120	
72 Ge	1	427069	0.31	556850	76.7	30 - 120	
115 In	1	1346940	0.19	1768810	76.1	30 - 120	
165 Ho	1	2618828	1.22	3327830	78.7	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\AG111709.B\003CALB.D\003CALB.D#

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

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\012ICSB.D\012ICSB.D#
Date Acquired: Nov 17 2009 05:17 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSAB
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 17 2009 04:55 pm
Sample Type: ICSAB
Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	109.40	1.33	100	109.4	80 - 120	
51 V	72	1	103.80	0.27	100	103.8	80 - 120	
52 Cr	72	1	97.68	0.92	100	97.7	80 - 120	
55 Mn	72	1	98.21	0.58	100	98.2	80 - 120	
59 Co	72	1	93.16	0.88	100	93.2	80 - 120	
60 Ni	72	1	89.68	0.94	100	89.7	80 - 120	
63 Cu	72	1	86.90	1.16	100	86.9	80 - 120	
66 Zn	72	1	97.74	0.72	100	97.7	80 - 120	
75 As	72	1	98.31	0.48	100	98.3	80 - 120	
78 Se	72	1	102.40	2.26	100	102.4	80 - 120	
95 Mo	72	1	2173.00	0.53	2100	103.5	80 - 120	
107 Ag	115	1	85.83	1.72	100	85.8	80 - 120	
111 Cd	115	1	96.40	0.99	100	96.4	80 - 120	
118 Sn	115	1	102.60	0.98	100	102.6	80 - 120	
121 Sb	115	1	104.90	0.25	100	104.9	80 - 120	
137 Ba	115	1	102.50	0.57	100	102.5	80 - 120	
205 Tl	165	1	98.10	0.45	100	98.1	80 - 120	
208 Pb	165	1	97.04	1.31	100	97.0	80 - 120	
232 Th	165	1	104.80	0.52	100	104.8	80 - 120	
238 U	165	1	104.70	2.00	100	104.7	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	490983	0.46	646538	75.9	30 - 120	
45 Sc	1	1008189	1.53	1363118	74.0	30 - 120	
72 Ge	1	418556	0.28	556850	75.2	30 - 120	
115 In	1	1338114	0.38	1768810	75.7	30 - 120	
165 Ho	1	2653048	0.83	3327830	79.7	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\AG111709.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\AG111709.B\013AFCE.D\013AFCE.D#
Date Acquired: Nov 17 2009 05:19 pm
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 pm
Sample Type: AFCEERL
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.00	ppb	0.00	0	0.0	80 - 120	
51 V	72	1	0.20	ppb	15.12	0	100.4	80 - 120	
52 Cr	72	1	-0.02	ppb	156.76	0	-7.4	80 - 120	
55 Mn	72	1	-0.02	ppb	41.17	0	-7.7	80 - 120	
59 Co	72	1	0.00	ppb	390.68	0	0.6	80 - 120	
60 Ni	72	1	0.01	ppb	203.35	0	4.7	80 - 120	
63 Cu	72	1	-0.01	ppb	80.79	0	-3.2	80 - 120	
66 Zn	72	1	0.06	ppb	19.95	2	3.3	80 - 120	
75 As	72	1	0.00	ppb	2072.70	0	0.1	80 - 120	
78 Se	72	1	0.19	ppb	32.90	0	98.5	80 - 120	
95 Mo	72	1	0.91	ppb	24.30	0	478.5	80 - 120	
107 Ag	115	1	0.01	ppb	43.98	0	4.4	80 - 120	
111 Cd	115	1	0.00	ppb	443.12	0	-0.6	80 - 120	
118 Sn	115	1	-0.05	ppb	57.24	2	-2.6	80 - 120	
121 Sb	115	1	0.18	ppb	20.17	0	85.6	80 - 120	
137 Ba	115	1	0.00	ppb	55.68	0	1.9	80 - 120	
205 Tl	165	1	0.01	ppb	5.96	0	3.7	80 - 120	
208 Pb	165	1	0.00	ppb	13.87	0	1.5	80 - 120	
232 Th	165	1	0.03	ppb	24.84	0	15.3	80 - 120	
238 U	165	1	0.01	ppb	15.64	0	7.0	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	647319	1.56	646538	100.1	30 - 120	
45 Sc	1	1309237	1.67	1363118	96.0	30 - 120	
72 Ge	1	543818	0.72	556850	97.7	30 - 120	
115 In	1	1747035	1.81	1768810	98.8	30 - 120	
165 Ho	1	3327221	0.66	3327830	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\AG111709.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\AG111709.B\014WASH.D\014WASH.D#
Date Acquired: Nov 17 2009 05:22 pm
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: Nov 17 2009 04:55 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	1032.000 ppb	2.56	1.30	
51 V	72	1	950.300 ppb	0.89	6.50	
52 Cr	72	1	967.300 ppb	0.05	2.60	
55 Mn	72	1	965.000 ppb	0.97	1.30	
59 Co	72	1	973.700 ppb	1.17	1.30	
60 Ni	72	1	997.000 ppb	1.53	2.60	
63 Cu	72	1	976.100 ppb	1.28	2.60	
66 Zn	72	1	998.500 ppb	1.24	13.00	
75 As	72	1	1000.000 ppb	0.65	6.50	
78 Se	72	1	990.900 ppb	0.35	6.50	
95 Mo	72	1	1042.000 ppb	0.90	2.60	
107 Ag	115	1	958.800 ppb	0.72	6.50	
111 Cd	115	1	1013.000 ppb	1.33	1.30	
118 Sn	115	1	1003.000 ppb	0.88	13.00	
121 Sb	115	1	991.700 ppb	0.51	2.60	
137 Ba	115	1	1016.000 ppb	0.67	1.30	
205 Tl	165	1	980.800 ppb	0.77	1.30	
208 Pb	165	1	972.000 ppb	1.37	1.30	
232 Th	165	1	994.600 ppb	0.99	2.60	
238 U	165	1	996.400 ppb	0.39	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	616519	2.24	646538	95.4	30 - 120	
45 Sc	1	1253535	0.84	1363118	92.0	30 - 120	
72 Ge	1	515850	1.00	556850	92.6	30 - 120	
115 In	1	1695804	0.40	1768810	95.9	30 - 120	
165 Ho	1	3224746	0.63	3327830	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\AG111709.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\AG111709.B\015SMPL.D\015SMPL.D#
Date Acquired: Nov 17 2009 05:25 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 17 2009 04:55 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	86.60	3600	
51 V	72	1	0.06	0.06	ppb	26.86	3600	
52 Cr	72	1	-0.02	-0.02	ppb	95.64	3600	
55 Mn	72	1	0.00	0.00	ppb	834.61	3600	
59 Co	72	1	0.01	0.01	ppb	37.19	3600	
60 Ni	72	1	0.01	0.01	ppb	163.25	3600	
63 Cu	72	1	0.02	0.02	ppb	56.07	3600	
66 Zn	72	1	0.09	0.09	ppb	24.87	3600	
75 As	72	1	0.02	0.02	ppb	48.31	3600	
78 Se	72	1	0.52	0.52	ppb	7.24	3600	
95 Mo	72	1	0.53	0.53	ppb	29.77	3600	
107 Ag	115	1	0.04	0.04	ppb	7.83	3600	
111 Cd	115	1	0.01	0.01	ppb	83.22	3600	
118 Sn	115	1	1.31	1.31	ppb	33.37	3600	
121 Sb	115	1	1.32	1.32	ppb	17.86	3600	
137 Ba	115	1	0.01	0.01	ppb	53.15	3600	
205 Tl	165	1	0.04	0.04	ppb	9.65	3600	
208 Pb	165	1	0.02	0.02	ppb	5.21	3600	
232 Th	165	1	0.13	0.13	ppb	13.26	1000	
238 U	165	1	0.12	0.12	ppb	24.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	644044	0.53	646538	99.6	30 - 120	
45 Sc	1	1309028	0.58	1363118	96.0	30 - 120	
72 Ge	1	542881	0.52	556850	97.5	30 - 120	
115 In	1	1750588	0.18	1768810	99.0	30 - 120	
165 Ho	1	3279573	0.63	3327830	98.5	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.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\AG111709.B\016 CCV.D\016 CCV.D#
Date Acquired: Nov 17 2009 05:27 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	50.13	ppb	0.30	50	100.3	90 - 110	
51 V	72	1	50.06	ppb	1.07	50	100.1	90 - 110	
52 Cr	72	1	50.17	ppb	0.05	50	100.3	90 - 110	
55 Mn	72	1	50.36	ppb	0.75	50	100.7	90 - 110	
59 Co	72	1	49.90	ppb	0.64	50	99.8	90 - 110	
60 Ni	72	1	49.38	ppb	1.32	50	98.8	90 - 110	
63 Cu	72	1	49.84	ppb	1.51	50	99.7	90 - 110	
66 Zn	72	1	49.27	ppb	0.24	50	98.5	90 - 110	
75 As	72	1	49.39	ppb	0.61	50	98.8	90 - 110	
78 Se	72	1	49.56	ppb	3.42	50	99.1	90 - 110	
95 Mo	72	1	50.54	ppb	0.94	50	101.1	90 - 110	
107 Ag	115	1	49.83	ppb	0.45	50	99.7	90 - 110	
111 Cd	115	1	49.72	ppb	1.44	50	99.4	90 - 110	
118 Sn	115	1	50.19	ppb	1.27	50	100.4	90 - 110	
121 Sb	115	1	49.93	ppb	0.32	50	99.9	90 - 110	
137 Ba	115	1	49.58	ppb	0.60	50	99.2	90 - 110	
205 Tl	165	1	50.39	ppb	0.08	50	100.8	90 - 110	
208 Pb	165	1	50.15	ppb	0.70	50	100.3	90 - 110	
232 Th	165	1	51.14	ppb	1.09	50	102.3	90 - 110	
238 U	165	1	50.75	ppb	1.33	50	101.5	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	656519	0.28	646538	101.5	30 - 120	
45 Sc	1	1347603	0.93	1363118	98.9	30 - 120	
72 Ge	1	543317	0.38	556850	97.6	30 - 120	
115 In	1	1777037	0.34	1768810	100.5	30 - 120	
165 Ho	1	3333924	1.11	3327830	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\AG111709.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\AG111709.B\017 CCB.D\017 CCB.D#
Date Acquired: Nov 17 2009 05:30 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 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	0.014	ppb	100.29	1.00	
51 V	72	1	0.011	ppb	76.78	1.00	
52 Cr	72	1	-0.028	ppb	18.84	1.00	
55 Mn	72	1	-0.011	ppb	58.46	1.00	
59 Co	72	1	0.004	ppb	118.30	1.00	
60 Ni	72	1	0.012	ppb	92.91	1.00	
63 Cu	72	1	0.011	ppb	21.26	1.00	
66 Zn	72	1	0.104	ppb	28.33	1.00	
75 As	72	1	0.014	ppb	92.99	1.00	
78 Se	72	1	0.076	ppb	289.53	1.00	
95 Mo	72	1	0.101	ppb	22.82	1.00	
107 Ag	115	1	0.016	ppb	44.33	1.00	
111 Cd	115	1	0.003	ppb	63.16	1.00	
118 Sn	115	1	0.216	ppb	31.23	1.00	
121 Sb	115	1	0.323	ppb	14.64	1.00	
137 Ba	115	1	0.006	ppb	84.86	1.00	
205 Tl	165	1	0.015	ppb	3.15	1.00	
208 Pb	165	1	0.010	ppb	9.63	1.00	
232 Th	165	1	0.057	ppb	20.66	1.00	
238 U	165	1	0.021	ppb	22.54	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	673889	0.61	646538	104.2	30 - 120	
45 Sc	1	1368951	1.57	1363118	100.4	30 - 120	
72 Ge	1	568538	0.26	556850	102.1	30 - 120	
115 In	1	1804763	2.44	1768810	102.0	30 - 120	
165 Ho	1	3349776	0.28	3327830	100.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.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\AG111709.B\018WASH.D\018WASH.D#
Date Acquired: Nov 17 2009 05:33 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 04:55 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	1.026 ppb	11.88	1.30	
51 V	72	1	5.067 ppb	0.95	6.50	
52 Cr	72	1	1.991 ppb	2.75	2.60	
55 Mn	72	1	1.024 ppb	2.99	1.30	
59 Co	72	1	1.026 ppb	1.05	1.30	
60 Ni	72	1	2.005 ppb	4.40	2.60	
63 Cu	72	1	1.985 ppb	3.00	2.60	
66 Zn	72	1	10.090 ppb	0.84	13.00	
75 As	72	1	5.037 ppb	1.53	6.50	
78 Se	72	1	5.378 ppb	4.72	6.50	
95 Mo	72	1	2.074 ppb	0.60	2.60	
107 Ag	115	1	5.370 ppb	2.43	6.50	
111 Cd	115	1	1.043 ppb	4.48	1.30	
118 Sn	115	1	10.480 ppb	2.85	13.00	
121 Sb	115	1	2.198 ppb	2.17	2.60	
137 Ba	115	1	1.046 ppb	5.53	1.30	
205 Tl	165	1	1.045 ppb	0.69	1.30	
208 Pb	165	1	1.023 ppb	1.04	1.30	
232 Th	165	1	2.101 ppb	1.37	2.60	
238 U	165	1	1.062 ppb	0.81	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	680269	0.60	646538	105.2	30 - 120	
45 Sc	1	1395366	1.23	1363118	102.4	30 - 120	
72 Ge	1	573059	0.18	556850	102.9	30 - 120	
115 In	1	1815573	0.67	1768810	102.6	30 - 120	
165 Ho	1	3375016	0.53	3327830	101.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.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\AG111709.B\086 CCV.D\086 CCV.D#
Date Acquired:	Nov 17 2009 08:41 pm
Operator:	TEL
Sample Name:	CCV
Misc Info:	
Vial Number:	1107
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update:	Nov 17 2009 07:11 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	48.55	ppb	2.92	50	97.1	90 - 110	
51 V	72	1	49.90	ppb	0.89	50	99.8	90 - 110	
52 Cr	72	1	50.17	ppb	0.89	50	100.3	90 - 110	
55 Mn	72	1	49.83	ppb	0.78	50	99.7	90 - 110	
59 Co	72	1	49.90	ppb	0.42	50	99.8	90 - 110	
60 Ni	72	1	50.32	ppb	1.74	50	100.6	90 - 110	
63 Cu	72	1	50.12	ppb	1.12	50	100.2	90 - 110	
66 Zn	72	1	49.47	ppb	0.09	50	98.9	90 - 110	
75 As	72	1	49.47	ppb	0.36	50	98.9	90 - 110	
78 Se	72	1	48.02	ppb	5.61	50	96.0	90 - 110	
95 Mo	72	1	49.93	ppb	1.29	50	99.9	90 - 110	
107 Ag	115	1	50.31	ppb	0.54	50	100.6	90 - 110	
111 Cd	115	1	50.26	ppb	1.13	50	100.5	90 - 110	
118 Sn	115	1	50.34	ppb	1.22	50	100.7	90 - 110	
121 Sb	115	1	49.88	ppb	1.07	50	99.8	90 - 110	
137 Ba	115	1	51.11	ppb	0.69	50	102.2	90 - 110	
205 Tl	165	1	50.06	ppb	0.37	50	100.1	90 - 110	
208 Pb	165	1	50.29	ppb	0.01	50	100.6	90 - 110	
232 Th	165	1	50.80	ppb	1.26	50	101.6	90 - 110	
238 U	165	1	50.46	ppb	0.59	50	100.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	456737	0.43	476383	95.9	30 - 120	
45 Sc	1	1027020	1.55	1071134	95.9	30 - 120	
72 Ge	1	423914	0.30	443439	95.6	30 - 120	
115 In	1	1419101	0.38	1467202	96.7	30 - 120	
165 Ho	1	2720761	0.44	2797235	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\AG111709.B\052CALB.D\052CALB.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\AG111709.B\087 CCB.D\087 CCB.D#
Date Acquired: Nov 17 2009 08:44 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 07:11 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	173.16	1.00	
51 V	72	1	-0.307	ppb	1.12	1.00	
52 Cr	72	1	-0.075	ppb	13.81	1.00	
55 Mn	72	1	-0.004	ppb	136.87	1.00	
59 Co	72	1	0.000	ppb	1036.40	1.00	
60 Ni	72	1	0.007	ppb	249.93	1.00	
63 Cu	72	1	-0.001	ppb	1256.80	1.00	
66 Zn	72	1	0.124	ppb	25.54	1.00	
75 As	72	1	-0.002	ppb	371.66	1.00	
78 Se	72	1	-0.531	ppb	50.74	1.00	
95 Mo	72	1	-0.062	ppb	17.13	1.00	
107 Ag	115	1	0.005	ppb	75.33	1.00	
111 Cd	115	1	0.004	ppb	402.85	1.00	
118 Sn	115	1	0.052	ppb	81.01	1.00	
121 Sb	115	1	0.130	ppb	14.79	1.00	
137 Ba	115	1	0.005	ppb	97.37	1.00	
205 Tl	165	1	0.017	ppb	13.07	1.00	
208 Pb	165	1	0.012	ppb	8.37	1.00	
232 Th	165	1	0.038	ppb	11.93	1.00	
238 U	165	1	0.013	ppb	11.44	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	456550	0.52	476383	95.8	30 - 120	
45 Sc	1	1017702	1.09	1071134	95.0	30 - 120	
72 Ge	1	429172	0.68	443439	96.8	30 - 120	
115 In	1	1417539	1.35	1467202	96.6	30 - 120	
165 Ho	1	2727893	0.72	2797235	97.5	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\AG111709.B\052CALB.D\052CALB.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\AG111709.B\088WASH.D\088WASH.D#
Date Acquired:	Nov 17 2009 08:47 pm
Operator:	TEL
Sample Name:	RLCV
Misc Info:	
Vial Number:	1204
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update:	Nov 17 2009 07:11 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	0.981 ppb	17.16	1.30	
51 V	72	1	4.679 ppb	2.06	6.50	
52 Cr	72	1	1.892 ppb	1.93	2.60	
55 Mn	72	1	0.990 ppb	0.45	1.30	
59 Co	72	1	0.984 ppb	1.27	1.30	
60 Ni	72	1	2.081 ppb	5.42	2.60	
63 Cu	72	1	2.000 ppb	1.08	2.60	
66 Zn	72	1	10.350 ppb	1.00	13.00	
75 As	72	1	4.984 ppb	5.12	6.50	
78 Se	72	1	4.528 ppb	18.82	6.50	
95 Mo	72	1	1.970 ppb	0.99	2.60	
107 Ag	115	1	5.275 ppb	4.32	6.50	
111 Cd	115	1	1.150 ppb	5.46	1.30	
118 Sn	115	1	10.350 ppb	1.98	13.00	
121 Sb	115	1	2.079 ppb	0.85	2.60	
137 Ba	115	1	1.012 ppb	6.44	1.30	
205 Tl	165	1	1.028 ppb	0.54	1.30	
208 Pb	165	1	1.029 ppb	0.87	1.30	
232 Th	165	1	2.090 ppb	1.31	2.60	
238 U	165	1	1.048 ppb	1.23	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	457989	0.43	476383	96.1	30 - 120	
45 Sc	1	1018798	1.04	1071134	95.1	30 - 120	
72 Ge	1	436598	0.83	443439	98.5	30 - 120	
115 In	1	1423852	1.09	1467202	97.0	30 - 120	
165 Ho	1	2730167	0.61	2797235	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\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.B\052CALB.D\052CALB.D#

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

Interference Check Solution A (ICS-A) QC Report

Data File:	C:\ICPCHEM\1\DATA\AG111709.B\089ICSA.D\089ICSA.D#
Date Acquired:	Nov 17 2009 08:49 pm
Acq. Method:	NormISIS.M
Operator:	TEL
Sample Name:	ICSA
Misc Info:	
Vial Number:	2108
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update:	Nov 17 2009 07:11 pm
Sample Type:	ICSA
Dilution Factor:	1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element		IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00	
51	V	72	1	4.10 ppb	2.89	1.00	
52	Cr	72	1	1.87 ppb	3.83	1.00	
55	Mn	72	1	2.90 ppb	0.24	1.00	
59	Co	72	1	0.16 ppb	12.28	1.00	
60	Ni	72	1	1.34 ppb	5.80	1.00	
63	Cu	72	1	0.80 ppb	7.70	1.00	
66	Zn	72	1	4.37 ppb	4.02	10.00	
75	As	72	1	0.41 ppb	13.31	1.00	
78	Se	72	1	-0.18 ppb	159.31	1.00	
95	Mo	72	1	1971.00 ppb	0.65	2000.00	
107	Ag	115	1	0.03 ppb	32.22	1.00	
111	Cd	115	1	0.39 ppb	31.86	1.00	
118	Sn	115	1	0.45 ppb	4.88	10.00	
121	Sb	115	1	0.96 ppb	2.46	1.00	
137	Ba	115	1	0.03 ppb	50.13	1.00	
205	Tl	165	1	0.04 ppb	27.24	1.00	
208	Pb	165	1	0.96 ppb	0.77	1.00	
232	Th	165	1	0.01 ppb	43.08	1.00	
238	U	165	1	0.00 ppb	25.75	1.00	

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	451945	0.52	476383	94.9	30 - 120	
45	Sc	1	996021	1.52	1071134	93.0	30 - 120	
72	Ge	1	417371	0.39	443439	94.1	30 - 120	
115	In	1	1310441	1.27	1467202	89.3	30 - 120	
165	Ho	1	2446868	0.86	2797235	87.5	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\AG111709.B\052CALB.D\052CALB.D#

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

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\090ICSB.D\090ICSB.D#
Date Acquired: Nov 17 2009 08:52 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSAB
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 17 2009 07:11 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	99.38	0.47	100	99.4	80 - 120	
51 V	72	1	105.60	0.71	100	105.6	80 - 120	
52 Cr	72	1	99.62	1.11	100	99.6	80 - 120	
55 Mn	72	1	99.45	0.65	100	99.5	80 - 120	
59 Co	72	1	93.41	1.41	100	93.4	80 - 120	
60 Ni	72	1	91.64	2.06	100	91.6	80 - 120	
63 Cu	72	1	86.79	0.60	100	86.8	80 - 120	
66 Zn	72	1	97.13	0.79	100	97.1	80 - 120	
75 As	72	1	99.02	0.49	100	99.0	80 - 120	
78 Se	72	1	103.40	1.84	100	103.4	80 - 120	
95 Mo	72	1	2114.00	1.84	2100	100.7	80 - 120	
107 Ag	115	1	85.16	0.64	100	85.2	80 - 120	
111 Cd	115	1	95.16	0.48	100	95.2	80 - 120	
118 Sn	115	1	99.36	0.73	100	99.4	80 - 120	
121 Sb	115	1	103.20	0.42	100	103.2	80 - 120	
137 Ba	115	1	100.70	0.60	100	100.7	80 - 120	
205 Tl	165	1	94.17	1.34	100	94.2	80 - 120	
208 Pb	165	1	92.54	0.34	100	92.5	80 - 120	
232 Th	165	1	98.03	0.21	100	98.0	80 - 120	
238 U	165	1	97.77	0.26	100	97.8	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450876	0.26	476383	94.6	30 - 120	
45 Sc	1	998560	0.17	1071134	93.2	30 - 120	
72 Ge	1	409596	0.88	443439	92.4	30 - 120	
115 In	1	1316506	0.42	1467202	89.7	30 - 120	
165 Ho	1	2451249	0.21	2797235	87.6	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\AG111709.B\052CALB.D\052CALB.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\AG111709.B\091WASH.D\091WASH.D#
Date Acquired:	Nov 17 2009 08:55 pm
Operator:	TEL
Sample Name:	WASH
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update:	Nov 17 2009 07:11 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	0.012 ppb	173.20	1.30	
51 V	72	1	0.038 ppb	88.72	6.50	
52 Cr	72	1	-0.001 ppb	3055.20	2.60	
55 Mn	72	1	0.002 ppb	697.71	1.30	
59 Co	72	1	0.000 ppb	1189.70	1.30	
60 Ni	72	1	0.004 ppb	344.31	2.60	
63 Cu	72	1	-0.106 ppb	26.43	2.60	
66 Zn	72	1	0.113 ppb	2.56	13.00	
75 As	72	1	0.020 ppb	73.53	6.50	
78 Se	72	1	-0.178 ppb	265.92	6.50	
95 Mo	72	1	0.894 ppb	26.03	2.60	
107 Ag	115	1	0.010 ppb	57.26	6.50	
111 Cd	115	1	0.002 ppb	649.16	1.30	
118 Sn	115	1	-0.042 ppb	56.33	13.00	
121 Sb	115	1	0.022 ppb	17.52	2.60	
137 Ba	115	1	0.004 ppb	128.63	1.30	
205 Tl	165	1	0.006 ppb	13.40	1.30	
208 Pb	165	1	0.008 ppb	5.01	1.30	
232 Th	165	1	0.026 ppb	16.38	2.60	
238 U	165	1	0.019 ppb	18.61	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	485115	0.96	476383	101.8	30 - 120	
45 Sc	1	1066636	0.52	1071134	99.6	30 - 120	
72 Ge	1	448647	0.66	443439	101.2	30 - 120	
115 In	1	1492957	0.15	1467202	101.8	30 - 120	
165 Ho	1	2827917	1.06	2797235	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\AG111709.B\052CALB.D\052CALB.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\AG111709.B\092 CCV.D\092 CCV.D#
Date Acquired: Nov 17 2009 08:58 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 07:11 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	48.61	ppb	1.21	50	97.2	90 - 110	
51 V	72	1	50.02	ppb	1.16	50	100.0	90 - 110	
52 Cr	72	1	50.34	ppb	1.86	50	100.7	90 - 110	
55 Mn	72	1	49.57	ppb	1.12	50	99.1	90 - 110	
59 Co	72	1	50.25	ppb	1.48	50	100.5	90 - 110	
60 Ni	72	1	50.06	ppb	1.71	50	100.1	90 - 110	
63 Cu	72	1	49.84	ppb	0.66	50	99.7	90 - 110	
66 Zn	72	1	50.50	ppb	0.67	50	101.0	90 - 110	
75 As	72	1	49.82	ppb	0.86	50	99.6	90 - 110	
78 Se	72	1	49.02	ppb	6.55	50	98.0	90 - 110	
95 Mo	72	1	50.14	ppb	0.96	50	100.3	90 - 110	
107 Ag	115	1	49.80	ppb	0.37	50	99.6	90 - 110	
111 Cd	115	1	50.52	ppb	0.87	50	101.0	90 - 110	
118 Sn	115	1	49.77	ppb	0.60	50	99.5	90 - 110	
121 Sb	115	1	50.02	ppb	1.00	50	100.0	90 - 110	
137 Ba	115	1	50.39	ppb	0.47	50	100.8	90 - 110	
205 Tl	165	1	50.61	ppb	1.07	50	101.2	90 - 110	
208 Pb	165	1	50.80	ppb	1.01	50	101.6	90 - 110	
232 Th	165	1	50.70	ppb	1.18	50	101.4	90 - 110	
238 U	165	1	51.35	ppb	1.70	50	102.7	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	469741	0.67	476383	98.6	30 - 120	
45 Sc	1	1035058	0.79	1071134	96.6	30 - 120	
72 Ge	1	434543	1.27	443439	98.0	30 - 120	
115 In	1	1472531	0.61	1467202	100.4	30 - 120	
165 Ho	1	2775923	0.69	2797235	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\AG111709.B\052CALB.D\052CALB.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\AG111709.B\093 CCB.D\093 CCB.D#
Date Acquired: Nov 17 2009 09:00 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 07:11 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	0.013	ppb	173.14	1.00	
51 V	72	1	-0.198	ppb	9.30	1.00	
52 Cr	72	1	-0.034	ppb	21.88	1.00	
55 Mn	72	1	-0.015	ppb	6.58	1.00	
59 Co	72	1	-0.003	ppb	68.57	1.00	
60 Ni	72	1	-0.008	ppb	92.64	1.00	
63 Cu	72	1	-0.083	ppb	36.05	1.00	
66 Zn	72	1	0.073	ppb	59.14	1.00	
75 As	72	1	-0.004	ppb	423.13	1.00	
78 Se	72	1	0.219	ppb	125.71	1.00	
95 Mo	72	1	0.082	ppb	45.29	1.00	
107 Ag	115	1	0.017	ppb	12.62	1.00	
111 Cd	115	1	-0.002	ppb	395.12	1.00	
118 Sn	115	1	0.046	ppb	76.56	1.00	
121 Sb	115	1	0.144	ppb	26.43	1.00	
137 Ba	115	1	0.006	ppb	49.02	1.00	
205 Tl	165	1	0.021	ppb	16.02	1.00	
208 Pb	165	1	0.009	ppb	11.82	1.00	
232 Th	165	1	0.040	ppb	8.99	1.00	
238 U	165	1	0.014	ppb	17.37	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	466130	0.41	476383	97.8	30 - 120	
45 Sc	1	1041511	0.11	1071134	97.2	30 - 120	
72 Ge	1	436179	0.31	443439	98.4	30 - 120	
115 In	1	1452353	1.04	1467202	99.0	30 - 120	
165 Ho	1	2779800	0.33	2797235	99.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.B\052CALB.D\052CALB.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\AG111709.B\094WASH.D\094WASH.D#
Date Acquired: Nov 17 2009 09:03 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 17 2009 07:11 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	0.987 ppb	22.94	1.30	
51 V	72	1	4.766 ppb	1.75	6.50	
52 Cr	72	1	1.955 ppb	3.87	2.60	
55 Mn	72	1	1.061 ppb	1.91	1.30	
59 Co	72	1	1.022 ppb	2.64	1.30	
60 Ni	72	1	1.947 ppb	8.50	2.60	
63 Cu	72	1	2.058 ppb	1.56	2.60	
66 Zn	72	1	10.210 ppb	4.01	13.00	
75 As	72	1	5.030 ppb	0.62	6.50	
78 Se	72	1	5.397 ppb	18.55	6.50	
95 Mo	72	1	2.032 ppb	3.74	2.60	
107 Ag	115	1	5.434 ppb	1.88	6.50	
111 Cd	115	1	1.052 ppb	3.98	1.30	
118 Sn	115	1	10.750 ppb	2.44	13.00	
121 Sb	115	1	2.122 ppb	2.39	2.60	
137 Ba	115	1	1.041 ppb	4.64	1.30	
205 Tl	165	1	1.036 ppb	2.45	1.30	
208 Pb	165	1	1.038 ppb	1.85	1.30	
232 Th	165	1	2.087 ppb	4.56	2.60	
238 U	165	1	1.034 ppb	2.86	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	461075	0.40	476383	96.8	30 - 120	
45 Sc	1	1039222	0.77	1071134	97.0	30 - 120	
72 Ge	1	434696	0.69	443439	98.0	30 - 120	
115 In	1	1433204	0.80	1467202	97.7	30 - 120	
165 Ho	1	2775480	1.63	2797235	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\AG111709.B\052CALB.D\052CALB.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\AG111709.B\209 CCV.D\209 CCV.D#
Date Acquired: Nov 18 2009 02:30 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 18 2009 12:53 am
Sample Type: CCV
Total Dil Factor: 1.00

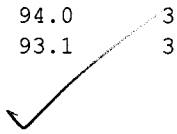
QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	49.40	ppb	2.00	50	98.8	90 - 110	
51 V	72	1	50.57	ppb	0.88	50	101.1	90 - 110	
52 Cr	72	1	51.13	ppb	1.30	50	102.3	90 - 110	
55 Mn	72	1	50.76	ppb	1.18	50	101.5	90 - 110	
59 Co	72	1	51.15	ppb	0.61	50	102.3	90 - 110	
60 Ni	72	1	51.71	ppb	1.24	50	103.4	90 - 110	
63 Cu	72	1	48.66	ppb	1.37	50	97.3	90 - 110	
66 Zn	72	1	50.42	ppb	0.76	50	100.8	90 - 110	
75 As	72	1	49.82	ppb	0.29	50	99.6	90 - 110	
78 Se	72	1	50.71	ppb	5.79	50	101.4	90 - 110	
95 Mo	72	1	50.65	ppb	2.04	50	101.3	90 - 110	
107 Ag	115	1	50.33	ppb	1.32	50	100.7	90 - 110	
111 Cd	115	1	49.41	ppb	1.51	50	98.8	90 - 110	
118 Sn	115	1	49.64	ppb	1.60	50	99.3	90 - 110	
121 Sb	115	1	48.82	ppb	1.11	50	97.6	90 - 110	
137 Ba	115	1	50.32	ppb	0.60	50	100.6	90 - 110	
205 Tl	165	1	50.05	ppb	0.48	50	100.1	90 - 110	
208 Pb	165	1	50.68	ppb	1.03	50	101.4	90 - 110	
232 Th	165	1	51.05	ppb	0.95	50	102.1	90 - 110	
238 U	165	1	51.14	ppb	0.84	50	102.3	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	332428	0.74	364373	91.2	30 - 120	
45 Sc	1	773228	0.48	838167	92.3	30 - 120	
72 Ge	1	320965	0.78	358149	89.6	30 - 120	
115 In	1	1112613	0.80	1184170	94.0	30 - 120	
165 Ho	1	2104025	0.15	2259015	93.1	30 - 120	



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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.B\173CALB.D\173CALB.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\AG111709.B\210 CCB.D\210 CCB.D#
Date Acquired: Nov 18 2009 02:33 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 18 2009 12:53 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.027	ppb	100.62	1.00	
51 V	72	1	0.017	ppb	189.82	1.00	
52 Cr	72	1	0.000	ppb	4373.50	1.00	
55 Mn	72	1	-0.185	ppb	13.78	1.00	
59 Co	72	1	0.005	ppb	228.19	1.00	
60 Ni	72	1	0.013	ppb	377.89	1.00	
63 Cu	72	1	-2.362	ppb	2.51	1.00	
66 Zn	72	1	-0.017	ppb	56.85	1.00	
75 As	72	1	0.029	ppb	27.80	1.00	
78 Se	72	1	-0.903	ppb	113.55	1.00	
95 Mo	72	1	-0.060	ppb	29.62	1.00	
107 Ag	115	1	0.012	ppb	40.48	1.00	
111 Cd	115	1	0.017	ppb	94.28	1.00	
118 Sn	115	1	0.165	ppb	33.80	1.00	
121 Sb	115	1	0.173	ppb	21.47	1.00	
137 Ba	115	1	0.081	ppb	12.05	1.00	
205 Tl	165	1	0.021	ppb	14.20	1.00	
208 Pb	165	1	0.012	ppb	35.28	1.00	
232 Th	165	1	0.052	ppb	24.96	1.00	
238 U	165	1	0.016	ppb	6.73	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331198	1.39	364373	90.9	30 - 120	
45 Sc	1	776771	0.68	838167	92.7	30 - 120	
72 Ge	1	325076	0.69	358149	90.8	30 - 120	
115 In	1	1100653	1.86	1184170	92.9	30 - 120	
165 Ho	1	2110003	0.50	2259015	93.4	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\AG111709.B\173CALB.D\173CALB.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\AG111709.B\211WASH.D\211WASH.D#
Date Acquired: Nov 18 2009 02:35 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 18 2009 12:53 am
Sample Type: WASH
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.854 ppb	11.59	1.30	
51 V	72	1	4.965 ppb	1.60	6.50	
52 Cr	72	1	2.054 ppb	1.94	2.60	
55 Mn	72	1	0.854 ppb	9.12	1.30	
59 Co	72	1	1.036 ppb	3.30	1.30	
60 Ni	72	1	2.029 ppb	5.82	2.60	
63 Cu	72	1	-0.291 ppb	20.16	2.60	
66 Zn	72	1	10.030 ppb	1.97	13.00	
75 As	72	1	5.064 ppb	2.92	6.50	
78 Se	72	1	3.188 ppb	17.34	6.50	
95 Mo	72	1	1.933 ppb	4.43	2.60	
107 Ag	115	1	5.296 ppb	1.30	6.50	
111 Cd	115	1	1.028 ppb	5.89	1.30	
118 Sn	115	1	10.200 ppb	0.98	13.00	
121 Sb	115	1	2.016 ppb	4.67	2.60	
137 Ba	115	1	1.049 ppb	7.18	1.30	
205 Tl	165	1	1.031 ppb	1.16	1.30	
208 Pb	165	1	1.026 ppb	0.80	1.30	
232 Th	165	1	2.064 ppb	1.04	2.60	
238 U	165	1	1.043 ppb	1.09	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	330407	0.08	364373	90.7	30 - 120	
45 Sc	1	781720	0.72	838167	93.3	30 - 120	
72 Ge	1	327605	0.30	358149	91.5	30 - 120	
115 In	1	1119733	0.47	1184170	94.6	30 - 120	
165 Ho	1	2087549	0.18	2259015	92.4	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\AG111709.B\173CALB.D\173CALB.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\AG111709.B\212SMPL.D\212SMPL.D#
Date Acquired:	Nov 18 2009 02:38 am
Acq. Method:	NormISIS.M
Operator:	TEL
Sample Name:	RINSE
Misc Info:	
Vial Number:	1301
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update:	Nov 18 2009 12:53 am
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	28.58	28.58	ppb	5.17	3600	
51 V	72	1	30.98	30.98	ppb	1.85	3600	
52 Cr	72	1	28.61	28.61	ppb	0.73	3600	
55 Mn	72	1	29.70	29.70	ppb	1.56	3600	
59 Co	72	1	26.44	26.44	ppb	2.82	3600	
60 Ni	72	1	26.80	26.80	ppb	1.02	3600	
63 Cu	72	1	23.25	23.25	ppb	1.16	3600	
66 Zn	72	1	31.75	31.75	ppb	0.81	3600	
75 As	72	1	27.60	27.60	ppb	2.49	3600	
78 Se	72	1	28.26	28.26	ppb	4.85	3600	
95 Mo	72	1	2,142.00	2142.00	ppb	1.50	3600	
107 Ag	115	1	24.20	24.20	ppb	0.33	3600	
111 Cd	115	1	26.40	26.40	ppb	3.90	3600	
118 Sn	115	1	55.54	55.54	ppb	0.32	3600	
121 Sb	115	1	55.19	55.19	ppb	1.20	3600	
137 Ba	115	1	28.51	28.51	ppb	0.69	3600	
205 Tl	165	1	26.20	26.20	ppb	0.41	3600	
208 Pb	165	1	26.64	26.64	ppb	0.43	3600	
232 Th	165	1	27.81	27.81	ppb	0.44	1000	
238 U	165	1	27.81	27.81	ppb	0.15	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	303794	0.65	364373	83.4	30 - 120	
45 Sc	1	727632	1.23	838167	86.8	30 - 120	
72 Ge	1	301494	1.10	358149	84.2	30 - 120	
115 In	1	973745	0.22	1184170	82.2	30 - 120	
165 Ho	1	1821464	0.98	2259015	80.6	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\AG111709.B\173CALB.D\173CALB.D#

11/18/09 Did not use.

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\AG111709.B\213SMPL.D\213SMPL.D#
Date Acquired:	Nov 18 2009 02:41 am
Acq. Method:	NormISIS.M
Operator:	TEL
Sample Name:	RINSE
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update:	Nov 18 2009 12:53 am
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	0.04	0.04	ppb	114.42	3600	
51 V	72	1	0.11	0.11	ppb	27.13	3600	
52 Cr	72	1	0.04	0.04	ppb	55.06	3600	
55 Mn	72	1	-0.20	-0.20	ppb	3.67	3600	
59 Co	72	1	0.00	0.00	ppb	80.72	3600	
60 Ni	72	1	0.05	0.05	ppb	97.21	3600	
63 Cu	72	1	-2.39	-2.39	ppb	2.19	3600	
66 Zn	72	1	0.05	0.05	ppb	144.63	3600	
75 As	72	1	0.03	0.03	ppb	45.09	3600	
78 Se	72	1	-0.14	-0.14	ppb	275.94	3600	
95 Mo	72	1	0.93	0.93	ppb	21.78	3600	
107 Ag	115	1	0.01	0.01	ppb	50.09	3600	
111 Cd	115	1	0.01	0.01	ppb	70.44	3600	
118 Sn	115	1	0.13	0.13	ppb	7.21	3600	
121 Sb	115	1	0.03	0.03	ppb	33.10	3600	
137 Ba	115	1	0.07	0.07	ppb	40.26	3600	
205 Tl	165	1	0.01	0.01	ppb	22.08	3600	
208 Pb	165	1	0.01	0.01	ppb	22.32	3600	
232 Th	165	1	0.02	0.02	ppb	26.39	1000	
238 U	165	1	0.01	0.01	ppb	5.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335374	0.26	364373	92.0	30 - 120	
45 Sc	1	792744	0.26	838167	94.6	30 - 120	
72 Ge	1	330718	0.32	358149	92.3	30 - 120	
115 In	1	1120886	0.69	1184170	94.7	30 - 120	
165 Ho	1	2109859	1.07	2259015	93.4	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\

11/18/09 Did not use,

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.B\173CALB.D\173CALB.D#

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

Calibration Blank QC Report

Data File:	C:\ICPCHEM\1\DATA\AG111709.B\214CALB.D\214CALB.D#
Date Acquired:	Nov 18 2009 02:44 am
Acq. Method:	NormISIS.M
Operator:	TEL
Sample Name:	Cal Blank
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update:	Nov 18 2009 12:53 am
Sample Type:	CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	733	6.21
52	Cr	72	1	1570	3.29
55	Mn	72	1	703	12.04
59	Co	72	1	107	23.64
60	Ni	72	1	53	57.23
63	Cu	72	1	2530	8.19
66	Zn	72	1	195	14.80
75	As	72	1	33	40.86
78	Se	72	1	267	5.67
95	Mo	72	1	457	14.61
107	Ag	115	1	40	129.35
111	Cd	115	1	5	185.35
118	Sn	115	1	460	17.15
121	Sb	115	1	99	13.81
137	Ba	115	1	143	11.11
205	Tl	165	1	140	1.79
208	Pb	165	1	396	11.17
232	Th	165	1	240	14.78
238	U	165	1	212	5.07

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	328476	0.25
45	Sc	1	789105	0.60
72	Ge	1	330979	0.08
115	In	1	1115710	1.04
165	Ho	1	2112432	0.51

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

11/12/09
Did not use.

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

…"During the course of an analytical run, the instrument may be "resloped" or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed."

Analyst: _____

Date: 11/18/09

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\215CALB.D\215CALB.D#
Date Acquired: Nov 18 2009 02:46 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: Cal Blank
Misc Info:
Vial Number: 1103
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 18 2009 02:44 am
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	3	173.21
51	V	72	1	633	10.60
52	Cr	72	1	1433	9.98
55	Mn	72	1	540	1.68
59	Co	72	1	47	12.41
60	Ni	72	1	57	20.35
63	Cu	72	1	2527	3.19
66	Zn	72	1	107	5.84
75	As	72	1	36	53.40
78	Se	72	1	300	29.35
95	Mo	72	1	163	24.96
107	Ag	115	1	30	33.04
111	Cd	115	1	2	552.03
118	Sn	115	1	307	13.96
121	Sb	115	1	60	24.63
137	Ba	115	1	102	16.57
205	Tl	165	1	77	15.76
208	Pb	165	1	238	4.02
232	Th	165	1	187	22.63
238	U	165	1	110	21.98

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	331424	0.51
45	Sc	1	788398	0.16
72	Ge	1	331294	0.51
115	In	1	1116139	0.99
165	Ho	1	2104638	0.38

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\AG111709.B\216ICAL.D\216ICAL.D#
Date Acquired: Nov 18 2009 02:49 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: 100 ppb
Misc Info:
Vial Number: 1303
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 18 2009 02:47 am
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	35715	2.13
51	V	72	1	433315	0.68
52	Cr	72	1	432421	0.74
55	Mn	72	1	513444	0.81
59	Co	72	1	538070	0.19
60	Ni	72	1	119325	1.35
63	Cu	72	1	284862	0.33
66	Zn	72	1	60729	0.88
75	As	72	1	49476	0.04
78	Se	72	1	9964	2.31
95	Mo	72	1	140661	1.03
107	Ag	115	1	442044	1.58
111	Cd	115	1	88055	1.63
118	Sn	115	1	257357	2.14
121	Sb	115	1	274062	2.34
137	Ba	115	1	129480	1.67
205	Tl	165	1	1259495	1.01
208	Pb	165	1	1689275	0.41
232	Th	165	1	1800631	0.66
238	U	165	1	1909022	1.44

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	324217	0.80	331424	97.8	30 - 120	
45	Sc	1	769868	1.09	788398	97.6	30 - 120	
72	Ge	1	322227	0.87	331294	97.3	30 - 120	
115	In	1	1099089	1.60	1116139	98.5	30 - 120	
165	Ho	1	2105809	0.35	2104638	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\AG111709.B\215CALB.D\215CALB.D#

0 :Element Failures 0
0 :ISTD Failures 0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG111709.B\217 CCV.D\217 CCV.D#
Date Acquired: Nov 18 2009 02:52 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 18 2009 02:50 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	49.73	ppb	0.85	50	99.5	90 - 110	
51 V	72	1	52.29	ppb	0.92	50	104.6	90 - 110	
52 Cr	72	1	52.22	ppb	0.46	50	104.4	90 - 110	
55 Mn	72	1	52.13	ppb	0.19	50	104.3	90 - 110	
59 Co	72	1	52.17	ppb	1.30	50	104.3	90 - 110	
60 Ni	72	1	51.35	ppb	1.25	50	102.7	90 - 110	
63 Cu	72	1	52.12	ppb	1.24	50	104.2	90 - 110	
66 Zn	72	1	50.79	ppb	1.71	50	101.6	90 - 110	
75 As	72	1	51.04	ppb	0.25	50	102.1	90 - 110	
78 Se	72	1	50.64	ppb	2.34	50	101.3	90 - 110	
95 Mo	72	1	52.79	ppb	1.09	50	105.6	90 - 110	
107 Ag	115	1	51.22	ppb	0.45	50	102.4	90 - 110	
111 Cd	115	1	51.25	ppb	1.05	50	102.5	90 - 110	
118 Sn	115	1	52.25	ppb	2.28	50	104.5	90 - 110	
121 Sb	115	1	51.37	ppb	0.78	50	102.7	90 - 110	
137 Ba	115	1	51.44	ppb	1.28	50	102.9	90 - 110	
205 Tl	165	1	50.28	ppb	1.54	50	100.6	90 - 110	
208 Pb	165	1	51.30	ppb	1.87	50	102.6	90 - 110	
232 Th	165	1	52.51	ppb	1.57	50	105.0	90 - 110	
238 U	165	1	51.84	ppb	1.48	50	103.7	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	318285	0.37	331424	96.0	30 - 120	
45 Sc	1	751707	0.43	788398	95.3	30 - 120	
72 Ge	1	311743	0.16	331294	94.1	30 - 120	
115 In	1	1076723	0.86	1116139	96.5	30 - 120	
165 Ho	1	2077631	1.01	2104638	98.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.B\215CALB.D\215CALB.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\AG111709.B\218 CCB.D\218 CCB.D#
Date Acquired: Nov 18 2009 02:55 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 18 2009 02:50 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.000	ppb	19739.00	1.00	
51 V	72	1	-0.042	ppb	40.02	1.00	
52 Cr	72	1	-0.003	ppb	136.03	1.00	
55 Mn	72	1	0.011	ppb	83.25	1.00	
59 Co	72	1	0.001	ppb	383.00	1.00	
60 Ni	72	1	-0.001	ppb	2560.00	1.00	
63 Cu	72	1	-0.005	ppb	1329.10	1.00	
66 Zn	72	1	0.813	ppb	4.11	1.00	
75 As	72	1	-0.017	ppb	97.14	1.00	
78 Se	72	1	-0.091	ppb	554.29	1.00	
95 Mo	72	1	-0.018	ppb	279.35	1.00	
107 Ag	115	1	0.000	ppb	4191.80	1.00	
111 Cd	115	1	0.002	ppb	381.16	1.00	
118 Sn	115	1	0.159	ppb	49.57	1.00	
121 Sb	115	1	0.227	ppb	18.43	1.00	
137 Ba	115	1	-0.011	ppb	30.28	1.00	
205 Tl	165	1	0.018	ppb	22.90	1.00	
208 Pb	165	1	0.005	ppb	43.11	1.00	
232 Th	165	1	0.050	ppb	19.45	1.00	
238 U	165	1	0.013	ppb	14.57	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	325461	1.31	331424	98.2	30 - 120	
45 Sc	1	773683	0.82	788398	98.1	30 - 120	
72 Ge	1	322218	0.50	331294	97.3	30 - 120	
115 In	1	1093815	1.05	1116139	98.0	30 - 120	
165 Ho	1	2071390	1.61	2104638	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\AG111709.B\215CALB.D\215CALB.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\AG111709.B\219WASH.D\219WASH.D#
Date Acquired: Nov 18 2009 02:57 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 18 2009 02:50 am
Sample Type: WASH
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.088 ppb	11.50	1.30	
51 V	72	1	5.096 ppb	0.25	6.50	
52 Cr	72	1	2.044 ppb	1.39	2.60	
55 Mn	72	1	1.100 ppb	1.77	1.30	
59 Co	72	1	1.042 ppb	5.06	1.30	
60 Ni	72	1	1.953 ppb	5.47	2.60	
63 Cu	72	1	1.955 ppb	4.20	2.60	
66 Zn	72	1	10.350 ppb	2.13	13.00	
75 As	72	1	4.968 ppb	2.72	6.50	
78 Se	72	1	4.795 ppb	11.26	6.50	
95 Mo	72	1	1.910 ppb	1.31	2.60	
107 Ag	115	1	5.418 ppb	3.19	6.50	
111 Cd	115	1	1.054 ppb	4.93	1.30	
118 Sn	115	1	10.160 ppb	0.83	13.00	
121 Sb	115	1	2.141 ppb	1.27	2.60	
137 Ba	115	1	1.086 ppb	3.38	1.30	
205 Tl	165	1	1.034 ppb	1.71	1.30	
208 Pb	165	1	1.033 ppb	1.16	1.30	
232 Th	165	1	2.112 ppb	0.57	2.60	
238 U	165	1	1.075 ppb	1.37	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	322723	0.56	331424	97.4	30 - 120	
45 Sc	1	768071	1.12	788398	97.4	30 - 120	
72 Ge	1	322717	0.76	331294	97.4	30 - 120	
115 In	1	1084634	0.64	1116139	97.2	30 - 120	
165 Ho	1	2059173	0.52	2104638	97.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111709.B\215CALB.D\215CALB.D#

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

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: D9K120520

Client: Northgate Environmental

Batch(es) #: 9320068

Associated Samples: 1

I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.

Signature/Date: 11/20/09

Metals Raw Data RoadMap

LotID	*Metal*	*WorkOrder*	*Anal Date*	*TestDesc*	*Batch*	*File Id*	*Instr*
D9K120520 1 D	SE	LPCR01AG	20091119	6020TOTA	9320068	AG111909	024
D9K120520 1 S	SE	LPCR01AF	20091119	6020TOTA	9320068	AG111909	024
D9K120520 1 D	AS	LPCR01AE	20091119	6020TOTA	9320068	AG111909	024
D9K120520 1 S	AS	LPCR01AD	20091119	6020TOTA	9320068	AG111909	024
D9K120520 1	SE	LPCR01AC	20091119	6020TOTA	9320068	AG111909	024
D9K120520 1	AS	LPCR01AA	20091119	6020TOTA	9320068	AG111909	024

METALS
PREPARATION LOGS
ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: **9320068**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: DRW

Prep Date: 11/16/09
Due Date: 11/24/09

Lot	Work Order			Initial Weight/Volume
D9K160000 Water	**LPJLL**	B	Due Date: SDG:	50 mL
D9K160000 Water	**LPJLL**	C	Due Date: SDG:	50 mL
D9K120520 Water	**LPCR0** Total		Due Date: 11/24/09 SDG: 8304644	50 mL
D9K120520 Water	**LPCR0** Total	S	Due Date: 11/24/09 SDG: 8304644	50 mL
D9K120520 Water	**LPCR0** Total	D	Due Date: 11/24/09 SDG: 8304644	50 mL

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

checked 11/19/09

METALS PREP SHEET
SOP: DEN-IP-0014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Denver

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9320068 **ALLIQUOTTED BY:** KS
PREP DATE: 11/16/2009 **DIGESTED BY:** JRW

CONSUMABLES USED

Digestion Cups: **Manufacturer:** Environmental Express **Lot #:** A905LS269

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-6473-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO_3	JT Baker	H14024	3

TEMPERATURE CYCLES

Thermometer ID: 410 Block & Cup # : 3h

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1420	91	1815	95
HNO3	1820	95	1900	96
HNO3				

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

COMMENTS:

I certify that all information above is correct and complete.

Signature: *[signature]* ***Date:*** 11/16/09

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)
CCV = Continuing Calibration Verification

ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank

TestAmerica Denver

Standards Preparation Logbook Record

Nov-19-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-SE02003 Vendor's Expiration Date: 12-01-2009
Solvent: 2% HNO3
Date Prep./Opened: 11-25-2008 Date Received: 11-25-2008
Date Expires(1): 12-01-2009 (None)
Date Expires(2): 12-01-2009 (None)
(METALS)-Inventory ID: 803

Component	Initial Conc (mg/L)	Final Conc (mg/L)
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

Component	Initial Conc (mg/L)	Final Conc (mg/L)
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

STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010
Solvent: 2% HNO3
Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009
Date Expires(1): 05-01-2010 (None)
Date Expires(2): 05-01-2010 (None)
(METALS)-Inventory ID: 856

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

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 10-31-2009
Date Expires(1): 03-01-2010 (1 Year)
Date Expires(2): 03-01-2010 (None)

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

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

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500
Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD7014-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00
Date Prep./Opened: 11-16-2009
Date Expires(1): 03-16-2010 (1 Year)
Date Expires(2): 04-01-2010 (None)
Date Verified: 12-31--4714 by - (Verification ID: 0)
pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500
Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock — Aliquot Amount (ml): 0.2500
Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

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

Parent Std No.: STD6531-09, Scandium stock — Aliquot Amount (ml): 0.5000
Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock — Aliquot Amount (ml): 0.2500
Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

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

STD7093-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water — Volume (ml): 1,000.0
Date Prep./Opened: 11-19-2009
Date Expires(1): 05-19-2010 (6 Months)
Date Expires(2): 05-19-2010 (6 Months)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD7092-09, NITRIC ACID — Aliquot Amount (ml): 50.000

Component	Initial Conc (%)	Final Conc (%)
HNO3	100.00	5.0000

STD7094-09, ICP-MS HIGH CAL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 — Volume (ml): 100.00
Date Prep./Opened: 11-19-2009
Date Expires(1): 11-20-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 — Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000

Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000
Na	2,000.0	10.000

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD7095-09, ICP-MS HIGH CCV STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 11-19-2009
Date Expires(1): 11-20-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.2500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0500
As	20.000	0.0500
Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500

Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.2500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.2500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000
Na	2,000.0	5.0000

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.2500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.1000
Pd	20.000	0.0500
Pt	20.000	0.0500
W	20.000	0.0500

STD7096-09, ICP-MS HIGH RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024
Volume (ml): 10.000
Date Prep./Opened: 11-19-2009
Date Expires(1): 11-20-2009 (1 Day)

Parent Std No.: STD5446-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900

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

Parent Std No.: STD7094-09, ICP-MS HIGH CAL STD Aliquot Amount (ml): 0.1000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010

Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000
Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W	0.1000	0.0010

STD7097-09, ICP-MS HIGH AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-19-2009

Date Expires(1): 11-20-2009 (1 Day)

Parent Std No.: STD7096-09, ICP-MS HIGH RL STD

Aliquot Amount (ml): 2.0000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	0.0090	0.0018
Sn	0.0090	0.0018
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002

U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002
Al	0.1000	0.0200
Ca	0.1000	0.0200
Fe	0.1000	0.0200
K	0.1000	0.0200
Mg	0.1000	0.0200
Na	0.1000	0.0200
Nb	0.0020	0.0004
Pd	0.0010	0.0002
Pt	0.0010	0.0002
W	0.0010	0.0002

STD7098-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 11-19-2009
Date Expires(1): 12-19-2009 (1 Month)
Date Expires(2): 11-01-2010 (None)
pipettes: Met 8

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000
Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD7099-09, ICP-MS HIGH ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000
Date Prep./Opened: 11-19-2009
Date Expires(1): 11-20-2009 (1 Day)
Date Expires(2): 08-01-2010 (None)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.0500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.0500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.0500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000
Na	2,000.0	10.000

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.0500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

Parent Std No.: STD4542-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010 Parent Date Expires(2): 08-01-2010

Component	Initial Conc (ug/ml)	Final Conc (mg/L)
Al	1,000.0	100.00
C	2,000.0	200.00

Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD7100-09, ICP-MS HIGH LR STD1

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000

Date Prep./Opened: 11-19-2009

Date Expires(1): 11-20-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	1.0000
As	20.000	1.0000
Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000

STD7101-09, ICP-MS HIGH LR STD2

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000

Date Prep./Opened: 11-19-2009

Date Expires(1): 11-20-2009 (1 Day)

Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.5000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000
W	20.000	1.0000

STD7102-09, ICP-MS HIGH ICV STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 11-19-2009
Date Expires(1): 11-20-2009 (1 Day)
Date Expires(2): 04-21-2010 (None)

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0400
Mo	20.000	0.0400

Sb	20.000	0.0400
Sn	20.000	0.0400

Parent Std No.: STD3115-09, ICP-MS TA ICV Alt — Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	4.0000
Ca	2,000.0	4.0000
Fe	2,000.0	4.0000
K	2,000.0	4.0000
Mg	2,000.0	4.0000
Na	2,000.0	4.0000

Parent Std No.: STD3116-09, ICP-MS TA ICV BRC — Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.0800
Pd	20.000	0.0400
Pt	20.000	0.0400
W	20.000	0.0400

STD7103-09, ALTSe — Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 11-19-2009
Date Expires(1): 11-20-2009 (1 Day)
pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se — Aliquot Amount (ml): 0.1000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Se	1.0000	0.0020

STD7104-09, LLCCV/LLICV — Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 11-19-2009
Date Expires(1): 11-20-2009 (1 Day)
Date Expires(2): 05-01-2010 (None)
pipettes: Met 20

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

Component	Initial Conc (mg/L)	Final Conc (ug/L)
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

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1 Aliquot Amount (ml): 1.0000

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

File AG111909

Reviewed By: LRD 11/19/2009

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/20/09 10:10:01

File ID: AG111909 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	11/19/09 17:59		☐
4	100 ppb				1.0	11/19/09 18:02		☐
5	ICV				1.0	11/19/09 18:05		☐
6	LLICV /Alt RL Al,Fe,W. 11/20/09				1.0	11/19/09 18:07		☐
7	ICB				1.0	11/19/09 18:10		☐
8	RL STD				1.0	11/19/09 18:13		☐
9	AFCEE RL				1.0	11/19/09 18:16		☐
10	ALTSe				1.0	11/19/09 18:19		☐
11	ICSA				1.0	11/19/09 18:22		☐
12	ICSAB				1.0	11/19/09 18:25		☐
13	RINSE				1.0	11/19/09 18:28		☐
14	LR -All but Al,Fe,W. 11/20/09				1.0	11/19/09 18:31		☐
15	RINSE				1.0	11/19/09 18:34		☐
16	LR2 -Al,Fe,W only. 11/20/09				1.0	11/19/09 18:37		☐
17	RINSE				1.0	11/19/09 18:40		☐
18	CCV				1.0	11/19/09 18:43		☐
19	CCB				1.0	11/19/09 18:45		☐
20	CCB				1.0	11/19/09 18:48		☐
21	LLCCV				1.0	11/19/09 18:51		☐
22	LN0T1B	D9K060000	9310136	MS	1.0	11/19/09 18:54		☐
23	LN0T1C	D9K060000	9310136	MS	1.0	11/19/09 18:57		☐
24	LN0FA	D9K050664-2	9310136	MS	1.0	11/19/09 19:00		☐
25	LN0FC	D9K050664-3	9310136	MS	1.0	11/19/09 19:03		☐
26	LN0FK	D9K050664-5	9310136	MS	1.0	11/19/09 19:06		☐
27	LN0FKP5	D9K050664	9310136		5.0	11/19/09 19:09		☐
28	LN0FKZ	D9K050664-5	9310136		1.0	11/19/09 19:12		☐
29	LN0FKS	D9K050664-5	9310136	MS	1.0	11/19/09 19:15		☐
30	LN0FKD	D9K050664-5	9310136	MS	1.0	11/19/09 19:18		☐
31	CCV				1.0	11/19/09 19:21		☐
32	CCB				1.0	11/19/09 19:24		☐
33	CCB				1.0	11/19/09 19:27		☐
34	LLCCV				1.0	11/19/09 19:30		☐
35	LPH4QB	D9K140000	9318174	46	1.0	11/19/09 19:33		☐
36	LPH4QC	D9K140000	9318174	46	1.0	11/19/09 19:37		☐
37	LN9FK	D9K110570-1	9318174	46	1.0	11/19/09 19:40		☐
38	LN9FKP5	D9K110570	9318174		5.0	11/19/09 19:43		☐
39	LN9FKZ	D9K110570-1	9318174		1.0	11/19/09 19:46		☐
40	LN9FKS	D9K110570-1	9318174	46	1.0	11/19/09 19:49		☐
41	LN9FKD	D9K110570-1	9318174	46	1.0	11/19/09 19:52		☐
42	LN9FQ	D9K110570-2	9318174	46	1.0	11/19/09 19:55		☐
43	LN9FR	D9K110570-3	9318174	46	1.0	11/19/09 19:58		☐
44	LN9FW	D9K110570-4	9318174	46	1.0	11/19/09 20:01		☐
45	CCV				1.0	11/19/09 20:04		☐
46	CCB				1.0	11/19/09 20:07		☐
47	LLCCV				1.0	11/19/09 20:10		☐
48	LPJLLB	D9K160000	9320068	MS	1.0	11/19/09 20:13		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/20/09 10:10:01

File ID: AG111909 **Analyst: TEL**

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	LPJLLC	D9K160000	9320068	MS	1.0	11/19/09 20:16		
50	LPCR0	D9K120520-1	9320068	MS	1.0	11/19/09 20:19		
51	LPCR0P5	D9K120520	9320068		5.0	11/19/09 20:21		
52	LPCR0Z	D9K120520-1	9320068		1.0	11/19/09 20:24		
53	LPCR0S	D9K120520-1	9320068	MS	1.0	11/19/09 20:27		
54	LPCR0D	D9K120520-1	9320068	MS	1.0	11/19/09 20:30		
55	CCV				1.0	11/19/09 20:33		
56	CCB				1.0	11/19/09 20:36		
57	LLCCV				1.0	11/19/09 20:39		
58	LPM2MBF	D9K180000	9322048	87	10 2.5	11/19/09 20:42		
59	LPM2MCF	D9K180000	9322048	87	10 2.5	11/19/09 20:45		
60	LPLD1F	D9K170466-3	9322048	87	10 2.5	11/19/09 20:48		
61	LPLD7F	D9K170466-4	9322048	87	10 2.5	11/19/09 20:51		
62	LPLD7SF	D9K170466-4	9322048	87	10 2.5	11/19/09 20:54		
63	LPLD7DF	D9K170466-4	9322048	87	10 2.5	11/19/09 20:57		
64	CCV				1.0	11/19/09 21:00		
65	CCB				1.0	11/19/09 21:03		
66	LLCCV				1.0	11/19/09 21:06		
67	~~RINSE~~				~~1.0~~	~~11/19/09 21:09~~		
68	RINSE				1.0	11/19/09 21:12		
69	~~Cal Blank~~				~~1.0~~	~~11/19/09 21:15~~	VT 11/20/09 Did not use.	
70	Cal Blank				1.0	11/19/09 21:18		
71	100 ppb				1.0	11/19/09 21:21		
72	CCV				1.0	11/19/09 21:24		
73	CCB				1.0	11/19/09 21:27		
74	LLCCV				1.0	11/19/09 21:29		
75	ICSA				1.0	11/19/09 21:32		
76	ICSAB				1.0	11/19/09 21:35		
77	WASH				1.0	11/19/09 21:38		
78	CCV				1.0	11/19/09 21:41		
79	CCB				1.0	11/19/09 21:45		
80	LLCCV				1.0	11/19/09 21:48		
81	LPJLNB	D9K160000	9320072	MS	1.0	11/19/09 21:51		
82	LPJLNC	D9K160000	9320072	MS	1.0	11/19/09 21:54		
83	LPHVM 5X	F9K140478-1	9320072	MS	5.0	11/19/09 21:57		
84	LPHVMP25	F9K140478	9320072		25.0	11/19/09 22:00		
85	LPHVMZ	F9K140478-1	9320072		1.0	11/19/09 22:03		
86	LPHVMS 5X	F9K140478-1	9320072	MS	5.0	11/19/09 22:06		
87	LPHVMD 5X	F9K140478-1	9320072	MS	5.0	11/19/09 22:09		
88	LPHVR 5X	F9K140478-2	9320072	MS	5.0	11/19/09 22:12	-Take all but Cs, Se, VT 11/20/09	
89	CCV				1.0	11/19/09 22:15		
90	CCB				1.0	11/19/09 22:18		
91	LLCCV				1.0	11/19/09 22:21		
92	~~RINSE~~				~~1.0~~	~~11/19/09 22:24~~		
93	RINSE				1.0	11/19/09 22:27		
94	~~RINSE~~				~~1.0~~	~~11/19/09 22:30~~	VT 11/20/09	

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/20/09 10:10:01

File ID: AG111909 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
95	~~RINSE~~				~~1.0~~	~~11/19/09 22:33~~		
96	RINSE				1.0	11/19/09 22:36		
97	RINSE				1.0	11/19/09 22:39		
98	~~Cal Blank~~				~~1.0~~	~~11/19/09 22:42~~	KZ 11/20/09 Did not use.	
99	Cal Blank				1.0	11/19/09 22:45		
100	100 ppb				1.0	11/19/09 22:48		
101	CCV				1.0	11/19/09 22:50		
102	CCB				1.0	11/19/09 22:53		
103	LLCCV				1.0	11/19/09 22:58		
104	LPJM2B	D9K160000	9320105	MS	1.0	11/19/09 23:01		
105	LPJM2C	D9K160000	9320105	MS	1.0	11/19/09 23:04		
106	LN5WT	H9K100406-4	9320105	MS	1.0	11/19/09 23:07		
107	LPGFH	D9K130623-5	9320105	MS	1.0	11/19/09 23:10		
108	LPGFHP5	D9K130623	9320105		5.0	11/19/09 23:13		
109	LPGFHZ	D9K130623-5	9320105		1.0	11/19/09 23:16		
110	CCV				1.0	11/19/09 23:19		
111	CCB				1.0	11/19/09 23:22		
112	LLCCV				1.0	11/19/09 23:25		
113	LPGFHS	D9K130623-5	9320105	MS	1.0	11/19/09 23:28		
114	LPGFHD	D9K130623-5	9320105	MS	1.0	11/19/09 23:31		
115	LPGFL	D9K130623-6	9320105	MS	1.0	11/19/09 23:34		
116	LPGF0	D9K130623-13	9320105	MS	1.0	11/19/09 23:37		
117	LPGGA	D9K130623-18	9320105	MS	1.0	11/19/09 23:40		
118	CCV				1.0	11/19/09 23:43		
119	CCB				1.0	11/19/09 23:46		
120	LLCCV				1.0	11/19/09 23:49		
121	LPF1EB	D9K130000	9317507	MS	1.0	11/19/09 23:52		
122	LPF1EC	D9K130000	9317507	MS	1.0	11/19/09 23:55		
123	LPCPF	D9K120508-1	9317507	MS	1.0	11/19/09 23:58		
124	LPCQG	D9K120508-2	9317507	MS	1.0	11/20/09 00:01		
125	LPCQJ	D9K120508-3	9317507	MS	1.0	11/20/09 00:04		
126	LPCQK	D9K120508-4	9317507	MS	1.0	11/20/09 00:07		
127	LPCQKP5	D9K120508	9317507		5.0	11/20/09 00:10		
128	LPCQKZ	D9K120508-4	9317507		1.0	11/20/09 00:13		
129	CCV				1.0	11/20/09 00:16		
130	CCB				1.0	11/20/09 00:19		
131	LLCCV				1.0	11/20/09 00:22		
132	~~RINSE~~				~~1.0~~	~~11/20/09 00:25~~		
133	RINSE				1.0	11/20/09 00:27		
134	~~Cal Blank~~				~~1.0~~	~~11/20/09 00:30~~	KZ 11/20/09 Did not use.	
135	Cal Blank				1.0	11/20/09 00:33		
136	100 ppb				1.0	11/20/09 00:36		
137	CCV				1.0	11/20/09 00:39		
138	CCB				1.0	11/20/09 00:42		
139	LLCCV				1.0	11/20/09 00:45		
140	LPCQKS	D9K120508-4	9317507	MS	1.0	11/20/09 00:48		

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/20/09 10:10:01

File ID: AG111909 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	LPCQKD	D9K120508-4	9317507	MS	1.0	11/20/09 00:51		
142	LPCQL	D9K120508-5	9317507	MS	1.0	11/20/09 00:54		
143	LPCQM	D9K120508-6	9317507	MS	1.0	11/20/09 00:57		
144	LPCQP	D9K120508-7	9317507	MS	1.0	11/20/09 01:00		
145	LPCQR	D9K120508-8	9317507	MS	1.0	11/20/09 01:03		
146	LPCQT	D9K120508-9	9317507	MS	1.0	11/20/09 01:06		
147	LPCQV	D9K120508-10	9317507	MS	1.0	11/20/09 01:09		
148	CCV				1.0	11/20/09 01:12		
149	CCB				1.0	11/20/09 01:15		
150	LLCCV				1.0	11/20/09 01:18		
151	~~LPHNHB~~	~~D9K140000~~	~~9318146~~	~~04~~	~~1.0~~	~~11/20/09 01:21~~		
152	LPHNHC	D9K140000	9318146	04	1.0	11/20/09 01:24		
153	LPCEX	D9K120474-1	9318146	04	1.0	11/20/09 01:27		
154	LPCFD	D9K120474-2	9318146	04	1.0	11/20/09 01:30		
155	LPCFH	D9K120474-3	9318146	04	1.0	11/20/09 01:33		
156	LPCFHP5	D9K120474	9318146		5.0	11/20/09 01:36		
157	LPCFHZ	D9K120474-3	9318146		1.0	11/20/09 01:39		
158	LPCFHS	D9K120474-3	9318146	04	1.0	11/20/09 01:42		
159	LPCFHD	D9K120474-3	9318146	04	1.0	11/20/09 01:45		
160	CCV				1.0	11/20/09 01:48		
161	CCB				1.0	11/20/09 01:51		
162	LLCCV				1.0	11/20/09 01:54		
163	LPCFJ	D9K120474-4	9318146	04	1.0	11/20/09 01:57		
164	LPCFM	D9K120474-5	9318146	04	1.0	11/20/09 02:00		
165	LPEWJ	D9K130462-1	9318146	04	1.0	11/20/09 02:03		
166	LPEWN	D9K130462-2	9318146	04	1.0	11/20/09 02:06		
167	LPEWQ	D9K130462-3	9318146	04	1.0	11/20/09 02:09		
168	LPEWR	D9K130462-4	9318146	04	1.0	11/20/09 02:12		
169	LPEWT	D9K130462-5	9318146	04	1.0	11/20/09 02:15		
170	LPEWV	D9K130462-6	9318146	04	1.0	11/20/09 02:18		
171	LPEWX	D9K130462-7	9318146	04	1.0	11/20/09 02:21		
172	CCV				1.0	11/20/09 02:24		
173	CCB				1.0	11/20/09 02:27		
174	LLCCV				1.0	11/20/09 02:30		
175	RINSE				1.0	11/20/09 02:32		
176	RINSE				1.0	11/20/09 02:35		
177	~~Cal Blank~~				~~1.0~~	~~11/20/09 02:38~~	K. Fillpot did not use.	
178	Cal Blank				1.0	11/20/09 02:41		
179	100 ppb				1.0	11/20/09 02:44		
180	CCV				1.0	11/20/09 02:47		
181	CCB				1.0	11/20/09 02:50		
182	LLCCV				1.0	11/20/09 02:53		
183	LPHWVBF	D9K140000	9318164	MD	1.0	11/20/09 02:56		
184	LPHWVCF	D9K140000	9318164	MD	1.0	11/20/09 02:59		
185	LPCD6F	D9K120472-1	9318164	MD	1.0	11/20/09 03:02		
186	LPCEDF	D9K120472-2	9318164	MD	1.0	11/20/09 03:05		

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/20/09 10:10:01

File ID: AG111909 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
187	LPCEEF	D9K120472-3	9318164	MD	1.0	11/20/09 03:08		
188	LPCEHF	D9K120472-4	9318164	MD	1.0	11/20/09 03:11		
189	LPCEKF	D9K120472-5	9318164	MD	1.0	11/20/09 03:14		
190	LPCEKP5F	D9K120472	9318164		5.0	11/20/09 03:17		
191	LPCEKZF	D9K120472-5	9318164		1.0	11/20/09 03:20		
192	LPCEKSF	D9K120472-5	9318164	MD	1.0	11/20/09 03:23		
193	CCV				1.0	11/20/09 03:26		
194	CCB				1.0	11/20/09 03:29		
195	LLCCV				1.0	11/20/09 03:32		
196	LPCEKDF	D9K120472-5	9318164	MD	1.0	11/20/09 03:35		
197	LPCELF	D9K120472-6	9318164	MD	1.0	11/20/09 03:38		
198	LPCENF	D9K120472-7	9318164	MD	1.0	11/20/09 03:41		
199	LPCEPF	D9K120472-8	9318164	MD	1.0	11/20/09 03:44		
200	LPDEGF	D9K120577-1	9318164	MD	1.0	11/20/09 03:47		
201	LPDETF	D9K120577-2	9318164	MD	1.0	11/20/09 03:50		
202	LPDEWF	D9K120577-3	9318164	MD	1.0	11/20/09 03:53		
203	LPDE0F	D9K120577-4	9318164	MD	1.0	11/20/09 03:56		
204	LPDE2F	D9K120577-5	9318164	MD	1.0	11/20/09 03:59		
205	CCV				1.0	11/20/09 04:02		
206	CCB				1.0	11/20/09 04:05		
207	LLCCV				1.0	11/20/09 04:07		
208	~~LPM3DB~~	~~D9K180000~~	~~9322064~~	~~04~~	~~2.5~~	~~11/20/09 04:10~~		
209	LPM3DC	D9K180000	9322064	04	2.5	11/20/09 04:13		
210	LPLGX	D9K170484-2	9322064	04	2.5	11/20/09 04:16		
211	LPKXE	D9K170423-2	9322064	04	2.5	11/20/09 04:19		
212	LPK9L 2X	D9K170459-1	9322064	04	5.0	11/20/09 04:22		
213	LPK9LS 2X	D9K170459-1	9322064	04	5.0	11/20/09 04:25		
214	LPK9LD 2X	D9K170459-1	9322064	04	5.0	11/20/09 04:28		
215	CCV				1.0	11/20/09 04:31		
216	CCB				1.0	11/20/09 04:34		
217	LLCCV				1.0	11/20/09 04:37		
218	RINSE				1.0	11/20/09 04:40		
219	RINSE				1.0	11/20/09 04:43		
220	~~Cal Blank~~				~~1.0~~	~~11/20/09 04:46~~	VT 11/20/09 Did not use.	
221	~~Cal Blank~~				~~1.0~~	~~11/20/09 04:49~~		
222	100 ppb				1.0	11/20/09 04:52		
223	CCV				1.0	11/20/09 04:55		
224	CCB				1.0	11/20/09 04:58		
225	LLCCV				1.0	11/20/09 05:01		
226	LPH0PB	D9K140000	9318167	46	1.0	11/20/09 05:04		
227	LPH0PC	D9K140000	9318167	46	1.0	11/20/09 05:07		
228	LPAP0	D9K120406-1	9318167	46	1.0	11/20/09 05:10		
229	LPAP0P5	D9K120406	9318167		5.0	11/20/09 05:13		
230	LPAP0Z	D9K120406-1	9318167		1.0	11/20/09 05:16		
231	LPAP0S	D9K120406-1	9318167	46	1.0	11/20/09 05:19		
232	~~LPAP0D~~	~~D9K120406-1~~	~~9318167~~	~~46~~	~~1.0~~	~~11/20/09 05:22~~	VT 11/20/09 Did not use.	

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/20/09 10:10:01

File ID: AG111909 **Analyst: TEL**

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
233	~~LPAP3~~	~~D9K120406-2~~	~~9318167~~	~~46~~	~~1.0~~	~~11/20/09 05:24~~		
234	LPAP5	D9K120406-3	9318167	46	1.0	11/20/09 05:27		
235	CCV				1.0	11/20/09 05:30		
236	CCB				1.0	11/20/09 05:33		
237	LLCCV				1.0	11/20/09 05:36		
238	LPAP6	D9K120406-4	9318167	46	1.0	11/20/09 05:39		
239	LPAP7	D9K120406-5	9318167	46	1.0	11/20/09 05:42		
240	LPAP8	D9K120406-6	9318167	46	1.0	11/20/09 05:45		
241	LPAP9	D9K120406-7	9318167	46	1.0	11/20/09 05:48		
242	LPAQA	D9K120406-8	9318167	46	1.0	11/20/09 05:51		
243	LPAQF	D9K120406-9	9318167	46	1.0	11/20/09 05:54		
244	LPAQH	D9K120406-10	9318167	46	1.0	11/20/09 05:57		
245	LPAQJ	D9K120406-11	9318167	46	1.0	11/20/09 06:00		
246	LPAQL	D9K120406-12	9318167	46	1.0	11/20/09 06:03		
247	CCV				1.0	11/20/09 06:06		
248	CCB				1.0	11/20/09 06:09		
249	LLCCV				1.0	11/20/09 06:12		
250	LPAQN	D9K120406-13	9318167	46	1.0	11/20/09 06:15		
251	LPAQP	D9K120406-14	9318167	46	1.0	11/20/09 06:18		
252	LPAQQ	D9K120406-15	9318167	46	1.0	11/20/09 06:21		
253	LPAQ0	D9K120406-16	9318167	46	1.0	11/20/09 06:24		
254	LPAQ3	D9K120406-17	9318167	46	1.0	11/20/09 06:27		
255	LPAQ4	D9K120406-18	9318167	46	1.0	11/20/09 06:30		
256	LPAQ6	D9K120406-19	9318167	46	1.0	11/20/09 06:33		
257	LPAQ8	D9K120406-20	9318167	46	1.0	11/20/09 06:36		
258	CCV				1.0	11/20/09 06:38		
259	CCB				1.0	11/20/09 06:41		
260	LLCCV				1.0	11/20/09 06:44		
261	RINSE				1.0	11/20/09 06:47		
262	RINSE				1.0	11/20/09 06:50		
263	~~Cal Blank~~				~~1.0~~	~~11/20/09 06:53~~	NF 11/20/09 Did not use.	
264	Cal Blank				1.0	11/20/09 06:56		
265	100 ppb				1.0	11/20/09 06:59		
266	CCV				1.0	11/20/09 07:02		
267	CCB				1.0	11/20/09 07:05		
268	LLCCV				1.0	11/20/09 07:08		
269	LPJR3B	D9K160000	9320262	MS	1.0	11/20/09 07:11		
270	LPJR3C	D9K160000	9320262	MS	1.0	11/20/09 07:14		
271	LPDEG 5X	D9K120577-1	9320262	MS	5.0	11/20/09 07:17		
272	LPDET 5X	D9K120577-2	9320262	MS	5.0	11/20/09 07:20		
273	LPDEW 2X	D9K120577-3	9320262	MS	2.0	11/20/09 07:23		
274	LPDE0 2X	D9K120577-4	9320262	MS	2.0	11/20/09 07:26		
275	LPDE2 5X	D9K120577-5	9320262	MS	5.0	11/20/09 07:29		
276	CCV				1.0	11/20/09 07:32		
277	CCB				1.0	11/20/09 07:35		
278	LLCCV				1.0	11/20/09 07:38		

Denver

RUN SUMMARY

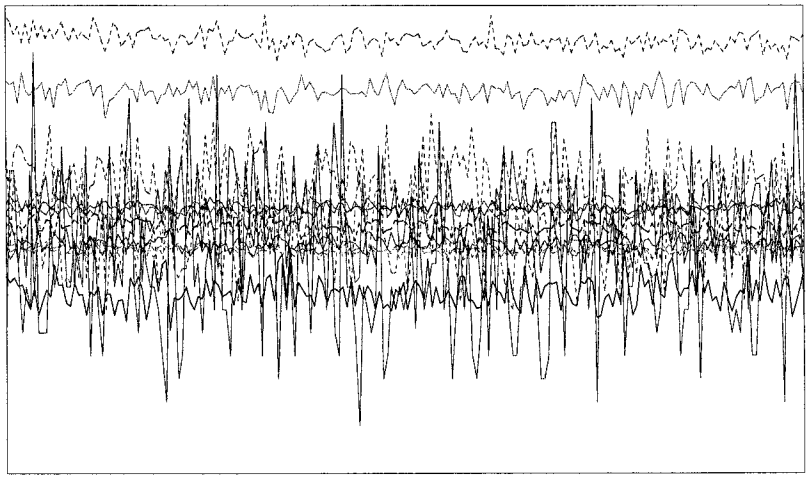
Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/20/09 10:10:01

File ID: AG111909 **Analyst: TEL**

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
279	LPE0X 10X	D9K130469-1	9320262	MS	10.0	11/20/09 07:41		
280	LPE03 5X	D9K130469-2	9320262	MS	5.0	11/20/09 07:44		
281	LPE04 50X	D9K130469-3	9320262	MS	50.0	11/20/09 07:47		
282	LPE04P250	D9K130469	9320262		250	11/20/09 07:50		
283	LPE04Z	D9K130469-3	9320262		1.0	11/20/09 07:53		
284	LPE04S 50X	D9K130469-3	9320262	MS	50.0	11/20/09 07:55		
285	LPE04D 50X	D9K130469-3	9320262	MS	50.0	11/20/09 07:58		
286	CCV				1.0	11/20/09 08:01		
287	CCB				1.0	11/20/09 08:04		
288	LLCCV				1.0	11/20/09 08:07		
289	LPHTXB	D9K140000	9318156	04	1.0	11/20/09 08:10		
290	LPHTXC	D9K140000	9318156	04	1.0	11/20/09 08:13		
291	LPDLN	D9K120585-1	9318156	04	1.0	11/20/09 08:16		
292	LPDLQ	D9K120585-2	9318156	04	1.0	11/20/09 08:19		
293	LPF48	D9K130595-1	9318156	04	1.0	11/20/09 08:22		
294	LPF48P5	D9K130595	9318156		5.0	11/20/09 08:25		
295	LPF48Z	D9K130595-1	9318156		1.0	11/20/09 08:28		
296	LPF48S	D9K130595-1	9318156	04	1.0	11/20/09 08:31		
297	LPF48D	D9K130595-1	9318156	04	1.0	11/20/09 08:34		
298	LPF5J	D9K130595-2	9318156	04	1.0	11/20/09 08:37		
299	CCV				1.0	11/20/09 08:40		
300	CCB				1.0	11/20/09 08:43		
301	LLCCV				1.0	11/20/09 08:46		
302	LPF5M	D9K130595-3	9318156	04	1.0	11/20/09 08:49		
303	LPF5P	D9K130595-4	9318156	04	1.0	11/20/09 08:52		
304	LPF5R	D9K130595-5	9318156	04	1.0	11/20/09 08:55		
305	LPF5T	D9K130595-6	9318156	04	1.0	11/20/09 08:58		
306	LPF5W	D9K130595-7	9318156	04	1.0	11/20/09 09:01		
307	LPF54	D9K130595-9	9318156	04	1.0	11/20/09 09:04		
308	LPF58	D9K130595-10	9318156	04	1.0	11/20/09 09:07		
309	LPGLL	D9K130641-1	9318156	04	1.0	11/20/09 09:10		
310	LPGLQ	D9K130641-2	9318156	04	1.0	11/20/09 09:13		
311	LPGLT	D9K130641-3	9318156	04	1.0	11/20/09 09:16		
312	CCV				1.0	11/20/09 09:19		
313	CCB				1.0	11/20/09 09:22		
314	LLCCV				1.0	11/20/09 09:25		
315	RINSE				1.0	11/20/09 09:28		

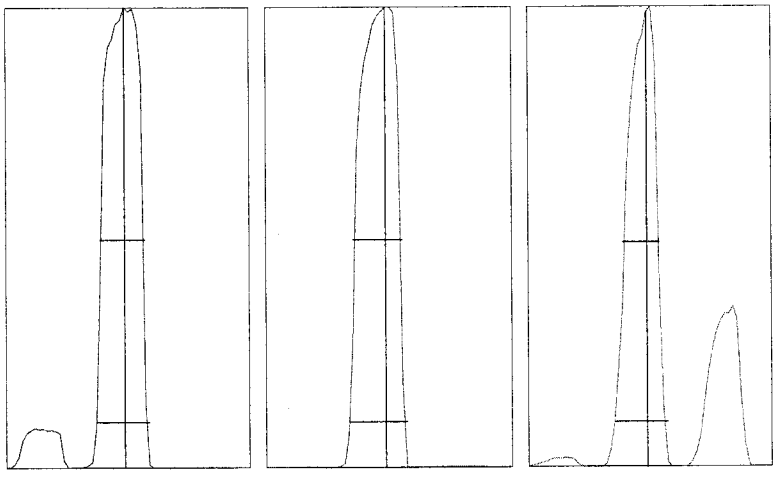
Tune Report

Tune File : NORM.U
Comment :



Integration Time:	0.1000 sec	
Sampling Period:	1.5300 sec	
n:	200	
Oxide:	156/140	1.717%
Doubly Charged:	70/140	0.813%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2454.0	2474.6	2.78	0.30
7	50,000	27572.0	28398.8	2.02	0.50
59	20,000	16132.0	16296.1	2.19	0.50
63	100	39.0	53.9	14.94	0.60
70	500	221.0	194.7	8.28	0.70
75	20	6.0	8.9	35.82	0.80
78	200	124.0	126.1	9.18	1.00
89	50,000	24292.0	24151.1	1.84	0.70
115	50,000	23825.0	23938.5	1.94	1.20
118	100	56.0	50.4	14.75	1.60
137	5,000	2656.0	2660.3	2.56	1.90
205	20,000	18719.0	18493.7	2.06	2.50
238	50,000	29093.0	28527.4	1.71	2.60
156/140	5	1.786%	1.723%	7.11	
70/140	2	0.956%	0.831%	8.61	



m/z:	7	89	205
Height:	28,731	24,243	18,759
Axis:	7.00	89.00	205.00
W-50%:	0.55	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time:	0.1000 sec
Acquisition Time:	22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

===Plasma Condition===			===Ion Lenses===			===Q-Pole Parameters===		
RF Power	:	1600 W	Extract 1	:	0 V	AMU Gain	:	134
RF Matching	:	1.7 V	Extract 2	:	-170 V	AMU Offset	:	125
Smpl Depth	:	8 mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007
Torch-H	:	-0.8 mm	Omega Lens-ce	:	1.2 V	Axis Offset	:	-0.03
Torch-V	:	-0.3 mm	Cell Entrance	:	-30 V	QP Bias	:	-3 V
Carrier Gas	:	0.82 L/min	QP Focus	:	7 V			
Makeup Gas	:	0.23 L/min	Cell Exit	:	-30 V	===Detector Parameters===		
Optional Gas	:	--- %				Discriminator	:	8 mV
Nebulizer Pump	:	0.1 rps	===Octopole Parameters===			Analog HV	:	1760 V
Sample Pump	:	--- rps	OctP RF	:	180 V	Pulse HV	:	1600 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:Nov 19 2009 05:43 pm

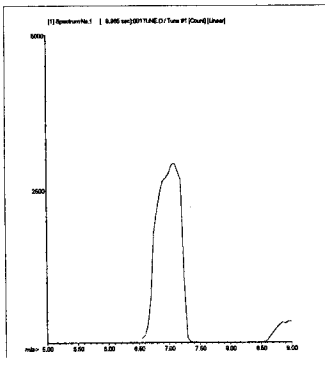
Mass[amu]	Element	P/A Factor
6	Li	0.062679
7	(Li)	Sensitivity too low
9	Be	0.070465
23	Na	0.079043
24	Mg	0.082063
27	Al	0.084300
39	K	0.083376
43	Ca	Sensitivity too low
45	Sc	0.084431
51	V	0.085608
52	Cr	0.089031
53	(Cr)	Sensitivity too low
55	Mn	0.091070
57	Fe	Sensitivity too low
59	Co	0.094455
60	Ni	0.095485
63	Cu	0.097865
66	Zn	0.097520
72	Ge	0.096537
75	As	0.095543
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.096875
98	(Mo)	0.096608
99	(Mo)	0.098016
105	Pd	0.101957
106	(Cd)	0.101813
107	Ag	Sensitivity too low
108	(Cd)	0.102647
111	Cd	0.103044
115	In	0.102471
118	Sn	0.102064
121	Sb	0.101940
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.110921
206	(Pb)	0.109322
207	(Pb)	0.109404
208	Pb	0.109078
232	Th	0.107844
238	U	0.108032

===Detector Parameters===
Discriminator: 8.0 mV
Analog HV: 1760 V
Pulse HV: 1600 V

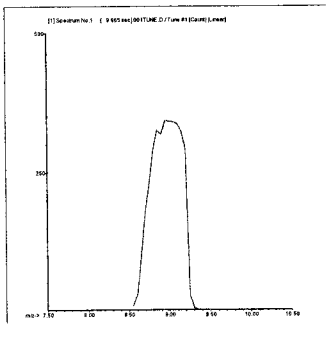
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\001TUNE.D
Date Acquired: Nov 19 2009 05:53 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	28059	28305	28081	27951	28182	27777	0.73	5.00	
9 Be	3491	3508	3600	3432	3414	3500	2.11	5.00	
24 Mg	15320	15318	15516	15280	15343	15145	0.87	5.00	
59 Co	49690	50093	49460	48917	49854	50126	1.02	5.00	
115 In	892234	894507	891954	897971	882573	894164	0.65	5.00	
208 Pb	60975	61630	60927	59649	61728	60943	1.36	5.00	
238 U	128273	131770	128737	126412	127963	126483	1.71	5.00	

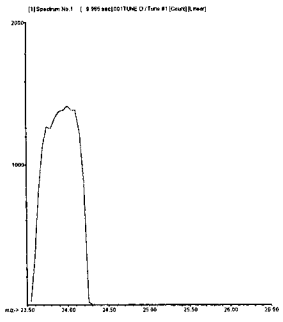


7 Li
Mass Calib.
Actual: 7.05
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



9 Be
Mass Calib.
Actual: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

C:\ICPCHEM\1\DATA\AG111909.B\001TUNE.D



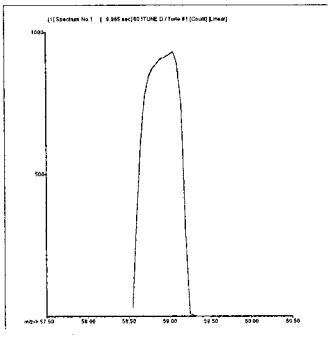
24 Mg

Mass Calib.

Actual:	24.00		
Required:	23.90	-	24.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



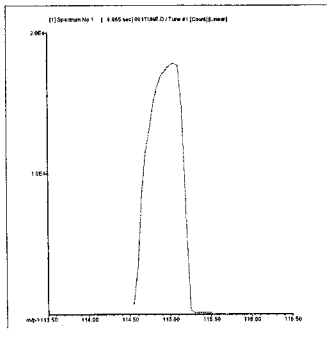
59 Co

Mass Calib.

Actual:	58.95		
Required:	58.90	-	59.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



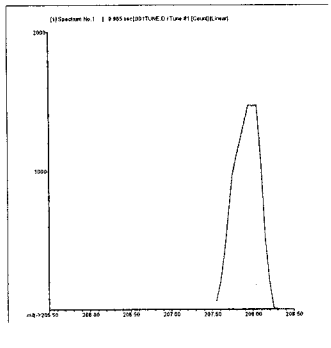
115 In

Mass Calib.

Actual:	115.00		
Required:	114.90	-	115.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



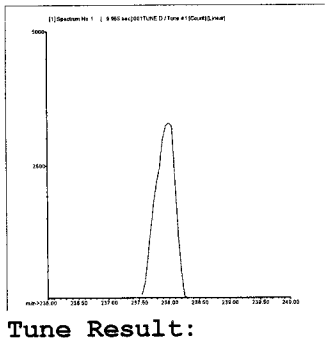
208 Pb

Mass Calib.

Actual:	207.95		
Required:	207.90	-	208.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



238 U

Mass Calib.

Actual:	237.95		
Required:	237.90	-	238.10
Flag:			

Peak Width

Actual:	0.55		
Required:	0.90		
Flag:			

Tune Result: Pass

Calibration Blank QC Report

Data File:	C:\ICPCHEM\1\DATA\AG111909.B\002CALB.D\002CALB.D#
Date Acquired:	Nov 19 2009 05:56 pm
Acq. Method:	6020isis.M
Operator:	TEL
Sample Name:	Cal Blank
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File:	C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update:	Nov 19 2009 05:57 pm
Sample Type:	CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
23	Na	6	1	223941	0.25
24	Mg	6	1	587	15.84
27	Al	45	1	807	5.16
39	K	45	1	202250	0.09
43	Ca	45	1	13	114.56
51	V	72	1	1087	10.79
52	Cr	72	1	1997	8.96
55	Mn	72	1	513	16.34
57	Fe	72	1	307	1.88
59	Co	72	1	33	45.83
60	Ni	72	1	70	51.51
63	Cu	72	1	253	14.94
66	Zn	72	1	128	5.63
75	As	72	1	47	8.92
78	Se	72	1	127	25.38
93	Nb	115	1	57	36.74
95	Mo	115	1	60	33.33
105	Pd	115	1	0	0.00
107	Ag	115	1	3	173.21
111	Cd	115	1	3	100.00
118	Sn	115	1	323	27.89
121	Sb	115	1	23	37.80
137	Ba	115	1	13	25.00
182	W	165	1	647	22.00
195	Pt	165	1	97	21.54
205	Tl	165	1	238	14.11
208	Pb	165	1	148	15.84
232	Th	165	1	117	50.22
238	U	165	1	96	15.73

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	603580	1.31
45	Sc	1	1249969	0.96
72	Ge	1	516480	0.04
115	In	1	1671369	1.71
165	Ho	1	3221590	1.50

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\AG111909.B\003CALB.D\003CALB.D#
Date Acquired: Nov 19 2009 05:59 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: Cal Blank
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 05:57 pm
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
23	Na	6	1	215605	1.33
24	Mg	6	1	540	3.70
27	Al	45	1	887	23.23
39	K	45	1	203657	0.99
43	Ca	45	1	7	86.60
51	V	72	1	1030	7.00
52	Cr	72	1	2007	6.73
55	Mn	72	1	650	24.03
57	Fe	72	1	277	17.08
59	Co	72	1	43	48.04
60	Ni	72	1	60	86.60
63	Cu	72	1	157	20.52
66	Zn	72	1	141	10.43
75	As	72	1	33	24.98
78	Se	72	1	157	25.80
93	Nb	115	1	40	43.30
95	Mo	115	1	47	65.47
105	Pd	115	1	10	100.00
107	Ag	115	1	3	173.21
111	Cd	115	1	1	173.21
118	Sn	115	1	847	1.80
121	Sb	115	1	30	29.40
137	Ba	115	1	8	24.74
182	W	165	1	607	5.30
195	Pt	165	1	103	58.33
205	Tl	165	1	202	23.91
208	Pb	165	1	188	44.43
232	Th	165	1	103	5.59
238	U	165	1	39	27.55

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	607781	0.12
45	Sc	1	1277940	0.23
72	Ge	1	522011	0.51
115	In	1	1683927	0.57
165	Ho	1	3210578	0.86

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\004ICAL.D\004ICAL.D#
Date Acquired: Nov 19 2009 06:02 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: 100 ppb
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:00 pm
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	65032	1.34
23	Na	6	1	38649152	0.64
24	Mg	6	1	23412870	0.80
27	Al	45	1	19750530	1.70
39	K	45	1	26952750	0.91
43	Ca	45	1	68127	0.30
51	V	72	1	669202	0.31
52	Cr	72	1	670445	0.26
55	Mn	72	1	789330	0.20
57	Fe	72	1	1836252	0.32
59	Co	72	1	803483	0.69
60	Ni	72	1	174347	0.23
63	Cu	72	1	401929	1.33
66	Zn	72	1	97249	0.85
75	As	72	1	70441	0.69
78	Se	72	1	14395	3.25
93	Nb	115	1	1970257	1.87
95	Mo	115	1	206834	0.83
105	Pd	115	1	269187	1.17
107	Ag	115	1	610330	0.66
111	Cd	115	1	132692	0.61
118	Sn	115	1	374210	0.62
121	Sb	115	1	410210	0.95
137	Ba	115	1	173469	1.27
182	W	165	1	757255	0.68
195	Pt	165	1	478245	0.76
205	Tl	165	1	1750825	1.38
208	Pb	165	1	2366275	0.94
232	Th	165	1	2578406	0.11
238	U	165	1	2773977	0.54

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	587215	3.83	607781	96.6	30 - 120	
45	Sc	1	1203140	1.53	1277940	94.1	30 - 120	
72	Ge	1	484441	0.40	522011	92.8	30 - 120	
115	In	1	1582250	1.27	1683927	94.0	30 - 120	
165	Ho	1	3076409	0.38	3210578	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\AG111909.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\AG111909.B\005_ICV.D\005_ICV.D#
Date Acquired: Nov 19 2009 06:05 pm
Operator: TEL
Sample Name: ICV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	39.49	ppb	4.51	40	98.7	90 - 110	
23 Na	6	1	4030.00	ppb	2.44	4000	100.8	90 - 110	
24 Mg	6	1	4128.00	ppb	2.18	4000	103.2	90 - 110	
27 Al	45	1	3947.00	ppb	1.39	4000	98.7	90 - 110	
39 K	45	1	3925.00	ppb	1.53	4000	98.1	90 - 110	
43 Ca	45	1	3925.00	ppb	1.02	4000	98.1	90 - 110	
51 V	72	1	39.40	ppb	0.73	40	98.5	90 - 110	
52 Cr	72	1	40.37	ppb	1.62	40	100.9	90 - 110	
55 Mn	72	1	41.04	ppb	0.64	40	102.6	90 - 110	
57 Fe	72	1	4012.00	ppb	1.32	4000	100.3	90 - 110	
59 Co	72	1	40.08	ppb	1.82	40	100.2	90 - 110	
60 Ni	72	1	41.08	ppb	0.30	40	102.7	90 - 110	
63 Cu	72	1	40.53	ppb	0.89	40	101.3	90 - 110	
66 Zn	72	1	40.46	ppb	0.41	40	101.2	90 - 110	
75 As	72	1	39.82	ppb	0.48	40	99.6	90 - 110	
78 Se	72	1	40.57	ppb	7.79	40	101.4	90 - 110	
93 Nb	115	1	69.53	ppb	5.05	80	86.9	90 - 110	Fail
95 Mo	115	1	40.29	ppb	1.71	40	100.7	90 - 110	
105 Pd	115	1	41.18	ppb	2.01	40	103.0	90 - 110	
107 Ag	115	1	41.46	ppb	0.60	40	103.7	90 - 110	
111 Cd	115	1	40.44	ppb	1.67	40	101.1	90 - 110	
118 Sn	115	1	39.51	ppb	1.28	40	98.8	90 - 110	
121 Sb	115	1	40.09	ppb	0.88	40	100.2	90 - 110	
137 Ba	115	1	40.06	ppb	1.46	40	100.2	90 - 110	
182 W	165	1	39.81	ppb	1.86	40	99.5	90 - 110	
195 Pt	165	1	40.32	ppb	2.22	40	100.8	90 - 110	
205 Tl	165	1	40.39	ppb	1.18	40	101.0	90 - 110	
208 Pb	165	1	41.05	ppb	1.01	40	102.6	90 - 110	
232 Th	165	1	40.45	ppb	0.88	40	101.1	90 - 110	
238 U	165	1	40.97	ppb	0.72	40	102.4	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	596562	2.50	607781	98.2	30 - 120	
45 Sc	1	1252579	1.58	1277940	98.0	30 - 120	
72 Ge	1	496277	0.47	522011	95.1	30 - 120	
115 In	1	1619352	0.66	1683927	96.2	30 - 120	
165 Ho	1	3115288	0.58	3210578	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\AG111909.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\AG111909.B\006WASH.D\006WASH.D#
Date Acquired: Nov 19 2009 06:07 pm
Operator: TEL
Sample Name: LLICV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	0.800 ppb	22.86	1.30	
23 Na	6	1	44.520 ppb	5.14	65.00	
24 Mg	6	1	53.810 ppb	1.81	65.00	
27 Al	45	1	32.660 ppb	2.49	39.00	
39 K	45	1	107.400 ppb	1.35	130.00	
43 Ca	45	1	45.770 ppb	17.27	65.00	
51 V	72	1	4.966 ppb	2.01	6.50	
52 Cr	72	1	2.085 ppb	2.40	2.60	
55 Mn	72	1	1.030 ppb	2.97	1.30	
57 Fe	72	1	49.100 ppb	3.43	65.00	
59 Co	72	1	0.991 ppb	3.07	1.30	
60 Ni	72	1	2.200 ppb	1.48	2.60	
63 Cu	72	1	2.106 ppb	5.77	2.60	
66 Zn	72	1	10.110 ppb	1.20	13.00	
75 As	72	1	5.011 ppb	1.51	6.50	
78 Se	72	1	5.256 ppb	14.47	6.50	
93 Nb	115	1	50.410 ppb	0.77	52.00	
95 Mo	115	1	2.026 ppb	3.23	2.60	
105 Pd	115	1	0.787 ppb	14.96	1.30	
107 Ag	115	1	5.439 ppb	3.02	6.50	
111 Cd	115	1	1.039 ppb	3.52	1.30	
118 Sn	115	1	10.100 ppb	1.64	13.00	
121 Sb	115	1	2.277 ppb	1.33	2.60	
137 Ba	115	1	1.054 ppb	6.89	1.30	
182 W	165	1	5.146 ppb	1.65	6.50	
195 Pt	165	1	1.013 ppb	7.48	1.30	
205 Tl	165	1	1.068 ppb	1.12	1.30	
208 Pb	165	1	1.080 ppb	1.22	1.30	
232 Th	165	1	2.132 ppb	0.57	2.60	
238 U	165	1	1.076 ppb	1.17	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	625290	1.73	607781	102.9	30 - 120	
45 Sc	1	1298743	0.45	1277940	101.6	30 - 120	
72 Ge	1	521830	0.38	522011	100.0	30 - 120	
115 In	1	1681389	1.41	1683927	99.8	30 - 120	
165 Ho	1	3178112	0.60	3210578	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\AG111909.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\AG111909.B\007_ICB.D\007_ICB.D#
Date Acquired: Nov 19 2009 06:10 pm
Operator: TEL
Sample Name: ICB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 pm
Sample Type: ICB
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	0.00	ppb	0.00	1.00	
23 Na	6	1	-7.28	ppb	8.80	20.00	
24 Mg	6	1	0.19	ppb	14.92	20.00	
27 Al	45	1	2.04	ppb	4.35	20.00	
39 K	45	1	0.34	ppb	244.36	20.00	
43 Ca	45	1	6.29	ppb	33.56	20.00	
51 V	72	1	-0.04	ppb	14.23	1.00	
52 Cr	72	1	0.00	ppb	165650.00	1.00	
55 Mn	72	1	-0.01	ppb	117.10	1.00	
57 Fe	72	1	0.72	ppb	37.35	20.00	
59 Co	72	1	0.00	ppb	542.03	1.00	
60 Ni	72	1	0.02	ppb	84.45	1.00	
63 Cu	72	1	0.03	ppb	30.08	1.00	
66 Zn	72	1	0.25	ppb	6.82	10.00	
75 As	72	1	0.00	ppb	3191.90	1.00	
78 Se	72	1	-0.05	ppb	450.66	1.00	
93 Nb	115	1	2.44	ppb	25.71	2.00	Fail
95 Mo	115	1	0.01	ppb	136.53	1.00	
105 Pd	115	1	0.01	ppb	185.23	1.00	
107 Ag	115	1	0.01	ppb	56.24	1.00	
111 Cd	115	1	0.00	ppb	104.42	1.00	
118 Sn	115	1	0.08	ppb	31.36	10.00	
121 Sb	115	1	0.07	ppb	23.93	1.00	
137 Ba	115	1	0.01	ppb	82.69	1.00	
182 W	165	1	0.01	ppb	46.06	5.00	
195 Pt	165	1	0.00	ppb	24981.00	1.00	
205 Tl	165	1	0.00	ppb	137.12	1.00	
208 Pb	165	1	0.01	ppb	26.73	1.00	
232 Th	165	1	0.01	ppb	40.82	2.00	
238 U	165	1	0.00	ppb	34.73	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	620258	1.73	607781	102.1	30 - 120	
45 Sc	1	1308300	1.23	1277940	102.4	30 - 120	
72 Ge	1	527343	0.31	522011	101.0	30 - 120	
115 In	1	1692038	1.21	1683927	100.5	30 - 120	
165 Ho	1	3200475	1.22	3210578	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\AG111909.B\003CALB.D\003CALB.D#

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

RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\008RLST.D\008RLST.D#
Date Acquired: Nov 19 2009 06:13 pm
Operator: TEL
Sample Name: RL STD
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 pm
Sample Type: RLSTD
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	0.99	ppb	13.47	1	98.7	50 - 150	
23 Na	6	1	91.81	ppb	4.82	100	91.8	50 - 150	
24 Mg	6	1	104.50	ppb	3.25	100	104.5	50 - 150	
27 Al	45	1	102.80	ppb	1.13	100	102.8	50 - 150	
39 K	45	1	105.60	ppb	2.12	100	105.6	50 - 150	
43 Ca	45	1	96.24	ppb	7.42	100	96.2	50 - 150	
51 V	72	1	0.93	ppb	3.03	1	93.1	50 - 150	
52 Cr	72	1	1.00	ppb	3.38	1	99.6	50 - 150	
55 Mn	72	1	1.01	ppb	2.44	1	100.6	50 - 150	
57 Fe	72	1	100.90	ppb	2.26	100	100.9	50 - 150	
59 Co	72	1	1.00	ppb	2.70	1	100.1	50 - 150	
60 Ni	72	1	1.02	ppb	13.37	1	102.3	50 - 150	
63 Cu	72	1	1.06	ppb	8.80	1	106.3	50 - 150	
66 Zn	72	1	10.16	ppb	1.06	10	101.6	50 - 150	
75 As	72	1	0.99	ppb	1.51	1	99.0	50 - 150	
78 Se	72	1	1.06	ppb	64.78	1	106.2	50 - 150	
93 Nb	115	1	3.50	ppb	11.30	2	175.1	50 - 150	Fail
95 Mo	115	1	1.03	ppb	8.09	1	102.6	50 - 150	
105 Pd	115	1	1.07	ppb	7.55	1	106.8	50 - 150	
107 Ag	115	1	1.01	ppb	4.62	1	101.3	50 - 150	
111 Cd	115	1	1.01	ppb	1.92	1	101.2	50 - 150	
118 Sn	115	1	9.88	ppb	2.44	10	98.8	50 - 150	
121 Sb	115	1	0.99	ppb	2.35	1	99.2	50 - 150	
137 Ba	115	1	1.05	ppb	0.59	1	104.6	50 - 150	
182 W	165	1	0.98	ppb	4.98	1	98.5	50 - 150	
195 Pt	165	1	1.02	ppb	0.60	1	101.6	50 - 150	
205 Tl	165	1	1.01	ppb	0.98	1	101.1	50 - 150	
208 Pb	165	1	1.09	ppb	2.11	1	108.8	50 - 150	
232 Th	165	1	1.00	ppb	1.60	1	99.7	50 - 150	
238 U	165	1	1.02	ppb	2.14	1	102.0	50 - 150	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	632309	3.34	607781	104.0	30 - 120	
45 Sc	1	1315303	0.97	1277940	102.9	30 - 120	
72 Ge	1	528181	0.44	522011	101.2	30 - 120	
115 In	1	1700041	1.10	1683927	101.0	30 - 120	
165 Ho	1	3193334	0.51	3210578	99.5	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\AG111909.B\003CALB.D\003CALB.D#

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

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\009AFCE.D\009AFCE.D#
Date Acquired: Nov 19 2009 06:16 pm
Operator: TEL
Sample Name: AFCEE RL
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 pm
Sample Type: AFCEERL
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.18	ppb	53.67	0	92.4	80 - 120	
23 Na	6	1	8.39	ppb	16.87	18	45.7	80 - 120	
24 Mg	6	1	20.17	ppb	3.11	21	96.5	80 - 120	
27 Al	45	1	20.30	ppb	1.56	21	98.7	80 - 120	
39 K	45	1	21.10	ppb	5.80	21	99.9	80 - 120	
43 Ca	45	1	23.24	ppb	23.43	19	120.7	80 - 120	
51 V	72	1	0.14	ppb	5.01	0	77.1	80 - 120	
52 Cr	72	1	0.15	ppb	24.15	0	77.0	80 - 120	
55 Mn	72	1	0.20	ppb	4.91	0	98.2	80 - 120	
57 Fe	72	1	20.07	ppb	3.33	20	99.5	80 - 120	
59 Co	72	1	0.21	ppb	5.34	0	103.1	80 - 120	
60 Ni	72	1	0.21	ppb	17.17	0	103.0	80 - 120	
63 Cu	72	1	0.23	ppb	4.33	0	105.9	80 - 120	
66 Zn	72	1	2.01	ppb	1.11	2	98.9	80 - 120	
75 As	72	1	0.19	ppb	7.88	0	95.7	80 - 120	
78 Se	72	1	-0.10	ppb	186.41	0	-47.5	80 - 120	
93 Nb	115	1	1.57	ppb	19.18	1	224.0	80 - 120	
95 Mo	115	1	0.22	ppb	19.11	0	107.2	80 - 120	
105 Pd	115	1	0.21	ppb	10.54	0	96.0	80 - 120	
107 Ag	115	1	0.20	ppb	4.43	0	97.1	80 - 120	
111 Cd	115	1	0.21	ppb	11.14	0	101.5	80 - 120	
118 Sn	115	1	2.27	ppb	5.61	2	114.7	80 - 120	
121 Sb	115	1	0.21	ppb	1.74	0	106.8	80 - 120	
137 Ba	115	1	0.21	ppb	2.02	0	100.2	80 - 120	
182 W	165	1	0.19	ppb	13.41	0	94.4	80 - 120	
195 Pt	165	1	0.22	ppb	21.71	0	108.2	80 - 120	
205 Tl	165	1	0.20	ppb	3.20	0	98.3	80 - 120	
208 Pb	165	1	0.20	ppb	1.42	0	94.2	80 - 120	
232 Th	165	1	0.20	ppb	5.79	0	98.3	80 - 120	
238 U	165	1	0.20	ppb	2.15	0	96.2	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	644234	2.71	607781	106.0	30 - 120	
45 Sc	1	1315974	1.34	1277940	103.0	30 - 120	
72 Ge	1	530597	0.39	522011	101.6	30 - 120	
115 In	1	1681542	0.48	1683927	99.9	30 - 120	
165 Ho	1	3189847	0.14	3210578	99.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111909.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\AG111909.B\010SMPL.D\010SMPL.D#
Date Acquired: Nov 19 2009 06:19 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: ALTSe
Misc Info: 2 ppb
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 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	
23 Na	6	1	-9.25	-9.25	ppb	7.65	100000	
24 Mg	6	1	0.04	0.04	ppb	92.86	100000	
27 Al	45	1	1.09	1.09	ppb	4.38	100000	
39 K	45	1	-1.05	-1.05	ppb	149.29	100000	
43 Ca	45	1	1.31	1.31	ppb	117.86	100000	
51 V	72	1	-0.05	-0.05	ppb	37.66	3600	
52 Cr	72	1	0.04	0.04	ppb	78.38	3600	
55 Mn	72	1	0.00	0.00	ppb	462.74	18000	
57 Fe	72	1	0.91	0.91	ppb	41.61	100000	
59 Co	72	1	0.00	0.00	ppb	165.07	3600	
60 Ni	72	1	0.01	0.01	ppb	156.61	3600	
63 Cu	72	1	0.02	0.02	ppb	58.60	3600	
66 Zn	72	1	0.07	0.07	ppb	41.77	3600	
75 As	72	1	0.01	0.01	ppb	264.25	3600	
78 Se	72	1	1.93	1.93	ppb	9.10	3600	
93 Nb	115	1	0.92	0.92	ppb	26.91	2000	
95 Mo	115	1	0.00	0.00	ppb	270.24	3600	
105 Pd	115	1	0.01	0.01	ppb	87.63	1000	
107 Ag	115	1	0.00	0.00	ppb	29.56	3600	
111 Cd	115	1	0.00	0.00	ppb	57.60	3600	
118 Sn	115	1	-0.08	-0.08	ppb	35.22	3600	
121 Sb	115	1	0.01	0.01	ppb	33.76	3600	
137 Ba	115	1	0.00	0.00	ppb	62.29	3600	
182 W	165	1	0.01	0.01	ppb	85.02	1000	
195 Pt	165	1	0.00	0.00	ppb	5.15	1000	
205 Tl	165	1	0.00	0.00	ppb	24.17	3600	
208 Pb	165	1	0.00	0.00	ppb	157.11	3600	
232 Th	165	1	0.01	0.01	ppb	34.85	1000	
238 U	165	1	0.00	0.00	ppb	72.74	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	631420	1.45	607781	103.9	30 - 120	
45 Sc	1	1319232	0.16	1277940	103.2	30 - 120	
72 Ge	1	529577	0.35	522011	101.4	30 - 120	
115 In	1	1711288	0.49	1683927	101.6	30 - 120	
165 Ho	1	3203045	0.76	3210578	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\AG111909.B\003CALB.D\003CALB.D#

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

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\011ICSA.D\011ICSA.D#
Date Acquired: Nov 19 2009 06:22 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: ICSA
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 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	0.02 ppb	99.95	1.00	
23 Na	6	1	103200.00 ppb	0.82	100000.00	
24 Mg	6	1	102000.00 ppb	1.19	100000.00	
27 Al	45	1	97690.00 ppb	1.19	100000.00	
39 K	45	1	96650.00 ppb	1.51	100000.00	
43 Ca	45	1	101200.00 ppb	0.62	100000.00	
51 V	72	1	3.31 ppb	9.00	1.00	
52 Cr	72	1	1.91 ppb	2.92	1.00	
55 Mn	72	1	2.69 ppb	1.86	1.00	
57 Fe	72	1	90880.00 ppb	0.35	100000.00	
59 Co	72	1	0.11 ppb	7.52	1.00	
60 Ni	72	1	1.10 ppb	15.24	1.00	
63 Cu	72	1	0.63 ppb	5.72	1.00	
66 Zn	72	1	3.97 ppb	2.36	10.00	
75 As	72	1	0.44 ppb	11.16	1.00	
78 Se	72	1	-0.19 ppb	138.05	1.00	
93 Nb	115	1	1.36 ppb	25.14	2.00	
95 Mo	115	1	2067.00 ppb	1.67	2000.00	
105 Pd	115	1	0.05 ppb	19.42	1.00	
107 Ag	115	1	0.03 ppb	5.00	1.00	
111 Cd	115	1	3.25 ppb	2.90	1.00	
118 Sn	115	1	0.37 ppb	16.61	10.00	
121 Sb	115	1	0.89 ppb	4.49	1.00	
137 Ba	115	1	0.04 ppb	39.85	1.00	
182 W	165	1	0.12 ppb	8.02	5.00	
195 Pt	165	1	0.01 ppb	85.96	1.00	
205 Tl	165	1	0.01 ppb	14.29	1.00	
208 Pb	165	1	1.02 ppb	4.45	1.00	
232 Th	165	1	0.01 ppb	12.96	2.00	
238 U	165	1	0.00 ppb	19.04	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	465497	0.87	607781	76.6	30 - 120	
45 Sc	1	978901	0.96	1277940	76.6	30 - 120	
72 Ge	1	393959	0.67	522011	75.5	30 - 120	
115 In	1	1241964	1.48	1683927	73.8	30 - 120	
165 Ho	1	2444129	1.11	3210578	76.1	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\AG111909.B\003CALB.D\003CALB.D#

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

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\012ICSB.D\012ICSB.D#
Date Acquired: Nov 19 2009 06:25 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: ICSAB
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 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	100.90	1.10	100	100.9	80 - 120	
23 Na	6	1	112700.00	1.39	110000	102.5	80 - 120	
24 Mg	6	1	110700.00	1.17	110000	100.6	80 - 120	
27 Al	45	1	107900.00	0.42	110000	98.1	80 - 120	
39 K	45	1	108100.00	1.24	110000	98.3	80 - 120	
43 Ca	45	1	111000.00	0.80	110000	100.9	80 - 120	
51 V	72	1	102.50	0.49	100	102.5	80 - 120	
52 Cr	72	1	99.75	0.93	100	99.8	80 - 120	
55 Mn	72	1	100.50	0.71	100	100.5	80 - 120	
57 Fe	72	1	102500.00	0.97	110000	93.2	80 - 120	
59 Co	72	1	94.91	1.44	100	94.9	80 - 120	
60 Ni	72	1	92.90	0.81	100	92.9	80 - 120	
63 Cu	72	1	90.98	0.11	100	91.0	80 - 120	
66 Zn	72	1	95.16	0.50	100	95.2	80 - 120	
75 As	72	1	95.69	0.44	100	95.7	80 - 120	
78 Se	72	1	98.15	5.67	100	98.2	80 - 120	
93 Nb	115	1	194.30	1.57	200	97.2	80 - 120	
95 Mo	115	1	2172.00	0.69	2100	103.4	80 - 120	
105 Pd	115	1	94.47	0.78	100	94.5	80 - 120	
107 Ag	115	1	86.64	2.39	100	86.6	80 - 120	
111 Cd	115	1	96.85	0.54	100	96.9	80 - 120	
118 Sn	115	1	99.35	0.52	100	99.4	80 - 120	
121 Sb	115	1	100.40	0.45	100	100.4	80 - 120	
137 Ba	115	1	102.40	1.32	100	102.4	80 - 120	
182 W	165	1	104.50	0.14	100	104.5	80 - 120	
195 Pt	165	1	96.68	1.25	100	96.7	80 - 120	
205 Tl	165	1	100.50	0.20	100	100.5	80 - 120	
208 Pb	165	1	100.30	1.15	100	100.3	80 - 120	
232 Th	165	1	104.70	1.28	100	104.7	80 - 120	
238 U	165	1	106.50	0.90	100	106.5	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450885	0.72	607781	74.2	30 - 120	
45 Sc	1	929666	1.52	1277940	72.7	30 - 120	
72 Ge	1	374683	0.68	522011	71.8	30 - 120	
115 In	1	1212476	0.90	1683927	72.0	30 - 120	
165 Ho	1	2392395	0.79	3210578	74.5	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\AG111909.B\003CALB.D\003CALB.D#

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

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\013AFCE.D\013AFCE.D#
Date Acquired: Nov 19 2009 06:28 pm
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 pm
Sample Type: AFCEERL
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.00	ppb	173.22	0	2.4	80 - 120	
23 Na	6	1	5.33	ppb	47.39	18	29.0	80 - 120	
24 Mg	6	1	1.70	ppb	24.00	21	8.1	80 - 120	
27 Al	45	1	2.11	ppb	22.85	21	10.3	80 - 120	
39 K	45	1	0.76	ppb	208.47	21	3.6	80 - 120	
43 Ca	45	1	1.01	ppb	81.13	19	5.2	80 - 120	
51 V	72	1	0.11	ppb	7.93	0	59.1	80 - 120	
52 Cr	72	1	0.01	ppb	304.48	0	4.5	80 - 120	
55 Mn	72	1	-0.01	ppb	54.78	0	-5.0	80 - 120	
57 Fe	72	1	2.46	ppb	24.66	20	12.2	80 - 120	
59 Co	72	1	0.00	ppb	1337.70	0	-0.1	80 - 120	
60 Ni	72	1	0.03	ppb	108.91	0	12.3	80 - 120	
63 Cu	72	1	-0.01	ppb	116.21	0	-3.1	80 - 120	
66 Zn	72	1	0.01	ppb	75.45	2	0.4	80 - 120	
75 As	72	1	0.00	ppb	631.38	0	-0.6	80 - 120	
78 Se	72	1	-0.10	ppb	41.78	0	-46.3	80 - 120	
93 Nb	115	1	5.48	ppb	22.35	1	782.6	80 - 120	
95 Mo	115	1	0.80	ppb	30.17	0	392.3	80 - 120	
105 Pd	115	1	0.00	ppb	184.14	0	2.3	80 - 120	
107 Ag	115	1	0.02	ppb	13.92	0	12.0	80 - 120	
111 Cd	115	1	0.00	ppb	113.60	0	1.6	80 - 120	
118 Sn	115	1	-0.10	ppb	42.51	2	-5.1	80 - 120	
121 Sb	115	1	0.15	ppb	18.89	0	75.7	80 - 120	
137 Ba	115	1	0.01	ppb	146.82	0	2.4	80 - 120	
182 W	165	1	0.05	ppb	6.88	0	25.7	80 - 120	
195 Pt	165	1	0.00	ppb	142.22	0	1.9	80 - 120	
205 Tl	165	1	0.00	ppb	50.76	0	-0.8	80 - 120	
208 Pb	165	1	0.00	ppb	41.88	0	0.3	80 - 120	
232 Th	165	1	0.01	ppb	40.45	0	6.5	80 - 120	
238 U	165	1	0.01	ppb	28.68	0	7.1	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	625753	2.40	607781	103.0	30 - 120	
45 Sc	1	1219270	1.42	1277940	95.4	30 - 120	
72 Ge	1	504311	0.29	522011	96.6	30 - 120	
115 In	1	1631410	0.90	1683927	96.9	30 - 120	
165 Ho	1	3211755	1.22	3210578	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\AG111909.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\AG111909.B\014WASH.D\014WASH.D#
Date Acquired: Nov 19 2009 06:31 pm
Operator: TEL
Sample Name: LR
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	977.100 ppb	0.25	1.30	
23 Na	6	1	5.038 ppb	8.78	65.00	
24 Mg	6	1	7.013 ppb	6.50	65.00	
27 Al	45	1	7.868 ppb	2.44	39.00	
39 K	45	1	6.536 ppb	19.32	130.00	
43 Ca	45	1	21.720 ppb	12.79	65.00	
51 V	72	1	944.700 ppb	0.60	6.50	
52 Cr	72	1	970.500 ppb	0.98	2.60	
55 Mn	72	1	972.700 ppb	0.69	1.30	
57 Fe	72	1	7.386 ppb	12.30	65.00	
59 Co	72	1	980.200 ppb	0.85	1.30	
60 Ni	72	1	1041.000 ppb	1.16	2.60	
63 Cu	72	1	1020.000 ppb	0.62	2.60	
66 Zn	72	1	951.400 ppb	0.47	13.00	
75 As	72	1	950.100 ppb	0.49	6.50	
78 Se	72	1	929.000 ppb	0.72	6.50	
93 Nb	115	1	7.438 ppb	16.00	52.00	
95 Mo	115	1	992.500 ppb	1.57	2.60	
105 Pd	115	1	0.011 ppb	87.78	1.30	
107 Ag	115	1	991.100 ppb	2.32	6.50	
111 Cd	115	1	973.900 ppb	2.68	1.30	
118 Sn	115	1	969.300 ppb	2.59	13.00	
121 Sb	115	1	940.600 ppb	2.45	2.60	
137 Ba	115	1	1015.000 ppb	2.51	1.30	
182 W	165	1	0.097 ppb	22.23	6.50	
195 Pt	165	1	0.014 ppb	47.97	1.30	
205 Tl	165	1	976.100 ppb	0.88	1.30	
208 Pb	165	1	983.200 ppb	1.13	1.30	
232 Th	165	1	967.800 ppb	0.86	2.60	
238 U	165	1	975.000 ppb	0.57	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	570581	1.02	607781	93.9	30 - 120	
45 Sc	1	1194438	1.49	1277940	93.5	30 - 120	
72 Ge	1	473480	0.94	522011	90.7	30 - 120	
115 In	1	1577187	2.06	1683927	93.7	30 - 120	
165 Ho	1	3096234	0.93	3210578	96.4	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\AG111909.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\AG111909.B\015SMPL.D\015SMPL.D#
Date Acquired: Nov 19 2009 06:34 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 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	173.20	3600	
23 Na	6	1	-6.07	-6.07	ppb	6.58	100000	
24 Mg	6	1	0.54	0.54	ppb	21.42	100000	
27 Al	45	1	0.56	0.56	ppb	14.41	100000	
39 K	45	1	3.60	3.60	ppb	49.07	100000	
43 Ca	45	1	0.95	0.95	ppb	170.56	100000	
51 V	72	1	0.00	0.00	ppb	444.66	3600	
52 Cr	72	1	0.04	0.04	ppb	75.33	3600	
55 Mn	72	1	0.00	0.00	ppb	340.81	18000	
57 Fe	72	1	0.80	0.80	ppb	20.43	100000	
59 Co	72	1	0.01	0.01	ppb	14.55	3600	
60 Ni	72	1	0.02	0.02	ppb	114.48	3600	
63 Cu	72	1	0.02	0.02	ppb	73.09	3600	
66 Zn	72	1	0.00	0.00	ppb	329.46	3600	
75 As	72	1	0.03	0.03	ppb	19.73	3600	
78 Se	72	1	0.42	0.42	ppb	64.87	3600	
93 Nb	115	1	1.49	1.49	ppb	27.80	2000	
95 Mo	115	1	0.53	0.53	ppb	24.70	3600	
105 Pd	115	1	0.00	0.00	ppb	88.93	1000	
107 Ag	115	1	0.03	0.03	ppb	15.64	3600	
111 Cd	115	1	0.02	0.02	ppb	28.31	3600	
118 Sn	115	1	1.33	1.33	ppb	35.20	3600	
121 Sb	115	1	1.46	1.46	ppb	19.25	3600	
137 Ba	115	1	0.03	0.03	ppb	53.20	3600	
182 W	165	1	0.00	0.00	ppb	1937.80	1000	
195 Pt	165	1	0.00	0.00	ppb	165.97	1000	
205 Tl	165	1	0.06	0.06	ppb	13.71	3600	
208 Pb	165	1	0.02	0.02	ppb	12.39	3600	
232 Th	165	1	0.13	0.13	ppb	9.42	1000	
238 U	165	1	0.12	0.12	ppb	19.48	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	604485	1.11	607781	99.5	30 - 120	
45 Sc	1	1253601	1.39	1277940	98.1	30 - 120	
72 Ge	1	511148	0.46	522011	97.9	30 - 120	
115 In	1	1640998	0.91	1683927	97.5	30 - 120	
165 Ho	1	3173644	0.87	3210578	98.8	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\AG111909.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\AG111909.B\016WASH.D\016WASH.D#
Date Acquired: Nov 19 2009 06:37 pm
Operator: TEL
Sample Name: LR2
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	0.076 ppb	48.08	1.30	
23 Na	6	1	101700.000 ppb	0.50	65.00	
24 Mg	6	1	100600.000 ppb	0.36	65.00	
27 Al	45	1	96890.000 ppb	0.80	39.00	
39 K	45	1	97720.000 ppb	1.29	130.00	
43 Ca	45	1	99880.000 ppb	0.47	65.00	
51 V	72	1	0.056 ppb	37.73	6.50	
52 Cr	72	1	0.616 ppb	5.19	2.60	
55 Mn	72	1	3.658 ppb	4.08	1.30	
57 Fe	72	1	90750.000 ppb	0.36	65.00	
59 Co	72	1	1.655 ppb	2.56	1.30	
60 Ni	72	1	1.827 ppb	2.87	2.60	
63 Cu	72	1	1.611 ppb	2.76	2.60	
66 Zn	72	1	3.751 ppb	1.95	13.00	
75 As	72	1	0.272 ppb	6.50	6.50	
78 Se	72	1	0.631 ppb	82.75	6.50	
93 Nb	115	1	2323.000 ppb	0.51	52.00	
95 Mo	115	1	0.625 ppb	10.35	2.60	
105 Pd	115	1	966.800 ppb	0.91	1.30	
107 Ag	115	1	0.097 ppb	22.86	6.50	
111 Cd	115	1	0.335 ppb	10.68	1.30	
118 Sn	115	1	1.184 ppb	32.60	13.00	
121 Sb	115	1	1.434 ppb	9.60	2.60	
137 Ba	115	1	0.384 ppb	2.80	1.30	
182 W	165	1	1026.000 ppb	0.47	6.50	
195 Pt	165	1	967.800 ppb	1.03	1.30	
205 Tl	165	1	0.121 ppb	13.32	1.30	
208 Pb	165	1	0.870 ppb	0.26	1.30	
232 Th	165	1	0.133 ppb	2.65	2.60	
238 U	165	1	0.122 ppb	8.29	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	513869	0.16	607781	84.5	30 - 120	
45 Sc	1	1107298	0.43	1277940	86.6	30 - 120	
72 Ge	1	439072	0.26	522011	84.1	30 - 120	
115 In	1	1314285	0.73	1683927	78.0	30 - 120	
165 Ho	1	2480498	0.76	3210578	77.3	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\AG111909.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\AG111909.B\017SMPL.D\017SMPL.D#
Date Acquired: Nov 19 2009 06:40 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 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	173.20	3600	
23 Na	6	1	-0.19	-0.19	ppb	497.16	100000	
24 Mg	6	1	1.59	1.59	ppb	24.56	100000	
27 Al	45	1	1.76	1.76	ppb	31.40	100000	
39 K	45	1	-1.05	-1.05	ppb	169.53	100000	
43 Ca	45	1	2.61	2.61	ppb	60.31	100000	
51 V	72	1	-0.07	-0.07	ppb	21.72	3600	
52 Cr	72	1	0.00	0.00	ppb	2791.60	3600	
55 Mn	72	1	0.01	0.01	ppb	42.15	18000	
57 Fe	72	1	2.62	2.62	ppb	22.92	100000	
59 Co	72	1	0.00	0.00	ppb	756.19	3600	
60 Ni	72	1	-0.01	-0.01	ppb	138.51	3600	
63 Cu	72	1	0.01	0.01	ppb	107.10	3600	
66 Zn	72	1	-0.04	-0.04	ppb	34.57	3600	
75 As	72	1	0.01	0.01	ppb	13.17	3600	
78 Se	72	1	0.08	0.08	ppb	168.42	3600	
93 Nb	115	1	2.70	2.70	ppb	25.37	2000	
95 Mo	115	1	0.06	0.06	ppb	21.48	3600	
105 Pd	115	1	0.25	0.25	ppb	28.52	1000	
107 Ag	115	1	0.01	0.01	ppb	71.01	3600	
111 Cd	115	1	0.01	0.01	ppb	75.17	3600	
118 Sn	115	1	0.06	0.06	ppb	89.26	3600	
121 Sb	115	1	0.11	0.11	ppb	24.64	3600	
137 Ba	115	1	0.01	0.01	ppb	9.53	3600	
182 W	165	1	0.19	0.19	ppb	23.37	1000	
195 Pt	165	1	0.02	0.02	ppb	4.41	1000	
205 Tl	165	1	0.00	0.00	ppb	57.03	3600	
208 Pb	165	1	0.00	0.00	ppb	48.31	3600	
232 Th	165	1	0.00	0.00	ppb	34.45	1000	
238 U	165	1	0.01	0.01	ppb	29.00	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	648001	0.94	607781	106.6	30 - 120	
45 Sc	1	1339175	1.64	1277940	104.8	30 - 120	
72 Ge	1	536896	0.13	522011	102.9	30 - 120	
115 In	1	1692710	0.31	1683927	100.5	30 - 120	
165 Ho	1	3217890	0.39	3210578	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\AG111909.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\AG111909.B\018_CCV.D\018_CCV.D#
Date Acquired: Nov 19 2009 06:43 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	50.09	ppb	2.99	50	100.2	90 - 110	
23 Na	6	1	4801.00	ppb	1.54	5000	96.0	90 - 110	
24 Mg	6	1	4877.00	ppb	1.43	5000	97.5	90 - 110	
27 Al	45	1	4929.00	ppb	2.41	5000	98.6	90 - 110	
39 K	45	1	5026.00	ppb	1.98	5000	100.5	90 - 110	
43 Ca	45	1	4998.00	ppb	0.72	5000	100.0	90 - 110	
51 V	72	1	49.79	ppb	0.59	50	99.6	90 - 110	
52 Cr	72	1	49.78	ppb	0.40	50	99.6	90 - 110	
55 Mn	72	1	49.88	ppb	1.21	50	99.8	90 - 110	
57 Fe	72	1	4976.00	ppb	2.20	5000	99.5	90 - 110	
59 Co	72	1	50.06	ppb	1.60	50	100.1	90 - 110	
60 Ni	72	1	51.06	ppb	1.98	50	102.1	90 - 110	
63 Cu	72	1	50.39	ppb	0.22	50	100.8	90 - 110	
66 Zn	72	1	49.64	ppb	0.85	50	99.3	90 - 110	
75 As	72	1	50.49	ppb	0.12	50	101.0	90 - 110	
78 Se	72	1	49.20	ppb	2.22	50	98.4	90 - 110	
93 Nb	115	1	93.52	ppb	4.18	100	93.5	90 - 110	
95 Mo	115	1	50.12	ppb	1.55	50	100.2	90 - 110	
105 Pd	115	1	51.46	ppb	1.63	50	102.9	90 - 110	
107 Ag	115	1	51.04	ppb	2.09	50	102.1	90 - 110	
111 Cd	115	1	49.62	ppb	1.41	50	99.2	90 - 110	
118 Sn	115	1	49.12	ppb	0.88	50	98.2	90 - 110	
121 Sb	115	1	49.71	ppb	1.67	50	99.4	90 - 110	
137 Ba	115	1	50.74	ppb	2.29	50	101.5	90 - 110	
182 W	165	1	50.11	ppb	1.35	50	100.2	90 - 110	
195 Pt	165	1	50.74	ppb	1.15	50	101.5	90 - 110	
205 Tl	165	1	50.25	ppb	0.56	50	100.5	90 - 110	
208 Pb	165	1	50.84	ppb	0.62	50	101.7	90 - 110	
232 Th	165	1	50.13	ppb	2.32	50	100.3	90 - 110	
238 U	165	1	50.36	ppb	1.55	50	100.7	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	644565	1.39	607781	106.1	30 - 120	
45 Sc	1	1295947	0.96	1277940	101.4	30 - 120	
72 Ge	1	521955	0.81	522011	100.0	30 - 120	
115 In	1	1669142	1.27	1683927	99.1	30 - 120	
165 Ho	1	3155603	1.02	3210578	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\AG111909.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\AG111909.B\019_CCB.D\019_CCB.D#
Date Acquired: Nov 19 2009 06:45 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	
23 Na	6	1	-9.384	ppb	13.51	20.00	
24 Mg	6	1	0.141	ppb	48.32	20.00	
27 Al	45	1	0.654	ppb	13.26	20.00	
39 K	45	1	-0.189	ppb	540.01	20.00	
43 Ca	45	1	2.527	ppb	146.89	20.00	
51 V	72	1	-0.062	ppb	21.48	1.00	
52 Cr	72	1	-0.017	ppb	58.16	1.00	
55 Mn	72	1	-0.003	ppb	313.67	1.00	
57 Fe	72	1	0.901	ppb	37.81	20.00	
59 Co	72	1	0.002	ppb	199.74	1.00	
60 Ni	72	1	0.005	ppb	316.09	1.00	
63 Cu	72	1	0.007	ppb	127.43	1.00	
66 Zn	72	1	-0.028	ppb	28.68	10.00	
75 As	72	1	0.000	ppb	1000.00	1.00	
78 Se	72	1	0.235	ppb	39.97	1.00	
93 Nb	115	1	3.777	ppb	21.59	2.00	Fail
95 Mo	115	1	0.044	ppb	67.58	1.00	
105 Pd	115	1	0.073	ppb	33.01	1.00	
107 Ag	115	1	0.010	ppb	37.92	1.00	
111 Cd	115	1	0.001	ppb	266.94	1.00	
118 Sn	115	1	-0.013	ppb	302.91	10.00	
121 Sb	115	1	0.165	ppb	10.51	1.00	
137 Ba	115	1	0.002	ppb	130.09	1.00	
182 W	165	1	0.049	ppb	35.33	5.00	
195 Pt	165	1	0.006	ppb	227.78	1.00	
205 Tl	165	1	0.004	ppb	47.57	1.00	
208 Pb	165	1	0.001	ppb	175.40	1.00	
232 Th	165	1	0.015	ppb	26.52	2.00	
238 U	165	1	0.011	ppb	16.86	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	666349	2.31	607781	109.6	30 - 120	
45 Sc	1	1359871	0.69	1277940	106.4	30 - 120	
72 Ge	1	550936	0.50	522011	105.5	30 - 120	
115 In	1	1757286	2.41	1683927	104.4	30 - 120	
165 Ho	1	3252020	0.45	3210578	101.3	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111909.B\003CALB.D\003CALB.D#

1 :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\AG111909.B\020_CCB.D\020_CCB.D#
Date Acquired: Nov 19 2009 06:48 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	
23 Na	6	1	-8.863	ppb	5.38	20.00	
24 Mg	6	1	0.090	ppb	40.28	20.00	
27 Al	45	1	0.513	ppb	13.52	20.00	
39 K	45	1	-0.376	ppb	255.67	20.00	
43 Ca	45	1	0.805	ppb	185.59	20.00	
51 V	72	1	-0.081	ppb	7.06	1.00	
52 Cr	72	1	-0.007	ppb	200.51	1.00	
55 Mn	72	1	-0.001	ppb	918.54	1.00	
57 Fe	72	1	0.938	ppb	13.57	20.00	
59 Co	72	1	0.002	ppb	286.54	1.00	
60 Ni	72	1	-0.003	ppb	456.64	1.00	
63 Cu	72	1	0.019	ppb	24.16	1.00	
66 Zn	72	1	-0.049	ppb	29.88	10.00	
75 As	72	1	-0.003	ppb	608.20	1.00	
78 Se	72	1	-0.098	ppb	289.62	1.00	
93 Nb	115	1	2.285	ppb	22.22	2.00	Fail
95 Mo	115	1	0.008	ppb	82.41	1.00	
105 Pd	115	1	0.032	ppb	20.82	1.00	
107 Ag	115	1	0.002	ppb	120.81	1.00	
111 Cd	115	1	0.002	ppb	154.58	1.00	
118 Sn	115	1	-0.106	ppb	37.57	10.00	
121 Sb	115	1	0.077	ppb	17.22	1.00	
137 Ba	115	1	0.001	ppb	300.51	1.00	
182 W	165	1	0.019	ppb	64.02	5.00	
195 Pt	165	1	0.001	ppb	508.66	1.00	
205 Tl	165	1	-0.001	ppb	145.34	1.00	
208 Pb	165	1	-0.002	ppb	47.89	1.00	
232 Th	165	1	0.003	ppb	28.19	2.00	
238 U	165	1	0.002	ppb	44.38	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	659508	0.16	607781	108.5	30 - 120	
45 Sc	1	1363457	1.05	1277940	106.7	30 - 120	
72 Ge	1	553487	0.26	522011	106.0	30 - 120	
115 In	1	1746960	0.72	1683927	103.7	30 - 120	
165 Ho	1	3288079	0.48	3210578	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\AG111909.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\AG111909.B\021WASH.D\021WASH.D#
Date Acquired: Nov 19 2009 06:51 pm
Operator: TEL
Sample Name: LLCCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	0.898 ppb	15.33	1.30	
23 Na	6	1	42.090 ppb	4.23	65.00	
24 Mg	6	1	54.410 ppb	1.17	65.00	
27 Al	45	1	32.780 ppb	1.49	39.00	
39 K	45	1	109.700 ppb	2.31	130.00	
43 Ca	45	1	41.370 ppb	33.19	65.00	
51 V	72	1	4.898 ppb	0.62	6.50	
52 Cr	72	1	2.040 ppb	1.31	2.60	
55 Mn	72	1	1.021 ppb	6.86	1.30	
57 Fe	72	1	51.070 ppb	2.11	65.00	
59 Co	72	1	1.024 ppb	4.44	1.30	
60 Ni	72	1	2.236 ppb	2.89	2.60	
63 Cu	72	1	2.111 ppb	3.30	2.60	
66 Zn	72	1	10.310 ppb	0.61	13.00	
75 As	72	1	5.009 ppb	1.15	6.50	
78 Se	72	1	4.804 ppb	7.03	6.50	
93 Nb	115	1	42.110 ppb	0.81	52.00	
95 Mo	115	1	2.093 ppb	1.67	2.60	
105 Pd	115	1	0.876 ppb	6.72	1.30	
107 Ag	115	1	5.623 ppb	1.95	6.50	
111 Cd	115	1	1.042 ppb	0.67	1.30	
118 Sn	115	1	10.040 ppb	3.56	13.00	
121 Sb	115	1	2.062 ppb	2.69	2.60	
137 Ba	115	1	1.038 ppb	2.23	1.30	
182 W	165	1	5.010 ppb	1.28	6.50	
195 Pt	165	1	1.025 ppb	5.25	1.30	
205 Tl	165	1	1.027 ppb	2.56	1.30	
208 Pb	165	1	1.069 ppb	2.39	1.30	
232 Th	165	1	2.076 ppb	1.61	2.60	
238 U	165	1	1.048 ppb	1.09	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	670873	1.78	607781	110.4	30 - 120	
45 Sc	1	1379102	1.22	1277940	107.9	30 - 120	
72 Ge	1	558484	0.48	522011	107.0	30 - 120	
115 In	1	1761553	0.23	1683927	104.6	30 - 120	
165 Ho	1	3258575	0.70	3210578	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\AG111909.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\AG111909.B\045_CCV.D\045_CCV.D#
Date Acquired: Nov 19 2009 08:04 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	50.62	ppb	1.06	50	101.2	90 - 110	
23 Na	6	1	4800.00	ppb	0.65	5000	96.0	90 - 110	
24 Mg	6	1	4860.00	ppb	0.20	5000	97.2	90 - 110	
27 Al	45	1	4874.00	ppb	1.37	5000	97.5	90 - 110	
39 K	45	1	4996.00	ppb	1.33	5000	99.9	90 - 110	
43 Ca	45	1	4976.00	ppb	2.93	5000	99.5	90 - 110	
51 V	72	1	50.09	ppb	1.16	50	100.2	90 - 110	
52 Cr	72	1	50.03	ppb	0.70	50	100.1	90 - 110	
55 Mn	72	1	49.62	ppb	1.03	50	99.2	90 - 110	
57 Fe	72	1	4987.00	ppb	0.94	5000	99.7	90 - 110	
59 Co	72	1	51.32	ppb	1.53	50	102.6	90 - 110	
60 Ni	72	1	51.89	ppb	1.20	50	103.8	90 - 110	
63 Cu	72	1	52.47	ppb	1.04	50	104.9	90 - 110	
66 Zn	72	1	49.29	ppb	2.09	50	98.6	90 - 110	
75 As	72	1	52.04	ppb	1.96	50	104.1	90 - 110	
78 Se	72	1	48.92	ppb	3.19	50	97.8	90 - 110	
93 Nb	115	1	90.23	ppb	4.84	100	90.2	90 - 110	
95 Mo	115	1	51.30	ppb	3.17	50	102.6	90 - 110	
105 Pd	115	1	52.50	ppb	2.32	50	105.0	90 - 110	
107 Ag	115	1	51.88	ppb	2.07	50	103.8	90 - 110	
111 Cd	115	1	50.26	ppb	0.26	50	100.5	90 - 110	
118 Sn	115	1	49.90	ppb	1.31	50	99.8	90 - 110	
121 Sb	115	1	50.97	ppb	1.07	50	101.9	90 - 110	
137 Ba	115	1	52.48	ppb	1.62	50	105.0	90 - 110	
182 W	165	1	50.11	ppb	1.85	50	100.2	90 - 110	
195 Pt	165	1	51.38	ppb	0.96	50	102.8	90 - 110	
205 Tl	165	1	50.67	ppb	1.17	50	101.3	90 - 110	
208 Pb	165	1	51.28	ppb	0.89	50	102.6	90 - 110	
232 Th	165	1	51.46	ppb	1.28	50	102.9	90 - 110	
238 U	165	1	52.08	ppb	1.41	50	104.2	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	507545	0.61	607781	83.5	30 - 120	
45 Sc	1	1057230	1.04	1277940	82.7	30 - 120	
72 Ge	1	430661	1.16	522011	82.5	30 - 120	
115 In	1	1401441	0.81	1683927	83.2	30 - 120	
165 Ho	1	2754279	0.20	3210578	85.8	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\AG111909.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\AG111909.B\046_CCB.D\046_CCB.D#
Date Acquired: Nov 19 2009 08:07 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	
23 Na	6	1	-9.035	ppb	4.33	20.00	
24 Mg	6	1	0.343	ppb	24.55	20.00	
27 Al	45	1	0.474	ppb	17.60	20.00	
39 K	45	1	-1.503	ppb	20.78	20.00	
43 Ca	45	1	1.140	ppb	79.04	20.00	
51 V	72	1	-0.096	ppb	6.35	1.00	
52 Cr	72	1	-0.018	ppb	122.90	1.00	
55 Mn	72	1	-0.001	ppb	490.79	1.00	
57 Fe	72	1	1.127	ppb	31.65	20.00	
59 Co	72	1	0.000	ppb	36020.00	1.00	
60 Ni	72	1	0.007	ppb	264.21	1.00	
63 Cu	72	1	0.027	ppb	32.67	1.00	
66 Zn	72	1	0.050	ppb	25.23	10.00	
75 As	72	1	0.009	ppb	229.62	1.00	
78 Se	72	1	0.253	ppb	96.56	1.00	
93 Nb	115	1	3.201	ppb	24.98	2.00	Fail
95 Mo	115	1	0.035	ppb	84.69	1.00	
105 Pd	115	1	0.018	ppb	32.69	1.00	
107 Ag	115	1	0.015	ppb	50.78	1.00	
111 Cd	115	1	0.004	ppb	112.64	1.00	
118 Sn	115	1	-0.062	ppb	76.17	10.00	
121 Sb	115	1	0.138	ppb	14.91	1.00	
137 Ba	115	1	0.019	ppb	28.93	1.00	
182 W	165	1	0.048	ppb	35.99	5.00	
195 Pt	165	1	-0.003	ppb	365.53	1.00	
205 Tl	165	1	0.012	ppb	9.10	1.00	
208 Pb	165	1	0.008	ppb	9.90	1.00	
232 Th	165	1	0.018	ppb	22.93	2.00	
238 U	165	1	0.010	ppb	13.83	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	536977	0.25	607781	88.4	30 - 120	
45 Sc	1	1144236	0.77	1277940	89.5	30 - 120	
72 Ge	1	480778	0.18	522011	92.1	30 - 120	
115 In	1	1526913	1.13	1683927	90.7	30 - 120	
165 Ho	1	2889266	1.59	3210578	90.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111909.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\AG111909.B\047WASH.D\047WASH.D#
Date Acquired: Nov 19 2009 08:10 pm
Operator: TEL
Sample Name: LLCCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	1.055 ppb	15.07	1.30	
23 Na	6	1	41.380 ppb	0.48	65.00	
24 Mg	6	1	54.140 ppb	1.58	65.00	
27 Al	45	1	32.170 ppb	1.03	39.00	
39 K	45	1	106.600 ppb	1.82	130.00	
43 Ca	45	1	59.430 ppb	11.23	65.00	
51 V	72	1	4.861 ppb	2.30	6.50	
52 Cr	72	1	1.967 ppb	2.39	2.60	
55 Mn	72	1	0.982 ppb	4.24	1.30	
57 Fe	72	1	49.810 ppb	2.75	65.00	
59 Co	72	1	1.052 ppb	2.30	1.30	
60 Ni	72	1	2.087 ppb	5.98	2.60	
63 Cu	72	1	2.226 ppb	1.87	2.60	
66 Zn	72	1	10.240 ppb	0.98	13.00	
75 As	72	1	5.161 ppb	1.51	6.50	
78 Se	72	1	5.494 ppb	8.36	6.50	
93 Nb	115	1	44.050 ppb	1.76	52.00	
95 Mo	115	1	2.083 ppb	4.72	2.60	
105 Pd	115	1	0.852 ppb	1.93	1.30	
107 Ag	115	1	5.567 ppb	2.15	6.50	
111 Cd	115	1	1.064 ppb	3.04	1.30	
118 Sn	115	1	10.140 ppb	0.55	13.00	
121 Sb	115	1	2.141 ppb	1.64	2.60	
137 Ba	115	1	1.089 ppb	3.52	1.30	
182 W	165	1	5.042 ppb	2.03	6.50	
195 Pt	165	1	1.010 ppb	3.95	1.30	
205 Tl	165	1	1.061 ppb	0.36	1.30	
208 Pb	165	1	1.078 ppb	1.35	1.30	
232 Th	165	1	2.183 ppb	0.79	2.60	
238 U	165	1	1.065 ppb	1.02	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	538995	0.59	607781	88.7	30 - 120	
45 Sc	1	1151593	0.74	1277940	90.1	30 - 120	
72 Ge	1	480038	0.97	522011	92.0	30 - 120	
115 In	1	1523235	0.34	1683927	90.5	30 - 120	
165 Ho	1	2886344	0.43	3210578	89.9	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\AG111909.B\003CALB.D\003CALB.D#

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

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\048_BLK.D\048_BLK.D#
Date Acquired: Nov 19 2009 08:13 pm
Operator: TEL
Sample Name: LPJLLB
Misc Info: BLANK 9320068 6020
Vial Number: 3211
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	0.006 ppb	173.20	2.00	
23 Na	6	1	-3.424 ppb	12.19	40.00	
24 Mg	6	1	3.198 ppb	7.05	40.00	
27 Al	45	1	3.539 ppb	5.87	40.00	
39 K	45	1	-2.682 ppb	31.29	40.00	
43 Ca	45	1	13.030 ppb	24.24	40.00	
51 V	72	1	-0.047 ppb	2.87	2.00	
52 Cr	72	1	0.150 ppb	3.61	2.00	
55 Mn	72	1	0.271 ppb	9.80	2.00	
57 Fe	72	1	3.977 ppb	23.37	40.00	
59 Co	72	1	0.006 ppb	96.22	2.00	
60 Ni	72	1	0.045 ppb	35.47	2.00	
63 Cu	72	1	0.125 ppb	13.94	2.00	
66 Zn	72	1	0.966 ppb	4.72	20.00	
75 As	72	1	0.015 ppb	53.46	2.00	
78 Se	72	1	0.187 ppb	265.09	2.00	
93 Nb	115	1	2.358 ppb	19.75	4.00	
95 Mo	115	1	0.018 ppb	16.32	2.00	
105 Pd	115	1	0.017 ppb	46.80	2.00	
107 Ag	115	1	0.011 ppb	14.88	2.00	
111 Cd	115	1	0.002 ppb	142.83	2.00	
118 Sn	115	1	0.767 ppb	3.42	20.00	
121 Sb	115	1	0.045 ppb	34.13	2.00	
137 Ba	115	1	0.088 ppb	25.72	2.00	
182 W	165	1	0.001 ppb	852.04	10.00	
195 Pt	165	1	-0.007 ppb	102.18	2.00	
205 Tl	165	1	0.022 ppb	28.32	2.00	
208 Pb	165	1	0.022 ppb	3.88	2.00	
232 Th	165	1	0.006 ppb	45.71	4.00	
238 U	165	1	0.010 ppb	15.78	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	532323	0.27	607781	87.6	30 - 120	
45 Sc	1	1140123	0.47	1277940	89.2	30 - 120	
72 Ge	1	469900	0.53	522011	90.0	30 - 120	
115 In	1	1513173	0.22	1683927	89.9	30 - 120	
165 Ho	1	2875900	0.84	3210578	89.6	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\AG111909.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\AG111909.B\049_LCS.D\049_LCS.D#
Date Acquired:	Nov 19 2009 08:16 pm
Acq. Method:	6020isis.M
Operator:	TEL
Sample Name:	LPJLLC
Misc Info:	LCS
Vial Number:	3212
Current Method:	C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File:	C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update:	Nov 19 2009 06:02 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	39.74	0.95	40	99.4	80 - 120	
23 Na	6	1	1.95	14.87	4000	0.0	80 - 120	
24 Mg	6	1	3.70	1.67	4000	0.1	80 - 120	
27 Al	45	1	43.32	1.49	4000	1.1	80 - 120	
39 K	45	1	-0.49	388.47	4000	0.0	80 - 120	
43 Ca	45	1	21.36	24.59	4000	0.5	80 - 120	
51 V	72	1	39.89	0.69	40	99.7	80 - 120	
52 Cr	72	1	40.43	0.52	40	101.1	80 - 120	
55 Mn	72	1	39.65	0.73	40	99.1	80 - 120	
57 Fe	72	1	4.52	5.01	4000	0.1	80 - 120	
59 Co	72	1	41.27	0.31	40	103.2	80 - 120	
60 Ni	72	1	42.22	0.91	40	105.6	80 - 120	
63 Cu	72	1	43.29	0.82	40	108.2	80 - 120	
66 Zn	72	1	39.31	0.61	40	98.3	80 - 120	
75 As	72	1	39.78	0.35	40	99.5	80 - 120	
78 Se	72	1	36.57	5.53	40	91.4	80 - 120	
93 Nb	115	1	1.53	25.60	80	1.9	80 - 120	
95 Mo	115	1	40.99	0.98	40	102.5	80 - 120	
105 Pd	115	1	0.01	65.53	40	0.0	80 - 120	
107 Ag	115	1	43.52	1.03	40	108.8	80 - 120	
111 Cd	115	1	39.03	0.97	40	97.6	80 - 120	
118 Sn	115	1	0.91	0.80	40	2.3	80 - 120	
121 Sb	115	1	39.95	0.55	40	99.9	80 - 120	
137 Ba	115	1	41.72	0.57	40	104.3	80 - 120	
182 W	165	1	0.02	109.76	40	0.1	80 - 120	
195 Pt	165	1	0.02	33.79	40	0.0	80 - 120	
205 Tl	165	1	41.44	0.31	40	103.6	80 - 120	
208 Pb	165	1	42.13	0.50	40	105.3	80 - 120	
232 Th	165	1	42.01	0.65	40	105.0	80 - 120	
238 U	165	1	41.73	0.63	40	104.3	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	523559	0.51	607781	86.1	30 - 120	
45 Sc	1	1134413	0.94	1277940	88.8	30 - 120	
72 Ge	1	459364	0.51	522011	88.0	30 - 120	
115 In	1	1488638	0.41	1683927	88.4	30 - 120	
165 Ho	1	2842630	0.03	3210578	88.5	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\AG111909.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\AG111909.B\050AREF.D\050AREF.D#
Date Acquired: Nov 19 2009 08:19 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LPCR0
Misc Info: D9K120459
Vial Number: 3301
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 pm
Sample Type: AllRef
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.11	0.11	ppb	29.03	3600	
23 Na	6	1	362,600.00	362600.00	ppb	0.93	100000	>LDR
24 Mg	6	1	174,800.00	174800.00	ppb	0.92	100000	>LDR
27 Al	45	1	1,143.00	1143.00	ppb	0.18	100000	
39 K	45	1	8,582.00	8582.00	ppb	0.63	100000	
43 Ca	45	1	637,600.00	637600.00	ppb	1.02	100000	>LDR
51 V	72	1	59.24	59.24	ppb	0.25	3600	
52 Cr	72	1	55.31	55.31	ppb	1.06	3600	
55 Mn	72	1	101.20	101.20	ppb	0.70	18000	
57 Fe	72	1	3,558.00	3558.00	ppb	0.66	100000	
59 Co	72	1	41.02	41.02	ppb	1.04	3600	
60 Ni	72	1	76.87	76.87	ppb	1.42	3600	
63 Cu	72	1	2.46	2.46	ppb	3.17	3600	
66 Zn	72	1	5.04	5.04	ppb	1.44	3600	
75 As	72	1	47.68	47.68	ppb	1.26	3600	
78 Se	72	1	11.80	11.80	ppb	7.13	3600	
93 Nb	115	1	1.99	1.99	ppb	19.99	2000	
95 Mo	115	1	5.22	5.22	ppb	2.68	3600	
105 Pd	115	1	13.10	13.10	ppb	3.80	1000	
107 Ag	115	1	0.06	0.06	ppb	23.53	3600	
111 Cd	115	1	0.12	0.12	ppb	21.75	3600	
118 Sn	115	1	0.07	0.07	ppb	35.03	3600	
121 Sb	115	1	0.17	0.17	ppb	6.81	3600	
137 Ba	115	1	59.49	59.49	ppb	0.51	3600	
182 W	165	1	0.68	0.68	ppb	6.76	1000	
195 Pt	165	1	0.03	0.03	ppb	44.54	1000	
205 Tl	165	1	0.07	0.07	ppb	5.41	3600	
208 Pb	165	1	0.69	0.69	ppb	4.02	3600	
232 Th	165	1	0.63	0.63	ppb	2.20	1000	
238 U	165	1	97.57	97.57	ppb	0.64	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	444099	0.88	607781	73.1	30 - 120	
45 Sc	1	987236	0.69	1277940	77.3	30 - 120	
72 Ge	1	341953	0.56	522011	65.5	30 - 120	
115 In	1	1113411	0.74	1683927	66.1	30 - 120	
165 Ho	1	2216226	0.47	3210578	69.0	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\AG111909.B\003CALB.D\003CALB.D#

3 :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\AG111909.B\051SDIL.D\051SDIL.D#
Date Acquired: Nov 19 2009 08:21 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LPCR0P5
Misc Info: SERIAL DILUTION
Vial Number: 3302
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 pm
Sample Type: SDIL
Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG111909.B\050AREF.D\050AREF.D#

QC elements

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9 Be	6	1	0.02	ppb	42.23	0.02	107.1	90 - 110	
23 Na	6	1	68610.00	ppb	0.43	72520.00	94.6	90 - 110	
24 Mg	6	1	33670.00	ppb	1.18	34960.00	96.3	90 - 110	
27 Al	45	1	234.80	ppb	0.26	228.60	102.7	90 - 110	
39 K	45	1	1795.00	ppb	0.64	1716.40	104.6	90 - 110	
43 Ca	45	1	135700.00	ppb	0.40	127520.00	106.4	90 - 110	
51 V	72	1	11.43	ppb	0.75	11.85	96.5	90 - 110	
52 Cr	72	1	10.81	ppb	1.05	11.06	97.7	90 - 110	
55 Mn	72	1	19.25	ppb	1.33	20.24	95.1	90 - 110	
57 Fe	72	1	690.80	ppb	0.80	711.60	97.1	90 - 110	
59 Co	72	1	8.11	ppb	0.71	8.20	98.9	90 - 110	
60 Ni	72	1	15.77	ppb	1.31	15.37	102.6	90 - 110	
63 Cu	72	1	0.53	ppb	0.40	0.49	107.2	90 - 110	
66 Zn	72	1	1.19	ppb	4.82	1.01	118.0	90 - 110	
75 As	72	1	8.79	ppb	2.78	9.54	92.1	90 - 110	
78 Se	72	1	1.83	ppb	14.01	2.36	77.5	90 - 110	
93 Nb	115	1	0.80	ppb	26.62	0.40	201.7	90 - 110	
95 Mo	115	1	0.99	ppb	10.63	1.04	94.7	90 - 110	
105 Pd	115	1	2.63	ppb	4.56	2.62	100.4	90 - 110	
107 Ag	115	1	0.01	ppb	69.19	0.01	113.6	90 - 110	
111 Cd	115	1	0.03	ppb	62.31	0.02	134.7	90 - 110	
118 Sn	115	1	0.04	ppb	125.63	0.01	270.4	90 - 110	
121 Sb	115	1	0.04	ppb	6.67	0.03	122.2	90 - 110	
137 Ba	115	1	12.09	ppb	0.56	11.90	101.6	90 - 110	
182 W	165	1	0.14	ppb	9.47	0.14	104.6	90 - 110	
195 Pt	165	1	0.03	ppb	33.27	0.01	603.8	90 - 110	
205 Tl	165	1	0.01	ppb	22.41	0.01	81.3	90 - 110	
208 Pb	165	1	0.15	ppb	5.36	0.14	108.5	90 - 110	
232 Th	165	1	0.11	ppb	6.03	0.13	91.4	90 - 110	
238 U	165	1	20.33	ppb	1.01	19.51	104.2	90 - 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	516673	1.02	607781	85.0	30 - 120	
45 Sc	1	1078967	0.57	1277940	84.4	30 - 120	
72 Ge	1	421942	0.37	522011	80.8	30 - 120	
115 In	1	1361035	1.55	1683927	80.8	30 - 120	
165 Ho	1	2713676	0.70	3210578	84.5	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\AG111909.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: 11/20/09 10:10:23

Department: 090 (Metals) | Source: Spreadsheet

Sample: **LPCR0P5** | Serial Dilution: **5.00** | Sample Dilution: **1.00**

Instrument: **Agilent7500**
File: AG111909 # 51
Acquired: 11/19/2009 20:21:00
Calibrated: 11/19/2009 17:59:00

Channel 272
Method 6020_
ICPMS_024

Matrix: AQUEOUS
Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	13	0.11610	0.10840	7.10		*	
7440-62-2	Vanadium	51	67337	57.150	59.240	3.53		*	
7440-47-3	Chromium	52	64571	54.050	55.310	2.28		*	
7439-96-5	Manganese	55	132751	96.250	101.20	4.89		*	
7440-48-4	Cobalt	59	56818	40.570	41.020	1.10		*	
7440-02-0	Nickel	60	23994	78.850	76.870	2.58		*	
7440-50-8	Copper	63	1970	2.6340	2.4580	7.16		*	
7440-66-6	Zinc	66	1121	5.9500	5.0430	18.0		*	
7440-38-2	Arsenic	75	5416	43.935	47.680	7.85	0.21	7.9	☑
7782-49-2	Selenium	78	353	9.1400	11.800	22.5	0.70	NC	☑
7439-98-7	Molybdenum	95	1797	4.9445	5.2210	5.30		*	
7440-22-4	Silver	107	77	0.07090	0.06242	13.6		*	
7440-43-9	Cadmium	111	37	0.15760	0.11700	34.7		*	
7440-31-5	Tin	118	807	0.19255	0.07120	170		*	
7440-36-0	Antimony	121	173	0.21110	0.17280	22.2		*	
7440-39-3	Barium	137	18054	60.450	59.490	1.61		*	
7440-28-0	Thallium	205	353	0.05905	0.07261	18.7		*	
7439-92-1	Lead	208	3260	0.74300	0.68510	8.45		*	
7440-61-1	Uranium	238	497443	101.65	97.570	4.18		*	
7440-23-5	Sodium	23	32429000	343050	362600	5.39		*	
7439-95-4	Magnesium	24	69443400	168350	174800	3.69		*	
7429-90-5	Aluminum	27	416698	1174.0	1143.0	2.71		*	
7440-09-7	Potassium	39	4479600	8975.0	8582.0	4.58		*	
7440-70-2	Calcium	43	829296	678500	637600	6.41		*	
7439-89-6	Iron	57	110694	3454.0	3558.0	2.92		*	
7440-03-1	Niobium	93	6832	4.0045	1.9850	102		*	
7440-05-3	Palladium	105	6098	13.155	13.100	0.420		*	
7440-33-7	Tungsten	182	1463	0.71250	0.68100	4.63		*	
7440-06-4	Platinum	195	223	0.16080	0.02663	504		*	
7440-29-1	Thorium	232	2687	0.57150	0.62510	8.57		*	
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: LRD Date: 11/20/09

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG111909.B\052PDS.D\052PDS.D#
Date Acquired: Nov 19 2009 08:24 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LPCR0Z
Misc Info: POST DIGESTION SPIKE
Vial Number: 3303
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 pm
Sample Type: PDS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: ---

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	193.70	0.11	ppb	0.60	200	96.8	75 - 125	
23 Na	6	1	342700.00	362600.00	ppb	0.79	200000	60.9	75 - 125	
24 Mg	6	1	164900.00	174800.00	ppb	0.73	200000	44.0	75 - 125	
27 Al	45	1	1105.00	1143.00	ppb	0.55	200000	0.5	75 - 125	
39 K	45	1	8270.00	8582.00	ppb	0.60	200000	4.0	75 - 125	
43 Ca	45	1	618100.00	637600.00	ppb	1.49	200000	73.8	75 - 125	
51 V	72	1	277.20	59.24	ppb	0.89	200	106.9	75 - 125	
52 Cr	72	1	273.90	55.31	ppb	0.70	200	107.3	75 - 125	
55 Mn	72	1	305.70	101.20	ppb	1.28	200	101.5	75 - 125	
57 Fe	72	1	3485.00	3558.00	ppb	0.21	200000	1.7	75 - 125	
59 Co	72	1	242.80	41.02	ppb	0.85	200	100.7	75 - 125	
60 Ni	72	1	266.10	76.87	ppb	0.73	200	96.1	75 - 125	
63 Cu	72	1	191.00	2.46	ppb	1.03	200	94.3	75 - 125	
66 Zn	72	1	182.60	5.04	ppb	0.54	200	89.1	75 - 125	
75 As	72	1	264.80	47.68	ppb	0.69	200	106.9	75 - 125	
78 Se	72	1	258.80	11.80	ppb	2.56	200	122.2	75 - 125	
93 Nb	115	1	1.25	1.99	ppb	15.86	400	0.3	75 - 125	
95 Mo	115	1	222.80	5.22	ppb	1.09	200	108.6	75 - 125	
105 Pd	115	1	12.80	13.10	ppb	2.97	200	6.0	75 - 125	
107 Ag	115	1	43.80	0.06	ppb	0.88	50	87.5	75 - 125	
111 Cd	115	1	178.30	0.12	ppb	1.62	200	89.1	75 - 125	
118 Sn	115	1	179.10	0.07	ppb	1.23	200	89.5	75 - 125	
121 Sb	115	1	196.30	0.17	ppb	2.00	200	98.1	75 - 125	
137 Ba	115	1	265.30	59.49	ppb	1.66	200	102.2	75 - 125	
182 W	165	1	0.65	0.68	ppb	2.53	200	0.3	75 - 125	
195 Pt	165	1	0.02	0.03	ppb	62.50	200	0.0	75 - 125	
205 Tl	165	1	182.90	0.07	ppb	0.20	200	91.4	75 - 125	
208 Pb	165	1	179.10	0.69	ppb	0.77	200	89.2	75 - 125	
232 Th	165	1	0.57	0.63	ppb	1.19	200	0.3	75 - 125	
238 U	165	1	279.30	97.57	ppb	0.65	200	93.9	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	452816	0.79	607781	74.5	30 - 120	
45 Sc	1	988429	0.77	1277940	77.3	30 - 120	
72 Ge	1	337896	0.68	522011	64.7	30 - 120	
115 In	1	1115431	1.42	1683927	66.2	30 - 120	
165 Ho	1	2233944	0.30	3210578	69.6	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\AG111909.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: 11/20/09 10:10:27

Department: 090 (Metals)

Source: Spreadsheet

Sample: **LPCR0Z**

Spike Dilution: **1.00**

Sample Dilution: **1.00**

Instrument: **Agilent7500**
File: AG111909 # 52
Acquired: 11/19/2009 20:24:00
Calibrated: 11/19/2009 17:59:00

Channel 272
Method 6020_
ICPMS_024

Matrix: AQUEOUS
Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	97216	193.70	0.10840	96.8	200		☑
7440-62-2	Vanadium	51	1292760	277.20	59.240	109	200		☐
7440-47-3	Chromium	52	1278390	273.90	55.310	109	200		☐
7439-96-5	Manganese	55	1681910	305.70	101.20	102	200		☐
7440-48-4	Cobalt	59	1360830	242.80	41.020	101	200		☐
7440-02-0	Nickel	60	323515	266.10	76.870	94.6	200		☐
7440-50-8	Copper	63	535257	191.00	2.4580	94.3	200		☐
7440-66-6	Zinc	66	123808	182.60	5.0430	88.8	200		☐
7440-38-2	Arsenic	75	130069	264.80	47.680	109	200		☑
7782-49-2	Selenium	78	25821	258.80	11.800	124	200		☐
7439-98-7	Molybdenum	95	324772	222.80	5.2210	109	200		☐
7440-22-4	Silver	107	188475	43.800	0.06242	87.5	50.0		☑
7440-43-9	Cadmium	111	166804	178.30	0.11700	89.1	200		☐
7440-31-5	Tin	118	472001	179.10	0.07120	89.5	200		☐
7440-36-0	Antimony	121	567655	196.30	0.17280	98.1	200		☑
7440-39-3	Barium	137	324452	265.30	59.490	103	200		☐
7440-28-0	Thallium	205	2325480	182.90	0.07261	91.4	200		☑
7439-92-1	Lead	208	3076570	179.10	0.68510	89.2	200		☐
7440-61-1	Uranium	238	5627040	279.30	97.570	90.9	200		☐
7440-23-5	Sodium	23	16700000	342700	362600				
7439-95-4	Magnesium	24	98108000	164900	174800				
7429-90-5	Aluminum	27	1794570	1105.0	1143.0				
7440-09-7	Potassium	39	18341100	8270.0	8582.0				
7440-70-2	Calcium	43	3459070	618100	637600				
7439-89-6	Iron	57	446473	3485.0	3558.0				
7440-03-1	Niobium	93	8743	1.2530	1.9850				
7440-05-3	Palladium	105	24296	12.800	13.100				
7440-33-7	Tungsten	182	4001	0.65130	0.68100				
7440-06-4	Platinum	195	147	0.02152	0.02663				
7440-29-1	Thorium	232	10665	0.56580	0.62510				
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: 11/20/09

Spiked Sample (MS) QC Report

Data File:	C:\ICPCHEM\1\DATA\AG111909.B\053_MS.D\053_MS.D#
Date Acquired:	Nov 19 2009 08:27 pm
Acq. Method:	6020isis.M
Operator:	TEL
Sample Name:	LPCR0S
Misc Info:	MATRIX SPIKE
Vial Number:	3304
Current Method:	C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File:	C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update:	Nov 19 2009 06:02 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	40.47	0.11	ppb	1.49	40	100.9	50 - 150	
23 Na	6	1	350500.00	362600.00	ppb	0.26	4000	95.6	50 - 150	
24 Mg	6	1	169600.00	174800.00	ppb	0.19	4000	94.9	50 - 150	
27 Al	45	1	1302.00	1143.00	ppb	1.69	4000	25.3	50 - 150	
39 K	45	1	8582.00	8582.00	ppb	1.01	4000	68.2	50 - 150	
43 Ca	45	1	635100.00	637600.00	ppb	0.93	4000	99.0	50 - 150	
51 V	72	1	105.20	59.24	ppb	0.43	40	106.0	50 - 150	
52 Cr	72	1	98.68	55.31	ppb	0.98	40	103.5	50 - 150	
55 Mn	72	1	145.50	101.20	ppb	0.61	40	103.0	50 - 150	
57 Fe	72	1	3809.00	3558.00	ppb	1.87	4000	50.4	50 - 150	
59 Co	72	1	81.98	41.02	ppb	0.72	40	101.2	50 - 150	
60 Ni	72	1	117.30	76.87	ppb	1.52	40	100.4	50 - 150	
63 Cu	72	1	41.13	2.46	ppb	0.75	40	96.9	50 - 150	
66 Zn	72	1	41.36	5.04	ppb	0.24	40	91.8	50 - 150	
75 As	72	1	93.19	47.68	ppb	0.77	40	106.3	50 - 150	
78 Se	72	1	61.71	11.80	ppb	3.28	40	119.1	50 - 150	
93 Nb	115	1	1.02	1.99	ppb	16.22	80	1.2	50 - 150	
95 Mo	115	1	49.38	5.22	ppb	0.88	40	109.2	50 - 150	
105 Pd	115	1	13.25	13.10	ppb	0.96	40	25.0	50 - 150	
107 Ag	115	1	36.31	0.06	ppb	0.82	40	90.6	50 - 150	
111 Cd	115	1	36.33	0.12	ppb	0.29	40	90.6	50 - 150	
118 Sn	115	1	0.47	0.07	ppb	37.46	40	1.2	50 - 150	
121 Sb	115	1	39.17	0.17	ppb	1.52	40	97.5	50 - 150	
137 Ba	115	1	105.10	59.49	ppb	1.26	40	105.6	50 - 150	
182 W	165	1	0.70	0.68	ppb	2.22	40	1.7	50 - 150	
195 Pt	165	1	0.02	0.03	ppb	90.24	40	0.0	50 - 150	
205 Tl	165	1	37.59	0.07	ppb	0.86	40	93.8	50 - 150	
208 Pb	165	1	37.73	0.69	ppb	0.36	40	92.7	50 - 150	
232 Th	165	1	41.70	0.63	ppb	0.37	40	102.6	50 - 150	
238 U	165	1	134.40	97.57	ppb	0.37	40	97.7	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	456439	0.39	607781	75.1	30 - 120	
45 Sc	1	989563	1.48	1277940	77.4	30 - 120	
72 Ge	1	341750	0.29	522011	65.5	30 - 120	
115 In	1	1120975	0.48	1683927	66.6	30 - 120	
165 Ho	1	2214946	0.21	3210578	69.0	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\AG111909.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\AG111909.B\054_MSD.D\054_MSD.D#
Date Acquired: Nov 19 2009 08:30 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LPCR0D
Misc Info: MATRIX SPIKE DUPLICATE
Vial Number: 3305
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Nov 19 2009 06:02 pm
Sample Type: MSD
Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG111909.B\053_MS.D\053_MS.D#

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	38.90	ppb	1.63	40.47	3.96	20	
23 Na	6	1	359300.00	ppb	0.48	350500.00	2.48	20	
24 Mg	6	1	170800.00	ppb	0.17	169600.00	0.71	20	
27 Al	45	1	1212.00	ppb	1.40	1302.00	7.16	20	
39 K	45	1	8796.00	ppb	1.21	8582.00	2.46	20	
43 Ca	45	1	649000.00	ppb	1.17	635100.00	2.16	20	
51 V	72	1	107.10	ppb	0.83	105.20	1.79	20	
52 Cr	72	1	100.80	ppb	0.77	98.68	2.13	20	
55 Mn	72	1	146.00	ppb	0.26	145.50	0.34	20	
57 Fe	72	1	3833.00	ppb	0.52	3809.00	0.63	20	
59 Co	72	1	84.22	ppb	0.26	81.98	2.70	20	
60 Ni	72	1	121.00	ppb	0.22	117.30	3.11	20	
63 Cu	72	1	42.02	ppb	0.75	41.13	2.14	20	
66 Zn	72	1	41.51	ppb	0.97	41.36	0.36	20	
75 As	72	1	93.83	ppb	0.54	93.19	0.68	20	
78 Se	72	1	64.76	ppb	2.08	61.71	4.82	20	
93 Nb	115	1	0.86	ppb	24.69	1.02	17.48	20	
95 Mo	115	1	50.00	ppb	1.44	49.38	1.25	20	
105 Pd	115	1	13.91	ppb	0.88	13.25	4.86	20	
107 Ag	115	1	36.45	ppb	0.83	36.31	0.38	20	
111 Cd	115	1	36.34	ppb	1.42	36.33	0.03	20	
118 Sn	115	1	0.36	ppb	10.20	0.47	26.03	20	
121 Sb	115	1	38.71	ppb	1.24	39.17	1.18	20	
137 Ba	115	1	103.60	ppb	0.72	105.10	1.44	20	
182 W	165	1	0.71	ppb	5.01	0.70	2.06	20	
195 Pt	165	1	0.03	ppb	37.16	0.02	52.46	20	
205 Tl	165	1	38.37	ppb	1.75	37.59	2.05	20	
208 Pb	165	1	38.51	ppb	1.72	37.73	2.05	20	
232 Th	165	1	42.71	ppb	1.46	41.70	2.39	20	
238 U	165	1	138.60	ppb	1.19	134.40	3.08	20	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	451678	0.30	607781	74.3	30 - 120	
45 Sc	1	973570	1.21	1277940	76.2	30 - 120	
72 Ge	1	335395	0.43	522011	64.3	30 - 120	
115 In	1	1106570	0.76	1683927	65.7	30 - 120	
165 Ho	1	2153302	1.14	3210578	67.1	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\AG111909.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\AG111909.B\055_CCV.D\055_CCV.D#
Date Acquired: Nov 19 2009 08:33 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 pm
Sample Type: CCV
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	51.54	ppb	3.67	50	103.1	90 - 110	
23 Na	6	1	4756.00	ppb	1.61	5000	95.1	90 - 110	
24 Mg	6	1	4829.00	ppb	1.72	5000	96.6	90 - 110	
27 Al	45	1	4913.00	ppb	1.51	5000	98.3	90 - 110	
39 K	45	1	5069.00	ppb	2.04	5000	101.4	90 - 110	
43 Ca	45	1	4947.00	ppb	2.26	5000	98.9	90 - 110	
51 V	72	1	50.70	ppb	1.23	50	101.4	90 - 110	
52 Cr	72	1	50.26	ppb	1.81	50	100.5	90 - 110	
55 Mn	72	1	48.35	ppb	1.65	50	96.7	90 - 110	
57 Fe	72	1	4864.00	ppb	1.81	5000	97.3	90 - 110	
59 Co	72	1	50.97	ppb	1.05	50	101.9	90 - 110	
60 Ni	72	1	52.60	ppb	0.92	50	105.2	90 - 110	
63 Cu	72	1	52.35	ppb	0.58	50	104.7	90 - 110	
66 Zn	72	1	49.01	ppb	0.38	50	98.0	90 - 110	
75 As	72	1	52.18	ppb	1.22	50	104.4	90 - 110	
78 Se	72	1	49.75	ppb	7.48	50	99.5	90 - 110	
93 Nb	115	1	88.19	ppb	4.88	100	88.2	90 - 110	Fail
95 Mo	115	1	51.02	ppb	2.09	50	102.0	90 - 110	
105 Pd	115	1	53.03	ppb	2.24	50	106.1	90 - 110	
107 Ag	115	1	53.00	ppb	1.98	50	106.0	90 - 110	
111 Cd	115	1	50.37	ppb	0.75	50	100.7	90 - 110	
118 Sn	115	1	49.89	ppb	1.89	50	99.8	90 - 110	
121 Sb	115	1	49.74	ppb	2.33	50	99.5	90 - 110	
137 Ba	115	1	51.99	ppb	2.17	50	104.0	90 - 110	
182 W	165	1	49.81	ppb	0.97	50	99.6	90 - 110	
195 Pt	165	1	52.48	ppb	1.53	50	105.0	90 - 110	
205 Tl	165	1	50.93	ppb	0.63	50	101.9	90 - 110	
208 Pb	165	1	51.38	ppb	0.49	50	102.8	90 - 110	
232 Th	165	1	52.32	ppb	0.90	50	104.6	90 - 110	
238 U	165	1	51.29	ppb	0.91	50	102.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	493227	1.24	607781	81.2	30 - 120	
45 Sc	1	1015598	1.33	1277940	79.5	30 - 120	
72 Ge	1	418052	1.36	522011	80.1	30 - 120	
115 In	1	1361958	1.63	1683927	80.9	30 - 120	
165 Ho	1	2651864	0.60	3210578	82.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG111909.B\003CALB.D\003CALB.D#

1 :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\AG111909.B\056_CCB.D\056_CCB.D#
Date Acquired: Nov 19 2009 08:36 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	0.006	ppb	173.19	1.00	
23 Na	6	1	23.620	ppb	4.13	20.00	Fail
24 Mg	6	1	1.084	ppb	5.42	20.00	
27 Al	45	1	0.463	ppb	14.10	20.00	
39 K	45	1	-2.947	ppb	58.26	20.00	
43 Ca	45	1	5.260	ppb	74.32	20.00	
51 V	72	1	0.098	ppb	14.18	1.00	
52 Cr	72	1	0.008	ppb	248.17	1.00	
55 Mn	72	1	-0.013	ppb	143.55	1.00	
57 Fe	72	1	0.867	ppb	59.91	20.00	
59 Co	72	1	0.003	ppb	72.65	1.00	
60 Ni	72	1	0.008	ppb	118.82	1.00	
63 Cu	72	1	0.031	ppb	90.46	1.00	
66 Zn	72	1	0.047	ppb	51.26	10.00	
75 As	72	1	0.029	ppb	127.95	1.00	
78 Se	72	1	0.065	ppb	426.47	1.00	
93 Nb	115	1	3.659	ppb	20.59	2.00	Fail
95 Mo	115	1	0.032	ppb	69.46	1.00	
105 Pd	115	1	0.019	ppb	34.07	1.00	
107 Ag	115	1	0.011	ppb	46.05	1.00	
111 Cd	115	1	0.003	ppb	144.60	1.00	
118 Sn	115	1	-0.029	ppb	86.75	10.00	
121 Sb	115	1	0.171	ppb	19.30	1.00	
137 Ba	115	1	0.015	ppb	66.00	1.00	
182 W	165	1	0.036	ppb	56.23	5.00	
195 Pt	165	1	0.004	ppb	178.51	1.00	
205 Tl	165	1	0.013	ppb	8.25	1.00	
208 Pb	165	1	0.008	ppb	21.30	1.00	
232 Th	165	1	0.023	ppb	20.92	2.00	
238 U	165	1	0.016	ppb	35.62	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	495934	0.64	607781	81.6	30 - 120	
45 Sc	1	1050690	1.45	1277940	82.2	30 - 120	
72 Ge	1	438597	0.44	522011	84.0	30 - 120	
115 In	1	1398033	1.02	1683927	83.0	30 - 120	
165 Ho	1	2680221	0.75	3210578	83.5	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\AG111909.B\003CALB.D\003CALB.D#

2 :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\AG111909.B\057WASH.D\057WASH.D#
Date Acquired: Nov 19 2009 08:39 pm
Operator: TEL
Sample Name: LLCCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Nov 19 2009 06:02 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	0.970 ppb	14.27	1.30	
23 Na	6	1	66.340 ppb	1.66	65.00	
24 Mg	6	1	54.320 ppb	1.38	65.00	
27 Al	45	1	32.700 ppb	3.35	39.00	
39 K	45	1	107.900 ppb	2.39	130.00	
43 Ca	45	1	59.840 ppb	7.22	65.00	
51 V	72	1	5.053 ppb	2.37	6.50	
52 Cr	72	1	2.084 ppb	3.36	2.60	
55 Mn	72	1	0.957 ppb	1.08	1.30	
57 Fe	72	1	50.450 ppb	3.11	65.00	
59 Co	72	1	1.045 ppb	4.35	1.30	
60 Ni	72	1	2.159 ppb	6.84	2.60	
63 Cu	72	1	2.212 ppb	1.77	2.60	
66 Zn	72	1	9.853 ppb	0.53	13.00	
75 As	72	1	5.386 ppb	3.92	6.50	
78 Se	72	1	5.409 ppb	6.00	6.50	
93 Nb	115	1	43.840 ppb	1.14	52.00	
95 Mo	115	1	2.070 ppb	3.27	2.60	
105 Pd	115	1	0.798 ppb	9.32	1.30	
107 Ag	115	1	5.752 ppb	1.91	6.50	
111 Cd	115	1	0.964 ppb	8.02	1.30	
118 Sn	115	1	10.160 ppb	2.11	13.00	
121 Sb	115	1	2.034 ppb	4.25	2.60	
137 Ba	115	1	1.088 ppb	5.15	1.30	
182 W	165	1	5.109 ppb	2.57	6.50	
195 Pt	165	1	1.015 ppb	6.08	1.30	
205 Tl	165	1	1.053 ppb	3.78	1.30	
208 Pb	165	1	1.070 ppb	0.06	1.30	
232 Th	165	1	2.156 ppb	1.49	2.60	
238 U	165	1	1.070 ppb	1.37	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	499275	0.39	607781	82.1	30 - 120	
45 Sc	1	1055364	1.36	1277940	82.6	30 - 120	
72 Ge	1	440688	0.44	522011	84.4	30 - 120	
115 In	1	1425812	0.91	1683927	84.7	30 - 120	
165 Ho	1	2718506	0.54	3210578	84.7	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\AG111909.B\003CALB.D\003CALB.D#

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