SDG # 8304619

Close Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

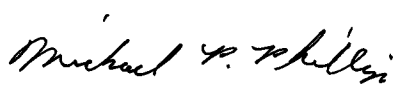
Tronox LLC, Henderson

SDG: 8304619
Lot #: D9G290174

Frank Hagar

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

TestAmerica Laboratories, Inc.



Michael P. Phillips
Project Manager

August 19, 2009

Case Narrative
SDG 8304619

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

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

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

Sample Receiving

One sample was received under chain of custody at a temperature of 2.3°C on July 29, 2009, and was logged under lot D9G290174. This lot is reported here under SDG 8304619.

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

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. All of the samples analyzed for Total Arsenic, Total Selenium, Dissolved Arsenic or Dissolved Selenium were diluted by a factor of 5X due to the sample matrix. The reporting limits have been adjusted relative to the dilutions required.

The method required MS/MSD was performed for Total Metals QC batch 9211099 using sample D9G290174-003 (M-11009B) and exhibited a MSD recovery for Arsenic outside the QC control limits. Because the concentration of Arsenic in the parent sample was greater than 4X the spike amount, no corrective action was required. The MS and MSD results for Arsenic have been flagged with “MSB”.

The method required MS/MSD was performed for Dissolved Metals QC batch 9211109 using sample D9G290174-002 (M-11BDISS) and exhibited MS and MSD recoveries for Arsenic outside the QC control limits. Because the concentration of Arsenic in the parent sample was greater than 4X the spike amount, no corrective action was required. The MS and MSD results for Arsenic have been flagged with “MSB”.

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

8304619 : D9G290174

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
M-11B 07/27/09 09:15 001				
Arsenic	220	25	ug/L	SW846 6020
M-11BDISS 07/27/09 09:15 002				
Arsenic - DISSOLVED	190	25	ug/L	SW846 6020
M-11009B 07/27/09 09:15 003				
Arsenic	220	25	ug/L	SW846 6020
M-11009BDISS 07/27/09 09:15 004				
Arsenic - DISSOLVED	200	25	ug/L	SW846 6020

METHODS SUMMARY

8304619

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

8304619

ANALYTICAL METHOD	ANALYST	ANALYST ID
SW846 6020	Thomas Lill	006929

References:

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

SAMPLE SUMMARY

8304619 : D9G290174

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LG7V7	001	M-11B	07/27/09	09:15
LG7WE	002	M-11BDISS	07/27/09	09:15
LG7WG	003	M-11009B	07/27/09	09:15
LG7WH	004	M-11009BDISS	07/27/09	09:15

NOTE(S):

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

QC DATA ASSOCIATION SUMMARY

8304619 : D9G290174

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 6020		9211099	9211055
002	WATER	SW846 6020		9211109	9211059
003	WATER	SW846 6020		9211099	9211055
004	WATER	SW846 6020		9211109	9211059

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: D9G290174

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 001and 003

TestAmerica

Total Metals Analysis

COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc. SDG No.: D9G290174

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

SOW No.: _____

Sample ID.	Lab Sample No.
M-11009B	D9G290174-003
M-11009B MS	D9G290174-003S
M-11009B MSD	D9G290174-003SD
M-11B	D9G290174-001

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

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

Comments:

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

Signature: Janice Collins Name: Janice Collins

Date: 8/10/09 Title: Metals Analyst

COVER PAGE - IN

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Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-11B
Lot/SDG Number:	D9G290174	**Lab Sample ID:**	D9G290174-001
Matrix:	WATER	**Lab WorkOrder:**	LG7V7
% Moisture:	N/A	**Date/Time Collected:**	07/27/09 09:15
Basis:	Wet	**Date/Time Received:**	07/29/09 09:00
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211099	**Date/Time Analyzed:**	08/05/09 05:21
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	5		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	**220**	1.0	25	
7782-49-2	Selenium	3.5	3.5	25	U

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-11009B
Lot/SDG Number:	D9G290174	**Lab Sample ID:**	D9G290174-003
Matrix:	WATER	**Lab WorkOrder:**	LG7WG
% Moisture:	N/A	**Date/Time Collected:**	07/27/09 09:15
Basis:	Wet	**Date/Time Received:**	07/29/09 09:00
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211099	**Date/Time Analyzed:**	08/05/09 05:24
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	5		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	**220**	1.0	25	
7782-49-2	Selenium	3.5	3.5	25	U

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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	40.0	100.0	50.0	51.0	102.0	50.8	101.6	M
Selenium	40.0	39.5	98.8	50.0	49.6	99.2	51.2	102.4	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.: D9G290174

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	50.5	101.0	50.2	100.4	M
Selenium				50.0	49.4	98.8	50.5	101.0	M

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

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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	49.8	99.6	48.3	96.6	M
Selenium				50.0	51.2	102.4	49.2	98.4	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.: D9G290174

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	48.8	97.6			M
Selenium				50.0	50.1	100.2			M

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

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9G290174

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	1.042	104.2		
Selenium				1.00	1.017	101.7		

Comments:

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Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9G290174	**Lab Sample ID:**	D9G300000-099B
Matrix:	WATER	**Lab WorkOrder:**	LG87W
% Moisture:		**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211099	**Date/Time Analyzed:**	08/05/09 05:15
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

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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:

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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:

Total Metals Analysis

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ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.41	99.71	99.7	0.47	99.30	99.3
Selenium	0.0	100.0	-0.17	102.30	102.3	-0.41	99.29	99.3

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Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-11009B
Lot/SDG Number:	D9G290174	**MS Lab Sample ID:**	D9G290174-003S
Matrix:	WATER	**MS Lab WorkOrder:**	LG7WG
% Moisture:	N/A	**Date/Time Collected:**	07/27/09 09:15
Basis:	Wet	**Date/Time Received:**	07/29/09 09:00
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211099	**Date/Time Analyzed:**	08/05/09 05:33
MS Sample Aliquot:	50 mL	**Instrument ID:**	024
MS Dilution Factor:	5		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	220		264	MSB	106		85 - 117
Selenium	40.0	3.5	U	49.6		120		77 - 122

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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-11009B
Lot/SDG Number:	D9G290174	**MSD Lab Sample ID:**	D9G290174-003D
Matrix:	WATER	**MSD Lab WorkOrder:**	LG7WG
% Moisture:	N/A	**Date/Time Collected:**	07/27/09 09:15
Basis:	Wet	**Date/Time Received:**	07/29/09 09:00
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211099	**Date/Time Analyzed:**	08/05/09 05:36
MSD Sample Aliquot:	50 mL	**Instrument ID:**	024
MSD Dilution Factor:	5		

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	220		275	MSB	134	N	4.1		85 - 117	20
Selenium	40.0	3.5	U	44.4		107		11		77 - 122	20

Total Metals Analvsis
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: M-11009B PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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	243.900		44.280		200.00	99.8		M
Selenium	75 - 125	206.400		0.700	U	200.00	103.2		M

Comments: _____

TestAmerica
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Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9G290174	**Lab Sample ID:**	D9G300000-099C
Matrix:	WATER	**Lab WorkOrder:**	LG87W
% Moisture:	N/A	**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211099	**Date/Time Analyzed:**	08/05/09 05:18
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	39.2	98		85 - 117
Selenium	40.0	41.0	102		77 - 122

Total Metals Analysis

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ICP SERIAL DILUTIONS

SAMPLE NO.

M-11009B SER

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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	44.280		44.410		0.3		M
Selenium	0.700	U	3.500	U			M

Comments: _____

TestAmerica

Total Metals Analysis

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DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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: _____

Form X - IN

Total Metals Analvsis
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ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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

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

Comments: _____

Form XII - IN

Total Metals Analysis

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PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
M-11B	7/31/2009	50.0	50.0
M-11009B	7/31/2009	50.0	50.0
M-11009B MS	7/31/2009	50.0	50.0
M-11009B MSD	7/31/2009	50.0	50.0
MB9211099	7/31/2009	50.0	50.0
Check Sample	7/31/2009	50.0	50.0

Comments:

Total Metals Analysis
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ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9G290174

Instrument ID Number: Agilent 7500 Method: M

Start Date: 8/4/2009 End Date: 8/5/2009

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	17:30				X															X						
100 PPB	1.00	17:33				X															X						
ICV	1.00	17:35				X															X						
ICB	1.00	17:41				X															X						
RL STD	1.00	17:44				X															X						
ICSA	1.00	17:53				X															X						
ICSAB	1.00	17:56				X															X						
RINSE	1.00	17:59				X															X						
LR	1.00	18:02				X															X						
RINSE	1.00	18:05				X															X						
CCV	1.00	18:08				X															X						
CCB	1.00	18:10				X															X						
ALTLR	1.00	18:18				X															X						
RINSE	1.00	18:21				X															X						
CCV	1.00	18:24				X															X						
CCB	1.00	18:27				X															X						
CAL BLANK	1.00	21:44				X															X						
100 PPB	1.00	21:47				X															X						
CCV	1.00	21:50				X															X						
CCB	1.00	21:53				X															X						
ICSA	1.00	21:59				X															X						
ICSAB	1.00	22:02				X															X						
WASH	1.00	22:04				X															X						
CCV	1.00	22:07				X															X						
CCB	1.00	22:10				X															X						
CAL BLANK	1.00	04:28				X															X						
100 PPB	1.00	04:31				X															X						
CCV	1.00	04:34				X															X						
CCB	1.00	04:36				X															X						
CCV	1.00	05:06				X															X						
CCB	1.00	05:09				X															X						
MB9211099	1.00	05:15				X															X						
Check Sample	1.00	05:18				X															X						

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

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9G290174

Instrument ID Number: Agilent 7500 Method: M

Start Date: 8/4/2009 End Date: 8/5/2009

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-11B	5.00	05:21				X															X						
M-11009B	5.00	05:24				X															X						
M-11009B SER	25.00	05:27				X															X						
M-11009B PDS	1.00	05:30				X															X						
M-11009B MS	5.00	05:33				X															X						
M-11009B MSD	5.00	05:36				X															X						
CCV	1.00	05:39				X															X						
CCB	1.00	05:42				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: D9G290174

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 002 and 004

TestAmerica

Dissolved Metals Analysis

COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc. SDG No.: D9G290174

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

SOW No.: _____

Sample ID.	Lab Sample No.
M-11009BDISS	D9G290174-004
M-11BDISS	D9G290174-002
M-11BDISS MS	D9G290174-002S
M-11BDISS MSD	D9G290174-002SD

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: 8/10/09 Title: Metals Analyst

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-11BDISS
Lot/SDG Number:	D9G290174	**Lab Sample ID:**	D9G290174-002
Matrix:	WATER	**Lab WorkOrder:**	LG7WE
% Moisture:	N/A	**Date/Time Collected:**	07/27/09 09:15
Basis:	Wet	**Date/Time Received:**	07/29/09 09:00
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211109	**Date/Time Analyzed:**	08/05/09 04:48
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	5		

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-11009BDISS
Lot/SDG Number:	D9G290174	**Lab Sample ID:**	D9G290174-004
Matrix:	WATER	**Lab WorkOrder:**	LG7WH
% Moisture:	N/A	**Date/Time Collected:**	07/27/09 09:15
Basis:	Wet	**Date/Time Received:**	07/29/09 09:00
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211109	**Date/Time Analyzed:**	08/05/09 05:03
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	5		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	**200**	1.0	25	
7782-49-2	Selenium	3.5	3.5	25	U

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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	40.0	100.0	50.0	51.0	102.0	50.8	101.6	M
Selenium	40.0	39.5	98.8	50.0	49.6	99.2	51.2	102.4	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.: D9G290174

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	50.5	101.0	50.2	100.4	M
Selenium				50.0	49.4	98.8	50.5	101.0	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.: D9G290174

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	49.8	99.6	48.3	96.6	M
Selenium				50.0	51.2	102.4	49.2	98.4	M

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

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9G290174

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	1.042	104.2		
Selenium				1.00	1.017	101.7		

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:	D9G290174	**Lab Sample ID:**	D9G300000-109B
Matrix:	WATER	**Lab WorkOrder:**	LG88D
% Moisture:		**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211109	**Date/Time Analyzed:**	08/05/09 04:42
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

Dissolved Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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.: D9G290174

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:

Dissolved Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.41	99.71	99.7	0.47	99.30	99.3
Selenium	0.0	100.0	-0.17	102.30	102.3	-0.41	99.29	99.3

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-11BDISS
Lot/SDG Number:	D9G290174	**MS Lab Sample ID:**	D9G290174-002S
Matrix:	WATER	**MS Lab WorkOrder:**	LG7WE
% Moisture:	N/A	**Date/Time Collected:**	07/27/09 09:15
Basis:	Wet	**Date/Time Received:**	07/29/09 09:00
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211109	**Date/Time Analyzed:**	08/05/09 04:57
MS Sample Aliquot:	50 mL	**Instrument ID:**	024
MS Dilution Factor:	5		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	190		242	MSB	126	N	85 - 117
Selenium	40.0	3.5	U	46.1		109		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-11BDISS
Lot/SDG Number:	D9G290174	**MSD Lab Sample ID:**	D9G290174-002D
Matrix:	WATER	**MSD Lab WorkOrder:**	LG7WE
% Moisture:	N/A	**Date/Time Collected:**	07/27/09 09:15
Basis:	Wet	**Date/Time Received:**	07/29/09 09:00
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211109	**Date/Time Analyzed:**	08/05/09 05:00
MSD Sample Aliquot:	50 mL	**Instrument ID:**	024
MSD Dilution Factor:	5		

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	190		239	MSB	118	N	1.2		85 - 117	20
Selenium	40.0	3.5	U	42.8		101		7.6		77 - 122	20

Dissolved Metals Analysis
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: M-11BDISS PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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	239.500		38.300		200.00	100.6		M
Selenium	75 - 125	205.800		0.700	U	200.00	102.9		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:	D9G290174	**Lab Sample ID:**	D9G300000-109C
Matrix:	WATER	**Lab WorkOrder:**	LG88D
% Moisture:	N/A	**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	07/31/09 07:30
QC Batch ID:	9211109	**Date/Time Analyzed:**	08/05/09 04:45
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	40.1	100		85 - 117
Selenium	40.0	40.3	101		77 - 122

Dissolved Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

M-11BDISS SER

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	38.300		38.600		0.8		M
Selenium	0.700	U	3.500	U			M

Comments: _____

TestAmerica

Dissolved Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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

Flame AA ID Number: _____

Furnace AA ID Number:

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

Comments: _____

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

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

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

Comments: _____

Form XII - IN

Dissolved Metals Analysis

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PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9G290174

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
M-11BDISS	7/31/2009	50.0	50.0
M-11BDISS MS	7/31/2009	50.0	50.0
M-11BDISS MSD	7/31/2009	50.0	50.0
M-11009BDISS	7/31/2009	50.0	50.0
MB9211109	7/31/2009	50.0	50.0
Check Sample	7/31/2009	50.0	50.0

Comments:

Dissolved Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9G290174

Instrument ID Number: Agilent 7500 Method: M

Start Date: 8/4/2009 End Date: 8/5/2009

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	17:30				X															X						
100 PPB	1.00	17:33				X															X						
ICV	1.00	17:35				X															X						
ICB	1.00	17:41				X															X						
RL STD	1.00	17:44				X															X						
ICSA	1.00	17:53				X															X						
ICSAB	1.00	17:56				X															X						
RINSE	1.00	17:59				X															X						
LR	1.00	18:02				X															X						
RINSE	1.00	18:05				X															X						
CCV	1.00	18:08				X															X						
CCB	1.00	18:10				X															X						
ALTLR	1.00	18:18				X															X						
RINSE	1.00	18:21				X															X						
CCV	1.00	18:24				X															X						
CCB	1.00	18:27				X															X						
CAL BLANK	1.00	21:44				X															X						
100 PPB	1.00	21:47				X															X						
CCV	1.00	21:50				X															X						
CCB	1.00	21:53				X															X						
ICSA	1.00	21:59				X															X						
ICSAB	1.00	22:02				X															X						
WASH	1.00	22:04				X															X						
CCV	1.00	22:07				X															X						
CCB	1.00	22:10				X															X						
CAL BLANK	1.00	04:28				X															X						
100 PPB	1.00	04:31				X															X						
CCV	1.00	04:34				X															X						
CCB	1.00	04:36				X															X						
MB9211109	1.00	04:42				X															X						
Check Sample	1.00	04:45				X															X						
M-11BDISS	5.00	04:48				X															X						
M-11BDISS SER	25.00	04:51				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.: D9G290174

Instrument ID Number: Agilent 7500 Method: M

Start Date: 8/4/2009 End Date: 8/5/2009

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-11BDISS PDS	1.00	04:54				X															X						
M-11BDISS MS	5.00	04:57				X															X						
M-11BDISS MSD	5.00	05:00				X															X						
M-11009BDISS	5.00	05:03				X															X						
CCV	1.00	05:06				X															X						
CCB	1.00	05:09				X															X						

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

2.3°C DL
7/29/09

CHAIN-OF-CUSTODY / Analytical Request Document

IR1

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

COC No. 2027.001.00342
Page: 1 of 1
Cooler # 1 of 1

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

Required Ship to Lab:		Required Project Information:		Required Invoice Information:					
Lab Name:	TestAmerica	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X	Rush	Mark One
Address:	4955 Yarrow Street	Project #	2027.001	Address:	PO Box 55	If Rush, Date due			
Arvada, CO 80002		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293	QC level Required: Standard	Special / EPA Stage 4 / Mark one
Lab PM:	Michael P. Phillips	City	Henderson	State	NV	Reimbursement project?	X	Non-reimbursement project?	Mark one
Phone/Fax:	303-736-0157	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com	NJ Reduced Deliverable Package?			
Lab PM email	michael.phillips@testamericainc.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only	MA MCP Cert?		CT RCP Cert?	Mark One
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below	Lab Project ID (lab use)			

Valid Matrix Codes

MATRIX		MATRIX	
DRINKING WATER	WP	WATER	W
GROUND WATER	WG	SURFACE WATER	WS
WASTE WATER	WW	WATER QC	WQ
FREE PRODUCT	LF	SLUDGE	SL
SOIL	SO	OIL RINSEATE	WH
OIL	SW	OTHER	OT
WIPE	AA	ANIMAL TISSUE	TA
AMBIENT AIR	AE		
SVE AIR	GS		
SOIL GAS			

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 Cell	EPA 8141A OPP Pest	Comments/Lab Sample I.D.
1	M-11B	WG	G	7/27/2009	9:15 AM	1	N			X						X		500 ml Plastic
2	M-11BDISS	WG	G	7/27/2009	9:15 AM	1	Y			X						X		500 ml Plastic
3	M-11009B	WG	G	7/27/2009	9:15 AM	1	N			X						X		500 ml Plastic
4	M-11009BDISS	WG	G	7/27/2009	9:15 AM	1	Y			X						X		500 ml Plastic
5																		
6																		
7	DMB 7-27-09																	
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
DANA BROWN, NGEM	7/27	14:00	GES	7/27	1400
GES	7/27	1600	CAS	7/27	1600
CAS	7/27	1600		7/28	16:00
via Fedex TA LV	7/28	16:00		7/29	0900

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

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

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana Brown
SIGNATURE of SAMPLER:
DATE Signed 7/27/09 Time: 14:00

Table of Contents

TestAmerica

TestAmerica Denver

Sample Receiving Checklist

Lot #: D9G290174 Date/Time Received: 7/29/09 0900

Company Name & Sampling Site: Normgate - TRONOX

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

Residual chlorine check required: ☐ ☐ ☐ ☐

Quote #: 830446

Special Instructions:

Time Zone:

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

Unpacking Checks:

Cooler #(s): _____ _____ _____ _____ _____ _____ _____ _____

Temperatures (°C): 2.3 _____ _____ _____ _____ _____ _____ _____

N/A	*Yes*	*No*		*Initials*
☐	☑	☐	1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.	RM
	☑	☐	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 # D9G290174

Login Checks:

Initials Lm.

N/A	*Yes*	*No*	Item
	X	☐	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.
X	☐	☐	20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
	X	☐	21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
☐	X	☐	22. Were special log in instructions read and followed?
X	☐	☐	23. Were AFCEE metals logged for refrigerated storage?
	X	☐	24. Were tests logged checked against the COC? Which samples were confirmed? All
X	☐	☐	25. Was a Rush form completed for quick TAT?
X	☐	☐	26. Was a Short Hold form completed for any short holds?
	☐	X	27. Were special archiving instructions indicated in the General Comments? If so, what were they?

____

Labeling and Storage Checks:

Initials [signature]

N/A	*Yes*	*No*	Item
X	☐	☐	28. Was the subcontract COC signed and sent with samples to bottle prep?
	X	☐	29. Were sample labels double-checked by a second person?
☐	X	☐	30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
	X	☐	31. Did the sample ID, Date, and Time from label match what was logged?
X	☐	☐	32. Were stickers for special archiving instructions affixed to each box? See #27
X	☐	☐	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).

\QA\Edit\FORMS\Sample Receiving\Sample Receiving Checklist 9-2-08

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: D9G290174

Client: Northgate Environmental

Batch(es) #: 9211109, 9211099

Associated Samples: 1-4

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

Signature/Date: 8/5/09

Metals Raw Data RoadMap

LotID		Metal	WorkOrder	Anal Date	TestDesc	Batch	File Id	Instr
D9G290174	1	SE	LG7V71AC	20090805	6020TOTA	9211099	AG080409	024
D9G290174	1	AS	LG7V71AA	20090805	6020TOTA	9211099	AG080409	024
D9G290174	2 D	SE	LG7WE1A	20090805	6020DSVD	9211109	AG080409	024
D9G290174	2	AS	LG7WE1A	20090805	6020DSVD	9211109	AG080409	024
D9G290174	2	SE	LG7WE1A	20090805	6020DSVD	9211109	AG080409	024
D9G290174	2 S	AS	LG7WE1A	20090805	6020DSVD	9211109	AG080409	024
D9G290174	2 D	AS	LG7WE1A	20090805	6020DSVD	9211109	AG080409	024
D9G290174	2 S	SE	LG7WE1A	20090805	6020DSVD	9211109	AG080409	024
D9G290174	3	SE	LG7WG1A	20090805	6020TOTA	9211099	AG080409	024
D9G290174	3 S	AS	LG7WG1A	20090805	6020TOTA	9211099	AG080409	024
D9G290174	3 D	AS	LG7WG1A	20090805	6020TOTA	9211099	AG080409	024
D9G290174	3 S	SE	LG7WG1A	20090805	6020TOTA	9211099	AG080409	024
D9G290174	3 D	SE	LG7WG1A	20090805	6020TOTA	9211099	AG080409	024
D9G290174	3	AS	LG7WG1A	20090805	6020TOTA	9211099	AG080409	024
D9G290174	4	SE	LG7WH1A	20090805	6020DSVD	9211109	AG080409	024
D9G290174	4	AS	LG7WH1A	20090805	6020DSVD	9211109	AG080409	024

METALS
PREPARATION LOGS
ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: **9211109**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: Katie Stoltz

Prep Date: 07/31/09
Due Date: 08/10/09

Lot	Work Order			Initial Weight/Volume
D9G300000 Water	**LG88D**	B	Due Date: SDG:	50 mL
D9G300000 Water	**LG88D**	C	Due Date: SDG:	50 mL
D9G290174 Water	**LG7WE** Dissolved		Due Date: 08/10/09 SDG:	50 mL
D9G290174 Water	**LG7WE** Dissolved	S	Due Date: 08/10/09 SDG:	50 mL
D9G290174 Water	**LG7WE** Dissolved	D	Due Date: 08/10/09 SDG:	50 mL
D9G290174 Water	**LG7WH** Dissolved		Due Date: 08/10/09 SDG:	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

VV checked 8/4/09

METALS PREP SHEET
SOP: DEN-IP-0014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Denver

DISSOLVED WATER DIGESTION FOR ICPMS (Prep code MD)

BATCH # 9211109 **ALLIQUOTTED BY:** JRW
PREP DATE: 7/31/2009 **DIGESTED BY:** KS

CONSUMABLES USED

Digestion Cups: **Manufacturer:** Environmental Express **Lot #:** A901LS267

Were samples filtered in the lab? ☐ Yes ☒ No

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

Analyst(s) Initials: KS

STANDARDS USED

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-3775-09	6/23/10	100uL	15
2008Cal-2	STD-2637-09	5/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO_3	JT Baker	H12022	2

TEMPERATURE CYCLES

Thermometer ID: 3967 Block & Cup # : 9; 32

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3/HCl	7:30	94	12:30	95

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

COMMENTS:

I certify that all information above is correct and complete.

Signature: Katie Dorr ***Date:*** 7-31-09

Batch Number: **9211099**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: Katie Stoltz

Prep Date: 07/31/09
Due Date: 08/10/09

Lot	Work Order			Initial Weight/Volume
D9G300000 Water	**LG87W**	B	Due Date: SDG:	50 mL
D9G300000 Water	**LG87W**	C	Due Date: SDG:	50 mL
D9G290174 Water	**LG7V7** Total		Due Date: 08/10/09 SDG:	50 mL
D9G290174 Water	**LG7WG** Total		Due Date: 08/10/09 SDG:	50 mL
D9G290174 Water	**LG7WG** Total	S	Due Date: 08/10/09 SDG:	50 mL
D9G290174 Water	**LG7WG** Total	D	Due Date: 08/10/09 SDG:	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 8/4/09

METALS PREP SHEET
SOP: DEN-IP-0014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Denver

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9211099 **ALLIQUOTTED BY:** JRW
PREP DATE: 7/31/2009 **DIGESTED BY:** KS

CONSUMABLES USED

Digestion Cups: **Manufacturer:** Environmental Express **Lot #:** A901LS267

One or more samples were filtered prior to analysis at the instrument. ☐ Yes ☒ No

If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.

Analyst(s) Initials: KS

STANDARDS USED

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-3775-09	6/23/10	100uL	15
2008Cal-2	STD-2637-09	5/1/10	100uL	15

REAGENTS USED

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO_3	JT Baker	H12022	3

TEMPERATURE CYCLES

Thermometer ID: 4082 Block & Cup # : 4; 2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	7:30	95	11:50	95
HNO3	12:00	95	12:30	95
HNO3				

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

COMMENTS:

I certify that all information above is correct and complete.

Signature: Katie Dorf ***Date:*** 7.31.09

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

Aug-04-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD4841-08, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

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

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

STD6653-08, 1000 Se

Analyst: trudelll

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

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

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

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 10.000
Date Prep./Opened: 06-16-2009
Date Expires(1): 10-01-2009 (1 Year)

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

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

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

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

STD4601-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 250.00
Date Prep./Opened: 08-03-2009
Date Expires(1): 11-10-2009 (1 Year)
Date Expires(2): 12-01-2009 (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.: STD6317-08, Scandium Stock Aliquot Amount (ml): 0.5000
Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

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

Parent Std No.: STD6318-08, Holmium Stock — Aliquot Amount (ml): 0.2500
Parent Date Expires(1): 11-10-2009 Parent Date Expires(2): 12-01-2009

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

STD4630-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water — Volume (ml): 1,000.0
Date Prep./Opened: 08-04-2009
Date Expires(1): 09-04-2009 (1 Month)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD4629-09, NITRIC ACID — Aliquot Amount (ml): 50.000

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

STD4631-09, ICP-MS HIGH CAL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 — Volume (ml): 100.00
Date Prep./Opened: 08-04-2009
Date Expires(1): 08-05-2009 (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

STD4632-09, ICP-MS HIGH CCV STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 100.00
Date Prep./Opened: 08-04-2009
Date Expires(1): 08-05-2009 (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

STD4633-09, ICP-MS HIGH RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 10.000

Date Prep./Opened: 08-04-2009

Date Expires(1): 08-05-2009 (1 Day)

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

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

Parent Std No.: STD4631-09, 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

STD4634-09, ICP-MS HIGH AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 10.000
Date Prep./Opened: 08-04-2009
Date Expires(1): 08-05-2009 (1 Day)

Parent Std No.: STD4633-09, ICP-MS HIGH 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
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

STD4635-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 50.000
Date Prep./Opened: 08-04-2009
Date Expires(1): 09-04-2009 (1 Month)
Date Expires(2): 08-01-2010 (None)
pipettes: Met 8

Parent Std No.: STD4542-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000
Parent Date Expires(1): 07-31-2010 Parent Date Expires(2): 08-01-2010

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

STD4636-09, ICP-MS HIGH ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 10.000
Date Prep./Opened: 08-04-2009
Date Expires(1): 08-05-2009 (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): 0.5000

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

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

STD4637-09, ICP-MS HIGH LR STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 10.000
Date Prep./Opened: 08-04-2009
Date Expires(1): 08-05-2009 (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

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

STD4638-09, ICP-MS HIGH ICV STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 50.000
Date Prep./Opened: 08-04-2009
Date Expires(1): 08-05-2009 (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

STD4639-09, LLCCV/RLICV Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 100.00
Date Prep./Opened: 08-04-2009
Date Expires(1): 08-05-2009 (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

STD4640-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 50.000
Date Prep./Opened: 08-04-2009
Date Expires(1): 08-05-2009 (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

STD4641-09, ALTLR

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H12022 Volume (ml): 100.00
Date Prep./Opened: 08-04-2009
Date Expires(1): 03-01-2010 (1 Year)
Ag/Cu 1000 ppb

Parent Std No.: STD0749-09, 1000 ppm Ag Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (ug/ml)	Final Conc (mg/L)
1000 ppm Ag	1,000.0	1.0000

Parent Std No.: STD2485-09, 1000 Cu Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 04-01-2010 Parent Date Expires(2): 04-01-2010

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

Reviewed By: LRD 08/04/2009

File
AG080409

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 08/05/09 11:09:30

File ID: AG080409 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	08/04/09 17:30		☐
4	100 ppb				1.0	08/04/09 17:33		☐
5	ICV				1.0	08/04/09 17:35		☐
6	RLIV				1.0	08/04/09 17:38		☐
7	ICB				1.0	08/04/09 17:41		☐
8	RL STD				1.0	08/04/09 17:44		☐
9	AFCEE RL				1.0	08/04/09 17:47		☐
10	ALTSe				1.0	08/04/09 17:50		☐
11	ICSA				1.0	08/04/09 17:53		☐
12	ICSAB				1.0	08/04/09 17:56		☐
13	RINSE				1.0	08/04/09 17:59		☐
14	LR				1.0	08/04/09 18:02		☐
15	RINSE				1.0	08/04/09 18:05		☐
16	CCV				1.0	08/04/09 18:08		☐
17	CCB				1.0	08/04/09 18:10		☐
18	RLCV				1.0	08/04/09 18:13		☐
19	ALTLR				1.0	08/04/09 18:18		☐
20	RINSE				1.0	08/04/09 18:21		☐
21	CCV				1.0	08/04/09 18:24		☐
22	CCB				1.0	08/04/09 18:27		☐
23	RLCV				1.0	08/04/09 18:30		☐
24	LG3K2 10X	F9G250110-1	9208086	MS	10.0	08/04/09 18:33		☐
25	CCV				1.0	08/04/09 18:35		☐
26	CCB				1.0	08/04/09 18:38		☐
27	RLCV				1.0	08/04/09 18:41		☐
28	~~LGV1JB~~	~~D9G220000~~	~~9203274~~	~~46~~	~~1.0~~	~~08/04/09 18:44~~		☐
29	LGV1JC	D9G220000	9203274	46	1.0	08/04/09 18:47		☐
30	LGT1N	~~D9G210319-13~~ D9G210319-13	9203274	U1	1.0	08/04/09 18:50		☐
31	~~LGT4V~~	~~D9G210319-14~~	~~9203274~~	~~U1~~	~~1.0~~	~~08/04/09 18:53~~	RT 8/5/09 Did not use.	☐
32	CCV				1.0	08/04/09 18:56		☐
33	CCB				1.0	08/04/09 18:59		☐
34	RLCV				1.0	08/04/09 19:02		☐
35	LGVDGB	D9G220000	9203121	MS	1.0	08/04/09 19:05		☐
36	LGVDGC	D9G220000	9203121	MS	1.0	08/04/09 19:08		☐
37	LGR1D 5X	D9G210208-1	9203121	MS	5.0	08/04/09 19:11		☐
38	LGR1DP25	D9G210208	9203121		25.0	08/04/09 19:14		☐
39	LGR1DZ	D9G210208-1	9203121		1.0	08/04/09 19:16		☐
40	LGR1DS 5X	D9G210208-1	9203121	MS	5.0	08/04/09 19:19		☐
41	CCV				1.0	08/04/09 19:22		☐
42	CCB				1.0	08/04/09 19:25		☐
43	RLCV				1.0	08/04/09 19:28		☐
44	LGR1DD 5X	D9G210208-1	9203121	MS	5.0	08/04/09 19:31		☐
45	LGR1M	D9G210208-2	9203121	MS	1.0	08/04/09 19:34		☐
46	LGR1P 2X	D9G210208-3	9203121	MS	2.0	08/04/09 19:37		☐
47	LGR1Q	D9G210208-4	9203121	MS	1.0	08/04/09 19:40		☐
48	LGR1T	D9G210208-5	9203121	MS	1.0	08/04/09 19:43		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 08/05/09 11:09:30

File ID: AG080409 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	CCV				1.0	08/04/09 19:46		☐
50	CCB				1.0	08/04/09 19:49		☐
51	RLCV				1.0	08/04/09 19:52		☐
52	LG4K3BF	D9G270000	9208158	MD	1.0	08/04/09 19:55		☐
53	LG4K3CF	D9G270000	9208158	MD	1.0	08/04/09 19:58		☐
54	LG22HF	D9G240290-1	9208158	MD	1.0	08/04/09 20:01		☐
55	LG29AF	D9G240311-1	9208158	MD	1.0	08/04/09 20:04		☐
56	LG29PF	D9G240311-2	9208158	MD	1.0	08/04/09 20:07		☐
57	LG29QF	D9G240311-3	9208158	MD	1.0	08/04/09 20:09		☐
58	LG29RF	D9G240311-4	9208158	MD	1.0	08/04/09 20:12		☐
59	LG29VF	D9G240311-5	9208158	MD	1.0	08/04/09 20:15		☐
60	LG29XF	D9G240311-6	9208158	MD	1.0	08/04/09 20:18		☐
61	LG290F	D9G240311-7	9208158	MD	1.0	08/04/09 20:21		☐
62	CCV				1.0	08/04/09 20:24		☐
63	CCB				1.0	08/04/09 20:27		☐
64	RLCV				1.0	08/04/09 20:30		☐
65	LG290P5F	D9G240311	9208158		5.0	08/04/09 20:33		☐
66	~~LG290ZF~~	~~D9G240311-7~~	~~9208158~~		~~1.0~~	~~08/04/09 20:36~~	W# 8/5/09 Did not use.	☐
67	LG290SF	D9G240311-7	9208158	MD	1.0	08/04/09 20:39		☐
68	LG290DF	D9G240311-7	9208158	MD	1.0	08/04/09 20:42		☐
69	LG292F	D9G240311-8	9208158	MD	1.0	08/04/09 20:45		☐
70	LG293F	D9G240311-9	9208158	MD	1.0	08/04/09 20:48		☐
71	LG294F	D9G240311-10	9208158	MD	1.0	08/04/09 20:51		☐
72	LG296F	D9G240311-11	9208158	MD	1.0	08/04/09 20:54		☐
73	CCV				1.0	08/04/09 20:57		☐
74	CCB				1.0	08/04/09 21:00		☐
75	RLCV				1.0	08/04/09 21:03		☐
76	~~LG290ZF~~	~~D9G240311-7~~	~~9208158~~		~~1.0~~	~~08/04/09 21:06~~		☐
77	LG298F	D9G240311-12	9208158	MD	1.0	08/04/09 21:09		☐
78	LG3ACF	D9G240311-13	9208158	MD	1.0	08/04/09 21:12		☐
79	CCV				1.0	08/04/09 21:15		☐
80	CCB				1.0	08/04/09 21:18		☐
81	RLCV				1.0	08/04/09 21:21		☐
82	RINSE				1.0	08/04/09 21:24		☐
83	RINSE				1.0	08/04/09 21:27		☐
84	RINSE				1.0	08/04/09 21:30		☐
85	RINSE				1.0	08/04/09 21:32		☐
86	RINSE				1.0	08/04/09 21:35		☐
87	RINSE				1.0	08/04/09 21:38		☐
88	~~Cal Blank~~				~~1.0~~	~~08/04/09 21:41~~	W# 8/5/09 Did not use.	☐
89	Cal Blank				1.0	08/04/09 21:44		☐
90	100 ppb				1.0	08/04/09 21:47		☐
91	CCV				1.0	08/04/09 21:50		☐
92	CCB				1.0	08/04/09 21:53		☐
93	RLCV				1.0	08/04/09 21:56		☐
94	ICSA				1.0	08/04/09 21:59		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 08/05/09 11:09:30

File ID: AG080409 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
95	ICSAB				1.0	08/04/09 22:02		☐
96	WASH				1.0	08/04/09 22:04		☐
97	CCV				1.0	08/04/09 22:07		☐
98	CCB				1.0	08/04/09 22:10		☐
99	RLCV				1.0	08/04/09 22:13		☐
100	LG290ZF	D9G240311-7	9208158		1.0	08/04/09 22:16		☐
101	LG298F	D9G240311-12	9208158	MD	1.0	08/04/09 22:19		☐
102	LG3ACF	D9G240311-13	9208158	MD	1.0	08/04/09 22:22		☐
103	CCV				1.0	08/04/09 22:25		☐
104	CCB				1.0	08/04/09 22:28		☐
105	RLCV				1.0	08/04/09 22:31		☐
106	LG6WKB	D9G270000	9208088	MS	1.0	08/04/09 22:34		☐
107	LG6WKC	D9G270000	9208088	MS	1.0	08/04/09 22:37		☐
108	LG282 5X	D9G240312-1	9208088	MS	5.0	08/04/09 22:40		☐
109	LG282P25	D9G240312	9208088		25.0	08/04/09 22:43		☐
110	LG282Z	D9G240312-1	9208088		1.0	08/04/09 22:46		☐
111	LG282S 5X	D9G240312-1	9208088	MS	5.0	08/04/09 22:49		☐
112	LG282D 5X	D9G240312-1	9208088	MS	5.0	08/04/09 22:51		☐
113	LG3WE 5X	D9G250146-1	9208088	MS	5.0	08/04/09 22:54		☐
114	LG3W9 5X	D9G250155-1	9208088	MS	5.0	08/04/09 22:57		☐
115	LG3XG 5X	D9G250157-1	9208088	MS	5.0	08/04/09 23:00		☐
116	CCV				1.0	08/04/09 23:03		☐
117	CCB				1.0	08/04/09 23:06		☐
118	RLCV				1.0	08/04/09 23:09		☐
119	LG15XB	D9G240000	9205339	MS	1.0	08/04/09 23:12		☐
120	LG15XC	D9G240000	9205339	MS	1.0	08/04/09 23:15		☐
121	LGWWE	D9G220274-1	9205339	MS	1.0	08/04/09 23:18		☐
122	LGWWEP5	D9G220274	9205339		5.0	08/04/09 23:21		☐
123	LGWWEZ	D9G220274-1	9205339		1.0	08/04/09 23:24		☐
124	LGWWES	D9G220274-1	9205339	MS	1.0	08/04/09 23:27		☐
125	LGWWED	D9G220274-1	9205339	MS	1.0	08/04/09 23:30		☐
126	CCV				1.0	08/04/09 23:33		☐
127	CCB				1.0	08/04/09 23:37		☐
128	RLCV				1.0	08/04/09 23:40		☐
129	LG4LKBF	D9G270000	9208171	MD	1.0	08/04/09 23:43		☐
130	LG4LKCF	D9G270000	9208171	MD	1.0	08/04/09 23:46		☐
131	LG17CF	D9G240170-1	9208171	MD	1.0	08/04/09 23:49		☐
132	LG17CP5F	D9G240170	9208171		5.0	08/04/09 23:52		☐
133	LG17CZF	D9G240170-1	9208171		1.0	08/04/09 23:55		☐
134	LG17CSF	D9G240170-1	9208171	MD	1.0	08/04/09 23:57		☐
135	LG17CDF	D9G240170-1	9208171	MD	1.0	08/05/09 00:00		☐
136	CCV				1.0	08/05/09 00:03		☐
137	CCB				1.0	08/05/09 00:06		☐
138	RLCV				1.0	08/05/09 00:09		☐
139	LG1WEB	D9G240000	9205275	MS	1.0	08/05/09 00:12		☐
140	LG1WEC	D9G240000	9205275	MS	1.0	08/05/09 00:15		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 08/05/09 11:09:30

File ID: AG080409 **Analyst: TEL**

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	LG1WEL	D9G240000	9205275	MS	1.0	08/05/09 00:18		☐
142	LGW51	D9G220290-15	9205275	U2	1.0	08/05/09 00:21		☐
143	LGW51P5	D9G220290	9205275		5.0	08/05/09 00:24		☐
144	LGW51Z	D9G220290-15	9205275		1.0	08/05/09 00:27		☐
145	CCV			MS	1.0	08/05/09 00:30		☐
146	CCB			Dilution	1.0	08/05/09 00:33		☐
147	RLCV				1.0	08/05/09 00:36		☐
148	LG1T7B	D9G240000	9205253	46	1.0	08/05/09 00:39		☐
149	LG1T7C	D9G240000	9205253	46	1.0	08/05/09 00:42		☐
150	LGW5C	D9G220290-5	9205253	U1	1.0	08/05/09 00:45		☐
151	LGW5G	D9G220290-6	9205253	U1	1.0	08/05/09 00:48		☐
152	LGW5GP5	D9G220290	9205253		5.0	08/05/09 00:51		☐
153	LGW5GZ	D9G220290-6	9205253		1.0	08/05/09 00:54		☐
154	LGW5GS	D9G220290-6	9205253	U1	1.0	08/05/09 00:57		☐
155	LGW5GD	D9G220290-6	9205253	U1	1.0	08/05/09 01:00		☐
156	LGW5L	D9G220290-7	9205253	U1	1.0	08/05/09 01:03		☐
157	LGW5P	D9G220290-8	9205253	U1	1.0	08/05/09 01:06		☐
158	CCV			46	1.0	08/05/09 01:09		☐
159	CCB			Dilution	1.0	08/05/09 01:12		☐
160	RLCV			46	1.0	08/05/09 01:15		☐
161	LGW5Q	D9G220290-9	9205253	U1	1.0	08/05/09 01:17		☐
162	LGW5R	D9G220290-10	9205253	U1	1.0	08/05/09 01:20		☐
163	LGW5T	D9G220290-11	9205253	U1	1.0	08/05/09 01:23		☐
164	LGW5W	D9G220290-12	9205253	U1	1.0	08/05/09 01:26		☐
165	LGW5X	D9G220290-13	9205253	U1	1.0	08/05/09 01:29		☐
166	LG09D	D9G220290-17	9205253	U1	1.0	08/05/09 01:32		☐
167	LG09F	D9G220290-18	9205253	U1	1.0	08/05/09 01:35		☐
168	LG09G	D9G220290-19	9205253	U1	1.0	08/05/09 01:38		☐
169	LG09H	D9G220290-20	9205253	U1	1.0	08/05/09 01:41		☐
170	CCV			46	1.0	08/05/09 01:44		☐
171	CCB			Dilution	1.0	08/05/09 01:47		☐
172	RLCV				1.0	08/05/09 01:50		☐
173	LG11QB	D9G240000	9205302	46	1.0	08/05/09 01:53		☐
174	LG11QC	D9G240000	9205302	46	1.0	08/05/09 01:56		☐
175	LGWNR	D9G220249-1	9205302	46	1.0	08/05/09 01:59		☐
176	LGWNRP5	D9G220249	9205302		5.0	08/05/09 02:02		☐
177	LGWNRZ	D9G220249-1	9205302		1.0	08/05/09 02:05		☐
178	LGWNRS	D9G220249-1	9205302	46	1.0	08/05/09 02:07		☐
179	LGWNRD	D9G220249-1	9205302	46	1.0	08/05/09 02:10		☐
180	LGWPD	D9G220249-2	9205302	46	1.0	08/05/09 02:13		☐
181	CCV				1.0	08/05/09 02:16		☐
182	CCB				1.0	08/05/09 02:19		☐
183	RLCV				1.0	08/05/09 02:22		☐
184	LGWPG	D9G220249-3	9205302	46	1.0	08/05/09 02:25		☐
185	LGWPH	D9G220249-4	9205302	46	1.0	08/05/09 02:28		☐
186	LGWPK	D9G220249-5	9205302	46	1.0	08/05/09 02:31		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 08/05/09 11:09:30

File ID: AG080409 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
187	LGWPL	D9G220249-6	9205302	46	1.0	08/05/09 02:34		☐
188	LGWPN	D9G220249-7	9205302	46	1.0	08/05/09 02:37		☐
189	LGWPQ	D9G220249-8	9205302	46	1.0	08/05/09 02:39		☐
190	LGWPT	D9G220249-9	9205302	46	1.0	08/05/09 02:42		☐
191	CCV				1.0	08/05/09 02:45		☐
192	CCB				1.0	08/05/09 02:48		☐
193	RLCV				1.0	08/05/09 02:51		☐
194	~~LG6MMB~~	~~D9G280000~~	~~9209279~~	~~46~~	~~1.0~~	~~08/05/09 02:54~~		☐
195	LG6MMC	D9G280000	9209279	46	1.0	08/05/09 02:57		☐
196	LG22V	D9G240291-1	9209279	46	1.0	08/05/09 03:00		☐
197	LG22W	D9G240291-2	9209279	46	1.0	08/05/09 03:03		☐
198	LG22X	D9G240291-3	9209279	46	1.0	08/05/09 03:06		☐
199	LG22XP5	D9G240291	9209279		5.0	08/05/09 03:09		☐
200	LG22XZ	D9G240291-3	9209279		1.0	08/05/09 03:12		☐
201	LG22XS	D9G240291-3	9209279	46	1.0	08/05/09 03:15		☐
202	LG22XD	D9G240291-3	9209279	46	1.0	08/05/09 03:17		☐
203	LG220	D9G240291-4	9209279	46	1.0	08/05/09 03:20		☐
204	CCV				1.0	08/05/09 03:23		☐
205	CCB				1.0	08/05/09 03:26		☐
206	RLCV				1.0	08/05/09 03:29		☐
207	LG221	D9G240291-5	9209279	46	1.0	08/05/09 03:32		☐
208	LG222	D9G240291-6	9209279	46	1.0	08/05/09 03:35		☐
209	LG223	D9G240291-7	9209279	46	1.0	08/05/09 03:38		☐
210	LG23A	D9G240291-8	9209279	46	1.0	08/05/09 03:41		☐
211	LG23D	D9G240291-9	9209279	46	1.0	08/05/09 03:44		☐
212	LG23E	D9G240291-10	9209279	46	1.0	08/05/09 03:47		☐
213	LG23F	D9G240291-11	9209279	46	1.0	08/05/09 03:50		☐
214	LG23H	D9G240291-12	9209279	46	1.0	08/05/09 03:53		☐
215	LG23J	D9G240291-13	9209279	46	1.0	08/05/09 03:56		☐
216	CCV				1.0	08/05/09 03:59		☐
217	CCB				1.0	08/05/09 04:01		☐
218	RLCV				1.0	08/05/09 04:04		☐
219	RINSE				1.0	08/05/09 04:07		☐
220	RINSE				1.0	08/05/09 04:10		☐
221	RINSE				1.0	08/05/09 04:13		☐
222	RINSE				1.0	08/05/09 04:16		☐
223	RINSE				1.0	08/05/09 04:19		☐
224	RINSE				1.0	08/05/09 04:22		☐
225	~~Cal Blank~~				~~1.0~~	~~08/05/09 04:25~~	KF 8/5/09 Did not use.	☐
226	Cal Blank				1.0	08/05/09 04:28		☐
227	100 ppb				1.0	08/05/09 04:31		☐
228	CCV				1.0	08/05/09 04:34		☐
229	CCB				1.0	08/05/09 04:36		☐
230	RLCV				1.0	08/05/09 04:39		☐
231	LG88DBF	D9G300000	9211109	MD	1.0	08/05/09 04:42		☐
232	LG88DCF	D9G300000	9211109	MD	1.0	08/05/09 04:45		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 08/05/09 11:09:30

File ID: AG080409 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
233	LG7WEF 5X	D9G290174-2	9211109	MD	5.0	08/05/09 04:48		☐
234	LG7WEP25F	D9G290174	9211109		25.0	08/05/09 04:51		☐
235	LG7WEZF	D9G290174-2	9211109		1.0	08/05/09 04:54		☐
236	LG7WESF 5X	D9G290174-2	9211109	MD	5.0	08/05/09 04:57		☐
237	LG7WEDF 5X	D9G290174-2	9211109	MD	5.0	08/05/09 05:00		☐
238	LG7WHF 5X	D9G290174-4	9211109	MD	5.0	08/05/09 05:03		☐
239	CCV				1.0	08/05/09 05:06		☐
240	CCB				1.0	08/05/09 05:09		☐
241	RLCV				1.0	08/05/09 05:12		☐
242	LG87WB	D9G300000	9211099	MS	1.0	08/05/09 05:15		☐
243	LG87WC	D9G300000	9211099	MS	1.0	08/05/09 05:18		☐
244	LG7V7 5X	D9G290174-1	9211099	MS	5.0	08/05/09 05:21		☐
245	LG7WG 5X	D9G290174-3	9211099	MS	5.0	08/05/09 05:24		☐
246	LG7WGP25	D9G290174	9211099		25.0	08/05/09 05:27		☐
247	LG7WGZ	D9G290174-3	9211099		1.0	08/05/09 05:30		☐
248	LG7WGS 5X	D9G290174-3	9211099	MS	5.0	08/05/09 05:33		☐
249	LG7WGD 5X	D9G290174-3	9211099	MS	5.0	08/05/09 05:36		☐
250	CCV				1.0	08/05/09 05:39		☐
251	CCB				1.0	08/05/09 05:42		☐
252	RLCV				1.0	08/05/09 05:45		☐
253	~~RINSE~~				~~1.0~~	~~08/05/09 05:48~~		☐
254	RINSE				1.0	~~08/05/09~~ 05:51		☐
255	RINSE				1.0	08/05/09 05:54		☐
256	RINSE				1.0	08/05/09 05:57		☐
257	RINSE				1.0	08/05/09 06:00		☐
258	RINSE				1.0	08/05/09 06:03		☐
259	~~Cal Blank~~				~~1.0~~	~~08/05/09 06:05~~	rvt 8/5/09	☐
260	Cal Blank				1.0	08/05/09 06:08		☐
261	100 ppb				1.0	08/05/09 06:11		☐
262	CCV				1.0	08/05/09 06:14		☐
263	CCB				1.0	08/05/09 06:17		☐
264	RLCV				1.0	08/05/09 06:20		☐
265	LHCJRB	D9G310000	9212184	MS	1.0	08/05/09 06:23		☐
266	LHCJRC	D9G310000	9212184	MS	1.0	08/05/09 06:26		☐
267	LG9VV 10X	F9G300205-1	9212184	MS	10.0	08/05/09 06:29		☐
268	LG9V2 10X	F9G300205-2	9212184	MS	10.0	08/05/09 06:32		☐
269	LG9V2P50	F9G300205	9212184		50.0	08/05/09 06:35		☐
270	LG9V2Z	F9G300205-2	9212184		1.0	08/05/09 06:38		☐
271	LG9V2S 10X	F9G300205-2	9212184	MS	10.0	08/05/09 06:41		☐
272	LG9V2D 10X	F9G300205-2	9212184	MS	10.0	08/05/09 06:43		☐
273	CCV				1.0	08/05/09 06:46		☐
274	CCB				1.0	08/05/09 06:49		☐
275	RLCV				1.0	08/05/09 06:52		☐
276	LG87PB	D9G300000	9211097	MS	1.0	08/05/09 06:55		☐
277	LG87PC	D9G300000	9211097	MS	1.0	08/05/09 06:58		☐
278	LG7WR 10X	F9G290178-1	9211097	MS	10.0	08/05/09 07:01		☐

Denver

RUN SUMMARY

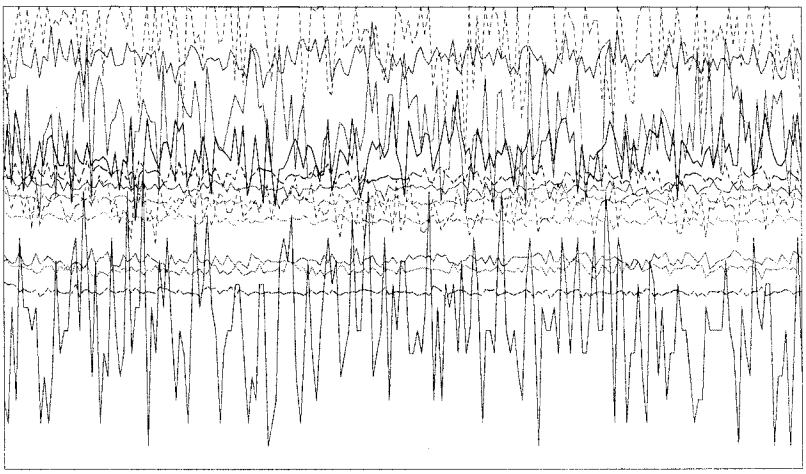
Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 08/05/09 11:09:30

File ID: AG080409 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
279	LG7XN 10X	F9G290178-2	9211097	MS	10.0	08/05/09 07:04		☐
280	LG7XNP50	F9G290178	9211097		50.0	08/05/09 07:07		☐
281	LG7XNZ	F9G290178-2	9211097		1.0	08/05/09 07:10		☐
282	LG7XNS 10X	F9G290178-2	9211097	MS	10.0	08/05/09 07:13		☐
283	LG7XND 10X	F9G290178-2	9211097	MS	10.0	08/05/09 07:16		☐
284	CCV				1.0	08/05/09 07:19		☐
285	CCB				1.0	08/05/09 07:22		☐
286	RLCV				1.0	08/05/09 07:25		☐
287	LHE9QB	D9H030000	9215113	MS	1.0	08/05/09 07:28		☐
288	LHE9QC	D9H030000	9215113	MS	1.0	08/05/09 07:31		☐
289	LHC91 10X	F9G310218-1	9215113	MS	10.0	08/05/09 07:34		☐
290	LHC99 10X	F9G310218-2	9215113	MS	10.0	08/05/09 07:37	Take all but Ni, VT 8/5/09	☐
291	LHC99P50	F9G310218	9215113		50.0	08/05/09 07:39		☐
292	LHC99Z	F9G310218-2	9215113		1.0	08/05/09 07:42		☐
293	LHC99S 10X	F9G310218-2	9215113	MS	10.0	08/05/09 07:45		☐
294	LHC99D 10X	F9G310218-2	9215113	MS	10.0	08/05/09 07:48		☐
295	CCV				1.0	08/05/09 07:51		☐
296	CCB				1.0	08/05/09 07:54		☐
297	RLCV				1.0	08/05/09 07:57		☐
298	RINSE				1.0	08/05/09 08:00		☐
299	RINSE				1.0	08/05/09 08:03		☐
300	RINSE				1.0	08/05/09 08:06		☐
301	RINSE				1.0	08/05/09 08:09		☐
302	RINSE				1.0	08/05/09 08:12		☐
303	RINSE				1.0	08/05/09 08:15		☐
304	RINSE				1.0	08/05/09 08:18		☐
305	RINSE				1.0	08/05/09 08:21		☐
306	RINSE				1.0	08/05/09 08:23		☐
307	RINSE				1.0	08/05/09 08:26		☐
308	Cal Blank				1.0	08/05/09 08:29	VT 8/5/09	☐
309	Cal Blank				1.0	08/05/09 08:32		☐
310	100 ppb				1.0	08/05/09 08:35		☐
311	CCV				1.0	08/05/09 08:38		☐
312	CCB				1.0	08/05/09 08:41		☐
313	ICSA				1.0	08/05/09 08:44		☐
314	ICSAB				1.0	08/05/09 08:47		☐
315	WASH				1.0	08/05/09 08:50		☐
316	CCV				1.0	08/05/09 08:53		☐
317	CCB				1.0	08/05/09 08:56		☐
318	RLCV				1.0	08/05/09 08:59		☐

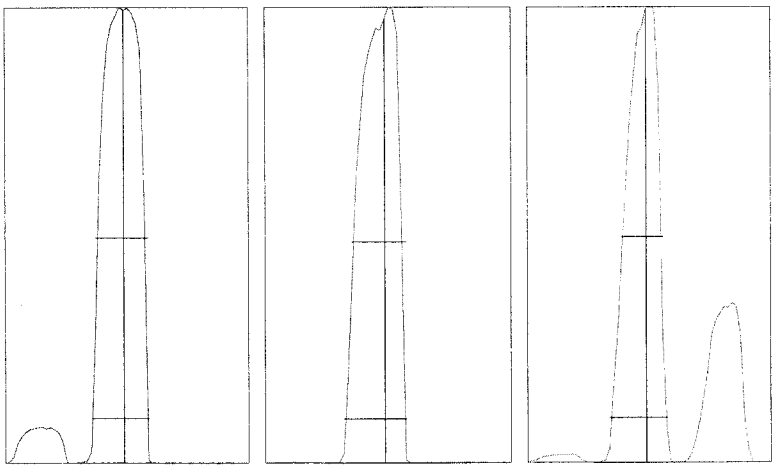
Tune Report

Tune File : NORM.U
Comment :



Integration Time:	0.1000 sec	
Sampling Period:	1.5300 sec	
n:	200	
Oxide:	156/140	1.169%
Doubly Charged:	70/140	1.090%

m/z	Range	Count	Mean	RSD%	Background
6	2,000	1762.0	1770.4	2.89	1.00
7	50,000	22681.0	22607.5	2.18	1.40
59	50,000	21258.0	21558.9	1.96	1.40
63	100	64.0	73.9	11.46	0.70
70	500	336.0	342.4	6.97	1.40
75	20	4.0	6.2	43.21	1.40
78	500	310.0	285.3	6.14	1.70
89	50,000	28955.0	29103.9	1.37	1.90
115	50,000	26852.0	26978.9	1.37	2.90
118	100	77.0	95.0	10.36	2.30
137	5,000	3035.0	3179.7	2.17	2.80
205	50,000	19156.0	19138.5	1.52	4.60
238	50,000	29560.0	30445.9	1.47	5.00
156/140	2	1.265%	1.209%	7.03	
70/140	2	1.215%	1.221%	7.10	



m/z:	7	89	205
Height:	22,611	29,043	19,439
Axis:	7.00	89.00	205.00
W-50%:	0.65	0.65	0.50
W-10%:	0.700	0.7500	0.700

Integration Time:	0.1000 sec
Acquisition Time:	22.7600 sec

Y axis : Linear

Generated : Aug 04, 2009 17:00:36
Printed : Aug 04, 2009 17:00:39

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

===Plasma Condition===				===Ion Lenses===				===Q-Pole Parameters===			
RF Power	:	1550	W	Extract 1	:	0	V	AMU Gain	:	132	
RF Matching	:	1.7	V	Extract 2	:	-165	V	AMU Offset	:	123	
Smpl Depth	:	7.5	mm	Omega Bias-ce	:	-34	V	Axis Gain	:	1.0006	
Torch-H	:	-0.8	mm	Omega Lens-ce	:	1	V	Axis Offset	:	-0.04	
Torch-V	:	-0.3	mm	Cell Entrance	:	-30	V	QP Bias	:	-1	V
Carrier Gas	:	0.85	L/min	QP Focus	:	7	V				
Makeup Gas	:	0.21	L/min	Cell Exit	:	-30	V	===Detector Parameters===			
Optional Gas	:	---	%					Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Parameters===				Analog HV	:	1720	V
Sample Pump	:	---	rps	OctP RF	:	180	V	Pulse HV	:	1390	V
S/C Temp	:	2	degC	OctP Bias	:	-18	V				

===Reaction Cell===

Reaction Mode	:	OFF									
H2 Gas	:	0	mL/min	He Gas	:	0	mL/min	Optional Gas	:	---	%

Generated : Aug 04, 2009 17:00:36
Printed : Aug 04, 2009 17:00:42

P/A Factor Tuning Report

Acquired:Aug 4 2009 05:13 pm

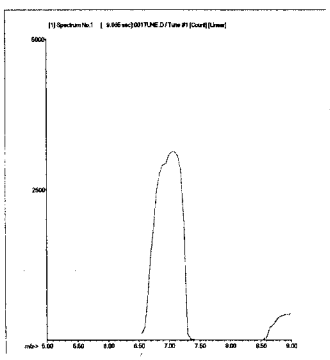
Mass[amu]	Element	P/A Factor
6	Li	0.060147
7	(Li)	Sensitivity too low
9	Be	0.067111
23	Na	Sensitivity too high
24	Mg	0.077089
27	Al	0.079051
39	K	0.078558
43	Ca	Sensitivity too low
45	Sc	0.079466
51	V	0.080963
52	Cr	0.082954
53	(Cr)	Sensitivity too low
55	Mn	0.084227
57	Fe	Sensitivity too low
59	Co	0.086953
60	Ni	0.088018
63	Cu	0.089512
66	Zn	0.089262
72	Ge	0.088835
75	As	0.088157
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	0.090186
98	(Mo)	0.089393
99	(Mo)	0.090406
105	Pd	0.092756
106	(Cd)	0.092519
107	Ag	Sensitivity too low
108	(Cd)	0.093276
111	Cd	0.093414
115	In	0.092399
118	Sn	0.092636
121	Sb	0.092353
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.099000
206	(Pb)	0.097831
207	(Pb)	0.097860
208	Pb	0.096584
232	Th	0.095898
238	U	0.095933

===Detector Parameters===
Discriminator: 8.0 mV
Analog HV: 1720 V
Pulse HV: 1390 V

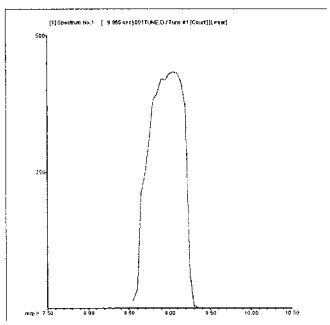
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\001TUNE.D
Date Acquired: Aug 4 2009 05:24 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	32565	32856	32489	32705	32484	32292	0.67	5.00	
9 Be	4574	4521	4647	4677	4498	4526	1.78	5.00	
24 Mg	31269	31441	31461	31505	31231	30708	1.06	5.00	
59 Co	144228	146798	144211	144312	143571	142246	1.15	5.00	
115 In	2098342	2107510	2092543	2104305	2092847	2094507	0.34	5.00	
208 Pb	95432	97057	96600	94637	93872	94994	1.41	5.00	
238 U	187490	191136	188199	187726	186228	184161	1.37	5.00	

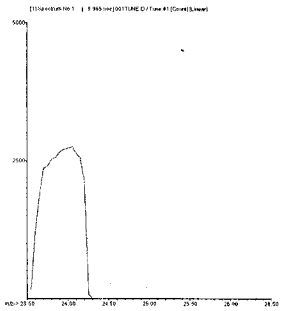


7 Li
Mass Calib.
Actual: 7.05
Required: 6.90 - 7.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



9 Be
Mass Calib.
Actual: 9.00
Required: 8.90 - 9.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:

C:\ICPCHEM\1\DATA\AG080409.B\001TUNE.D



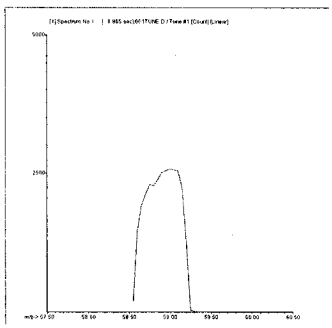
24 Mg

Mass Calib.

Actual:	24.00		
Required:	23.90	-	24.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



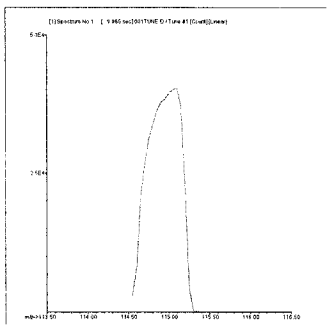
59 Co

Mass Calib.

Actual:	59.00		
Required:	58.90	-	59.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



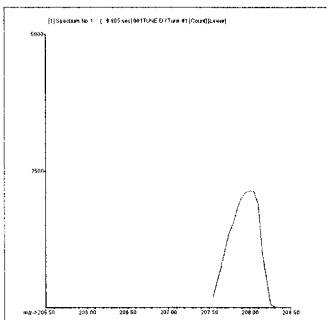
115 In

Mass Calib.

Actual:	115.00		
Required:	114.90	-	115.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



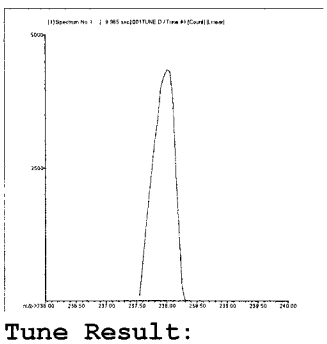
208 Pb

Mass Calib.

Actual:	208.00		
Required:	207.90	-	208.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			



238 U

Mass Calib.

Actual:	238.00		
Required:	237.90	-	238.10
Flag:			

Peak Width

Actual:	0.60		
Required:	0.90		
Flag:			

Tune Result: Pass

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\002CALB.D\002CALB.D#
Date Acquired: Aug 4 2009 05:27 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: Aug 04 2009 05:28 pm
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
23	Na	6	1	175862	1.16
24	Mg	6	1	3447	4.51
27	Al	45	1	2637	8.79
39	K	45	1	337918	1.38
43	Ca	45	1	107	5.41
51	V	72	1	-201	182.83
52	Cr	72	1	4144	5.82
55	Mn	72	1	760	4.74
57	Fe	72	1	737	10.01
59	Co	72	1	147	31.49
60	Ni	72	1	153	15.06
63	Cu	72	1	757	12.70
66	Zn	72	1	450	6.17
75	As	72	1	114	23.01
78	Se	72	1	947	10.58
93	Nb	72	1	3637	24.76
95	Mo	72	1	160	16.54
105	Pd	115	1	20	50.00
107	Ag	115	1	17	69.28
111	Cd	115	1	13	25.00
118	Sn	115	1	1173	15.35
121	Sb	115	1	43	35.25
137	Ba	115	1	30	29.40
182	W	165	1	1303	12.66
195	Pt	165	1	223	6.84
205	Tl	165	1	301	10.05
208	Pb	165	1	313	8.31
232	Th	165	1	1944	4.16
238	U	165	1	130	7.69

DG 8/5/09

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	618846	1.88
45	Sc	1	3302218	1.48
72	Ge	1	1483166	1.36
115	In	1	3715428	1.24
165	Ho	1	5532110	0.42

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\AG080409.B\003CALB.D\003CALB.D#
Date Acquired: Aug 4 2009 05:30 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: Aug 04 2009 05:28 pm
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
23	Na	6	1	166622	0.74
24	Mg	6	1	3697	3.20
27	Al	45	1	4071	3.47
39	K	45	1	344043	1.26
43	Ca	45	1	97	33.25
51	V	72	1	121	374.09
52	Cr	72	1	4394	1.17
55	Mn	72	1	797	3.16
57	Fe	72	1	670	11.66
59	Co	72	1	117	19.80
60	Ni	72	1	160	34.80
63	Cu	72	1	813	5.54
66	Zn	72	1	587	5.99
75	As	72	1	115	26.09
78	Se	72	1	937	3.26
93	Nb	72	1	3197	21.29
95	Mo	72	1	70	14.29
105	Pd	115	1	23	137.77
107	Ag	115	1	3	173.21
111	Cd	115	1	14	35.25
118	Sn	115	1	1730	6.67
121	Sb	115	1	52	13.29
137	Ba	115	1	23	14.29
182	W	165	1	1340	8.41
195	Pt	165	1	177	6.54
205	Tl	165	1	319	6.72
208	Pb	165	1	307	22.06
232	Th	165	1	1367	4.03
238	U	165	1	59	22.88

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	613401	0.88
45	Sc	1	3328415	0.44
72	Ge	1	1482070	1.07
115	In	1	3719636	0.55
165	Ho	1	5558876	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\AG080409.B\004ICAL.D\004ICAL.D#
Date Acquired: Aug 4 2009 05:33 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: Aug 04 2009 05:31 pm
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	78880	1.03
23	Na	6	1	67854280	0.78
24	Mg	6	1	41046008	0.44
27	Al	45	1	36514528	1.31
39	K	45	1	62484832	0.32
43	Ca	45	1	154713	0.88
51	V	72	1	1748494	1.28
52	Cr	72	1	1712193	0.90
55	Mn	72	1	1838240	0.92
57	Fe	72	1	4331625	1.05
59	Co	72	1	2170643	0.67
60	Ni	72	1	494898	1.03
63	Cu	72	1	1147761	0.20
66	Zn	72	1	229614	0.57
75	As	72	1	199756	0.44
78	Se	72	1	35396	1.68
93	Nb	72	1	5397792	1.07
95	Mo	72	1	533263	0.26
105	Pd	115	1	657524	0.37
107	Ag	115	1	1430733	0.49
111	Cd	115	1	277412	0.99
118	Sn	115	1	778149	0.58
121	Sb	115	1	861506	0.48
137	Ba	115	1	372202	0.66
182	W	165	1	1191344	0.33
195	Pt	165	1	789081	0.96
205	Tl	165	1	2466925	0.69
208	Pb	165	1	3353142	0.67
232	Th	165	1	3430275	0.56
238	U	165	1	3566405	0.75

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	588239	1.72	613401	95.9	30 - 120	
45	Sc	1	3162866	0.88	3328415	95.0	30 - 120	
72	Ge	1	1416296	0.34	1482070	95.6	30 - 120	
115	In	1	3510265	0.79	3719636	94.4	30 - 120	
165	Ho	1	5280186	0.81	5558876	95.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.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\AG080409.B\005_ICV.D\005_ICV.D#
Date Acquired: Aug 4 2009 05:35 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: Aug 04 2009 05:33 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	39.40	ppb	3.97	40	98.5	90 - 110	
23 Na	6	1	3950.00	ppb	2.48	4000	98.8	90 - 110	
24 Mg	6	1	3979.00	ppb	1.98	4000	99.5	90 - 110	
27 Al	45	1	3968.00	ppb	1.67	4000	99.2	90 - 110	
39 K	45	1	4029.00	ppb	0.72	4000	100.7	90 - 110	
43 Ca	45	1	3997.00	ppb	1.16	4000	99.9	90 - 110	
51 V	72	1	40.20	ppb	0.92	40	100.5	90 - 110	
52 Cr	72	1	41.10	ppb	0.10	40	102.8	90 - 110	
55 Mn	72	1	40.85	ppb	0.51	40	102.1	90 - 110	
57 Fe	72	1	4190.00	ppb	1.61	4000	104.8	90 - 110	
59 Co	72	1	41.09	ppb	0.15	40	102.7	90 - 110	
60 Ni	72	1	40.89	ppb	0.89	40	102.2	90 - 110	
63 Cu	72	1	41.36	ppb	0.63	40	103.4	90 - 110	
66 Zn	72	1	41.01	ppb	0.78	40	102.5	90 - 110	
75 As	72	1	40.04	ppb	0.20	40	100.1	90 - 110	
78 Se	72	1	39.46	ppb	2.44	40	98.7	90 - 110	
93 Nb	72	1	72.30	ppb	1.68	80	90.4	90 - 110	
95 Mo	72	1	39.75	ppb	1.13	40	99.4	90 - 110	
105 Pd	115	1	40.44	ppb	1.10	40	101.1	90 - 110	
107 Ag	115	1	40.54	ppb	0.71	40	101.4	90 - 110	
111 Cd	115	1	40.13	ppb	0.47	40	100.3	90 - 110	
118 Sn	115	1	39.09	ppb	0.80	40	97.7	90 - 110	
121 Sb	115	1	39.36	ppb	0.94	40	98.4	90 - 110	
137 Ba	115	1	39.55	ppb	0.22	40	98.9	90 - 110	
182 W	165	1	38.57	ppb	1.18	40	96.4	90 - 110	
195 Pt	165	1	40.34	ppb	1.39	40	100.9	90 - 110	
205 Tl	165	1	41.02	ppb	1.39	40	102.6	90 - 110	
208 Pb	165	1	41.38	ppb	1.58	40	103.5	90 - 110	
232 Th	165	1	39.49	ppb	1.51	40	98.7	90 - 110	
238 U	165	1	41.04	ppb	1.42	40	102.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	608297	1.81	613401	99.2	30 - 120	
45 Sc	1	3229901	1.42	3328415	97.0	30 - 120	
72 Ge	1	1429725	0.13	1482070	96.5	30 - 120	
115 In	1	3601357	0.78	3719636	96.8	30 - 120	
165 Ho	1	5341696	0.77	5558876	96.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.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\AG080409.B\006WASH.D\006WASH.D#
Date Acquired: Aug 4 2009 05:38 pm
Operator: TEL
Sample Name: RLIV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 04 2009 05:33 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	0.917 ppb	15.50	1.30	
23 Na	6	1	47.850 ppb	1.97	65.00	
24 Mg	6	1	54.700 ppb	1.46	65.00	
27 Al	45	1	34.050 ppb	1.40	39.00	
39 K	45	1	107.500 ppb	1.30	130.00	
43 Ca	45	1	51.170 ppb	15.57	65.00	
51 V	72	1	5.100 ppb	1.78	6.50	
52 Cr	72	1	2.130 ppb	3.03	2.60	
55 Mn	72	1	1.061 ppb	1.73	1.30	
57 Fe	72	1	54.690 ppb	4.65	65.00	
59 Co	72	1	1.082 ppb	0.70	1.30	
60 Ni	72	1	2.224 ppb	1.70	2.60	
63 Cu	72	1	2.182 ppb	1.43	2.60	
66 Zn	72	1	10.660 ppb	1.11	13.00	
75 As	72	1	5.118 ppb	2.29	6.50	
78 Se	72	1	5.284 ppb	15.76	6.50	
93 Nb	72	1	51.660 ppb	0.91	52.00	
95 Mo	72	1	2.145 ppb	4.72	2.60	
105 Pd	115	1	0.939 ppb	2.98	1.30	
107 Ag	115	1	5.364 ppb	0.81	6.50	
111 Cd	115	1	1.077 ppb	0.91	1.30	
118 Sn	115	1	10.180 ppb	1.18	13.00	
121 Sb	115	1	2.208 ppb	1.49	2.60	
137 Ba	115	1	1.064 ppb	3.32	1.30	
182 W	165	1	5.004 ppb	0.54	6.50	
195 Pt	165	1	1.019 ppb	5.85	1.30	
205 Tl	165	1	1.146 ppb	1.51	1.30	
208 Pb	165	1	1.093 ppb	1.96	1.30	
232 Th	165	1	3.309 ppb	17.07	2.60	
238 U	165	1	1.119 ppb	1.62	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	620977	1.28	613401	101.2	30 - 120	
45 Sc	1	3268310	1.29	3328415	98.2	30 - 120	
72 Ge	1	1474208	1.22	1482070	99.5	30 - 120	
115 In	1	3739867	0.54	3719636	100.5	30 - 120	
165 Ho	1	5457556	0.20	5558876	98.2	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.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\AG080409.B\007_ICB.D\007_ICB.D#
Date Acquired: Aug 4 2009 05:41 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: Aug 04 2009 05:33 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	-5.38	ppb	4.36	20.00	
24 Mg	6	1	-0.03	ppb	112.14	20.00	
27 Al	45	1	0.43	ppb	13.40	20.00	
39 K	45	1	0.18	ppb	342.50	20.00	
43 Ca	45	1	-2.65	ppb	47.92	20.00	
51 V	72	1	-0.01	ppb	78.44	1.00	
52 Cr	72	1	-0.01	ppb	209.01	1.00	
55 Mn	72	1	-0.01	ppb	28.18	1.00	
57 Fe	72	1	0.04	ppb	366.47	20.00	
59 Co	72	1	0.00	ppb	2657.60	1.00	
60 Ni	72	1	0.01	ppb	182.44	1.00	
63 Cu	72	1	0.00	ppb	45.87	1.00	
66 Zn	72	1	0.01	ppb	89.62	10.00	
75 As	72	1	-0.01	ppb	72.83	1.00	
78 Se	72	1	0.00	ppb	5593.80	1.00	
93 Nb	72	1	2.48	ppb	11.09	2.00	Fail
95 Mo	72	1	0.01	ppb	35.99	1.00	
105 Pd	115	1	0.01	ppb	42.76	1.00	
107 Ag	115	1	0.00	ppb	29.14	1.00	
111 Cd	115	1	0.00	ppb	101.64	1.00	
118 Sn	115	1	-0.03	ppb	16.01	10.00	
121 Sb	115	1	0.08	ppb	8.38	1.00	
137 Ba	115	1	0.00	ppb	124.76	1.00	
182 W	165	1	0.01	ppb	105.62	5.00	
195 Pt	165	1	0.00	ppb	156.52	1.00	
205 Tl	165	1	0.02	ppb	2.65	1.00	
208 Pb	165	1	0.00	ppb	108.41	1.00	
232 Th	165	1	0.02	ppb	13.43	2.00	
238 U	165	1	0.00	ppb	24.57	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	615232	0.16	613401	100.3	30 - 120	
45 Sc	1	3306443	1.15	3328415	99.3	30 - 120	
72 Ge	1	1488448	1.06	1482070	100.4	30 - 120	
115 In	1	3689439	0.89	3719636	99.2	30 - 120	
165 Ho	1	5495479	1.07	5558876	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\AG080409.B\003CALB.D\003CALB.D#

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

RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\008RLST.D\008RLST.D#
Date Acquired: Aug 4 2009 05:44 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: Aug 04 2009 05:33 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	0.97	ppb	16.13	1	97.1	50 - 150	
23 Na	6	1	99.40	ppb	1.27	100	99.4	50 - 150	
24 Mg	6	1	106.20	ppb	1.61	100	106.2	50 - 150	
27 Al	45	1	106.20	ppb	0.88	100	106.2	50 - 150	
39 K	45	1	103.70	ppb	4.34	100	103.7	50 - 150	
43 Ca	45	1	100.40	ppb	11.33	100	100.4	50 - 150	
51 V	72	1	1.02	ppb	1.07	1	102.0	50 - 150	
52 Cr	72	1	1.02	ppb	1.34	1	101.6	50 - 150	
55 Mn	72	1	1.02	ppb	2.96	1	101.9	50 - 150	
57 Fe	72	1	106.30	ppb	1.66	100	106.3	50 - 150	
59 Co	72	1	1.06	ppb	0.46	1	106.2	50 - 150	
60 Ni	72	1	1.08	ppb	3.37	1	107.9	50 - 150	
63 Cu	72	1	1.09	ppb	1.88	1	108.6	50 - 150	
66 Zn	72	1	11.55	ppb	1.74	10	115.5	50 - 150	
75 As	72	1	1.04	ppb	0.35	1	104.2	50 - 150	
78 Se	72	1	1.02	ppb	35.72	1	101.7	50 - 150	
93 Nb	72	1	3.50	ppb	6.24	2	175.0	50 - 150	Fail
95 Mo	72	1	0.99	ppb	1.94	1	99.2	50 - 150	
105 Pd	115	1	1.04	ppb	5.32	1	103.8	50 - 150	
107 Ag	115	1	1.02	ppb	3.47	1	101.7	50 - 150	
111 Cd	115	1	1.03	ppb	2.92	1	103.1	50 - 150	
118 Sn	115	1	10.39	ppb	1.84	10	103.9	50 - 150	
121 Sb	115	1	0.98	ppb	3.12	1	98.5	50 - 150	
137 Ba	115	1	1.00	ppb	0.86	1	99.7	50 - 150	
182 W	165	1	1.00	ppb	2.34	1	100.4	50 - 150	
195 Pt	165	1	0.97	ppb	2.75	1	96.6	50 - 150	
205 Tl	165	1	1.07	ppb	1.28	1	106.5	50 - 150	
208 Pb	165	1	1.07	ppb	1.16	1	107.4	50 - 150	
232 Th	165	1	0.92	ppb	2.08	1	92.0	50 - 150	
238 U	165	1	1.09	ppb	0.88	1	109.2	50 - 150	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	621899	1.48	613401	101.4	30 - 120	
45 Sc	1	3315351	1.07	3328415	99.6	30 - 120	
72 Ge	1	1473929	0.22	1482070	99.5	30 - 120	
115 In	1	3735562	1.27	3719636	100.4	30 - 120	
165 Ho	1	5443789	0.20	5558876	97.9	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\AG080409.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\AG080409.B\009AFCE.D\009AFCE.D#
Date Acquired: Aug 4 2009 05:47 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: Aug 04 2009 05:33 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	0.19	ppb	14.20	0	98.2	80 - 120	
23 Na	6	1	15.27	ppb	1.74	20	76.8	80 - 120	
24 Mg	6	1	21.58	ppb	1.53	21	101.6	80 - 120	
27 Al	45	1	22.06	ppb	0.39	21	103.9	80 - 120	
39 K	45	1	21.49	ppb	4.35	21	103.6	80 - 120	
43 Ca	45	1	22.88	ppb	5.73	20	113.9	80 - 120	
51 V	72	1	0.23	ppb	6.59	0	111.3	80 - 120	
52 Cr	72	1	0.20	ppb	8.88	0	100.1	80 - 120	
55 Mn	72	1	0.21	ppb	5.24	0	103.5	80 - 120	
57 Fe	72	1	20.12	ppb	0.35	21	94.6	80 - 120	
59 Co	72	1	0.21	ppb	2.08	0	99.2	80 - 120	
60 Ni	72	1	0.54	ppb	3.25	0	252.4	80 - 120	
63 Cu	72	1	0.25	ppb	5.60	0	113.0	80 - 120	
66 Zn	72	1	2.36	ppb	1.76	2	102.1	80 - 120	
75 As	72	1	0.20	ppb	4.33	0	96.6	80 - 120	
78 Se	72	1	0.15	ppb	149.67	0	75.1	80 - 120	
93 Nb	72	1	1.48	ppb	12.00	1	211.6	80 - 120	
95 Mo	72	1	0.21	ppb	3.24	0	103.7	80 - 120	
105 Pd	115	1	0.19	ppb	7.31	0	92.9	80 - 120	
107 Ag	115	1	0.21	ppb	4.09	0	102.0	80 - 120	
111 Cd	115	1	0.20	ppb	8.51	0	95.4	80 - 120	
118 Sn	115	1	2.08	ppb	3.46	2	99.9	80 - 120	
121 Sb	115	1	0.23	ppb	6.06	0	117.1	80 - 120	
137 Ba	115	1	0.20	ppb	4.18	0	102.6	80 - 120	
182 W	165	1	0.21	ppb	5.18	0	102.6	80 - 120	
195 Pt	165	1	0.21	ppb	8.44	0	109.7	80 - 120	
205 Tl	165	1	0.22	ppb	3.69	0	104.3	80 - 120	
208 Pb	165	1	0.21	ppb	1.89	0	98.8	80 - 120	
232 Th	165	1	0.20	ppb	3.25	0	108.3	80 - 120	
238 U	165	1	0.21	ppb	1.88	0	97.0	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	612484	0.59	613401	99.9	30 - 120	
45 Sc	1	3336089	0.62	3328415	100.2	30 - 120	
72 Ge	1	1488913	1.35	1482070	100.5	30 - 120	
115 In	1	3708691	0.65	3719636	99.7	30 - 120	
165 Ho	1	5434381	0.68	5558876	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\AG080409.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\AG080409.B\010SMPL.D\010SMPL.D#
Date Acquired: Aug 4 2009 05:50 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: Aug 04 2009 05:33 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	-6.23	-6.23	ppb	12.05	100000	
24 Mg	6	1	0.13	0.13	ppb	57.73	100000	
27 Al	45	1	-0.41	-0.41	ppb	11.70	100000	
39 K	45	1	1.40	1.40	ppb	19.02	100000	
43 Ca	45	1	-3.26	-3.26	ppb	28.59	100000	
51 V	72	1	0.00	0.00	ppb	495.39	3600	
52 Cr	72	1	0.01	0.01	ppb	68.18	3600	
55 Mn	72	1	0.00	0.00	ppb	177.08	18000	
57 Fe	72	1	0.14	0.14	ppb	54.03	100000	
59 Co	72	1	0.00	0.00	ppb	61.01	3600	
60 Ni	72	1	0.00	0.00	ppb	229.74	3600	
63 Cu	72	1	0.01	0.01	ppb	107.08	3600	
66 Zn	72	1	-0.09	-0.09	ppb	8.20	3600	
75 As	72	1	-0.01	-0.01	ppb	22.78	3600	
78 Se	72	1	2.34	2.34	ppb	17.14	3600	
93 Nb	72	1	0.80	0.80	ppb	18.12	2000	
95 Mo	72	1	0.00	0.00	ppb	5.16	3600	
105 Pd	115	1	0.01	0.01	ppb	51.69	1000	
107 Ag	115	1	0.00	0.00	ppb	62.01	3600	
111 Cd	115	1	0.00	0.00	ppb	26.79	3600	
118 Sn	115	1	-0.04	-0.04	ppb	41.03	3600	
121 Sb	115	1	0.02	0.02	ppb	12.94	3600	
137 Ba	115	1	0.00	0.00	ppb	139.79	3600	
182 W	165	1	0.00	0.00	ppb	571.47	1000	
195 Pt	165	1	0.00	0.00	ppb	1643.80	1000	
205 Tl	165	1	0.01	0.01	ppb	18.45	3600	
208 Pb	165	1	0.00	0.00	ppb	91.61	3600	
232 Th	165	1	0.00	0.00	ppb	1210.80	1000	
238 U	165	1	0.00	0.00	ppb	65.63	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	628758	4.36	613401	102.5	30 - 120	
45 Sc	1	3304988	0.43	3328415	99.3	30 - 120	
72 Ge	1	1481087	0.85	1482070	99.9	30 - 120	
115 In	1	3694596	0.88	3719636	99.3	30 - 120	
165 Ho	1	5415585	0.30	5558876	97.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.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\AG080409.B\011ICSA.D\011ICSA.D#
Date Acquired: Aug 4 2009 05:53 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: Aug 04 2009 05:33 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	173.21	1.00	
23	Na	6	1	100500.00 ppb	0.77	100.00	
24	Mg	6	1	98000.00 ppb	0.73	100.00	
27	Al	45	1	98990.00 ppb	0.78	100.00	
39	K	45	1	99310.00 ppb	0.22	100.00	
43	Ca	45	1	102300.00 ppb	0.74	100.00	
51	V	72	1	-0.11 ppb	51.36	1.00	
52	Cr	72	1	0.70 ppb	3.18	1.00	
55	Mn	72	1	3.53 ppb	1.53	1.00	
57	Fe	72	1	97710.00 ppb	0.58	100.00	
59	Co	72	1	1.58 ppb	2.91	1.00	
60	Ni	72	1	1.57 ppb	1.64	1.00	
63	Cu	72	1	1.49 ppb	1.13	1.00	
66	Zn	72	1	2.87 ppb	2.08	10.00	
75	As	72	1	0.41 ppb	5.47	1.00	
78	Se	72	1	-0.17 ppb	49.11	1.00	
93	Nb	72	1	1.51 ppb	11.67	2.00	
95	Mo	72	1	2047.00 ppb	0.11	2000.00	
105	Pd	115	1	0.07 ppb	27.22	1.00	
107	Ag	115	1	0.04 ppb	18.29	1.00	
111	Cd	115	1	2.58 ppb	2.38	1.00	
118	Sn	115	1	0.21 ppb	11.25	10.00	
121	Sb	115	1	0.26 ppb	1.73	1.00	
137	Ba	115	1	0.07 ppb	19.17	1.00	
182	W	165	1	0.10 ppb	8.43	5.00	
195	Pt	165	1	0.00 ppb	499.24	1.00	
205	Tl	165	1	0.03 ppb	60.16	1.00	
208	Pb	165	1	0.11 ppb	6.85	1.00	
232	Th	165	1	0.05 ppb	32.11	2.00	
238	U	165	1	0.00 ppb	386.37	1.00	

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	534481	1.03	613401	87.1	30 - 120	
45	Sc	1	2836722	1.84	3328415	85.2	30 - 120	
72	Ge	1	1237307	1.64	1482070	83.5	30 - 120	
115	In	1	3118112	1.08	3719636	83.8	30 - 120	
165	Ho	1	4824482	1.14	5558876	86.8	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\AG080409.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\AG080409.B\012ICSB.D\012ICSB.D#
Date Acquired: Aug 4 2009 05:56 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: Aug 04 2009 05:33 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	97.87	2.69	100	97.9	80 - 120	
23 Na	6	1	109100.00	1.92	110000	99.2	80 - 120	
24 Mg	6	1	105900.00	1.80	110000	96.3	80 - 120	
27 Al	45	1	106900.00	0.67	110000	97.2	80 - 120	
39 K	45	1	106300.00	1.52	110000	96.6	80 - 120	
43 Ca	45	1	110700.00	1.37	110000	100.6	80 - 120	
51 V	72	1	102.10	2.01	100	102.1	80 - 120	
52 Cr	72	1	100.50	0.60	100	100.5	80 - 120	
55 Mn	72	1	100.60	1.12	100	100.6	80 - 120	
57 Fe	72	1	104600.00	1.61	110000	95.1	80 - 120	
59 Co	72	1	99.01	0.80	100	99.0	80 - 120	
60 Ni	72	1	95.40	0.87	100	95.4	80 - 120	
63 Cu	72	1	95.99	1.03	100	96.0	80 - 120	
66 Zn	72	1	97.48	0.22	100	97.5	80 - 120	
75 As	72	1	99.71	0.74	100	99.7	80 - 120	
78 Se	72	1	102.30	3.31	100	102.3	80 - 120	
93 Nb	72	1	199.50	2.06	200	99.8	80 - 120	
95 Mo	72	1	2105.00	0.55	2100	100.2	80 - 120	
105 Pd	115	1	94.41	1.04	100	94.4	80 - 120	
107 Ag	115	1	87.95	3.58	100	88.0	80 - 120	
111 Cd	115	1	96.52	0.96	100	96.5	80 - 120	
118 Sn	115	1	99.29	0.54	100	99.3	80 - 120	
121 Sb	115	1	99.82	0.85	100	99.8	80 - 120	
137 Ba	115	1	101.90	0.79	100	101.9	80 - 120	
182 W	165	1	100.60	1.12	100	100.6	80 - 120	
195 Pt	165	1	94.72	1.77	100	94.7	80 - 120	
205 Tl	165	1	95.99	0.84	100	96.0	80 - 120	
208 Pb	165	1	94.61	0.78	100	94.6	80 - 120	
232 Th	165	1	97.98	1.51	100	98.0	80 - 120	
238 U	165	1	98.93	0.13	100	98.9	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	533235	1.40	613401	86.9	30 - 120	
45 Sc	1	2842582	0.80	3328415	85.4	30 - 120	
72 Ge	1	1255559	0.45	1482070	84.7	30 - 120	
115 In	1	3152795	0.39	3719636	84.8	30 - 120	
165 Ho	1	4890857	0.21	5558876	88.0	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\AG080409.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\013SMPL.D\013SMPL.D#
Date Acquired: Aug 4 2009 05:59 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: Aug 04 2009 05:33 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	173.22	3600	
23 Na	6	1	9.45	9.45	ppb	21.11	100000	
24 Mg	6	1	8.12	8.12	ppb	28.37	100000	
27 Al	45	1	9.27	9.27	ppb	28.41	100000	
39 K	45	1	-0.97	-0.97	ppb	171.54	100000	
43 Ca	45	1	8.14	8.14	ppb	32.30	100000	
51 V	72	1	-0.01	-0.01	ppb	139.27	3600	
52 Cr	72	1	-0.01	-0.01	ppb	184.25	3600	
55 Mn	72	1	0.00	0.00	ppb	941.65	18000	
57 Fe	72	1	10.19	10.19	ppb	25.06	100000	
59 Co	72	1	0.01	0.01	ppb	18.70	3600	
60 Ni	72	1	0.00	0.00	ppb	410.08	3600	
63 Cu	72	1	0.00	0.00	ppb	359.40	3600	
66 Zn	72	1	-0.05	-0.05	ppb	51.41	3600	
75 As	72	1	-0.01	-0.01	ppb	156.65	3600	
78 Se	72	1	-0.44	-0.44	ppb	76.37	3600	
93 Nb	72	1	4.37	4.37	ppb	10.29	2000	
95 Mo	72	1	1.41	1.41	ppb	9.48	3600	
105 Pd	115	1	0.01	0.01	ppb	24.81	1000	
107 Ag	115	1	0.01	0.01	ppb	47.08	3600	
111 Cd	115	1	0.01	0.01	ppb	8.17	3600	
118 Sn	115	1	-0.03	-0.03	ppb	29.93	3600	
121 Sb	115	1	0.20	0.20	ppb	4.20	3600	
137 Ba	115	1	0.01	0.01	ppb	20.60	3600	
182 W	165	1	0.04	0.04	ppb	27.00	1000	
195 Pt	165	1	0.01	0.01	ppb	55.28	1000	
205 Tl	165	1	0.00	0.00	ppb	31.86	3600	
208 Pb	165	1	0.01	0.01	ppb	14.47	3600	
232 Th	165	1	0.40	0.40	ppb	12.44	1000	
238 U	165	1	0.01	0.01	ppb	11.12	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	649011	1.30	613401	105.8	30 - 120	
45 Sc	1	3287885	2.08	3328415	98.8	30 - 120	
72 Ge	1	1508013	1.80	1482070	101.8	30 - 120	
115 In	1	3723681	1.03	3719636	100.1	30 - 120	
165 Ho	1	5486394	1.12	5558876	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\AG080409.B\003CALB.D\003CALB.D#

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

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\014_LR.D\014_LR.D#
Date Acquired: Aug 4 2009 06:02 pm
Acq. Method: 6020isis.M
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: Aug 04 2009 05:33 pm
Sample Type: LR
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	983.10 ppb	1.47	1000	98.3	90 - 110	
23 Na	6	1	100400.00 ppb	1.20	100000	100.4	90 - 110	
24 Mg	6	1	98120.00 ppb	1.39	100000	98.1	90 - 110	
27 Al	45	1	99120.00 ppb	0.56	100000	99.1	90 - 110	
39 K	45	1	99030.00 ppb	0.39	100000	99.0	90 - 110	
43 Ca	45	1	102600.00 ppb	1.25	100000	102.6	90 - 110	
51 V	72	1	956.50 ppb	0.75	1000	95.7	90 - 110	
52 Cr	72	1	962.40 ppb	1.35	1000	96.2	90 - 110	
55 Mn	72	1	936.10 ppb	1.37	1000	93.6	90 - 110	
57 Fe	72	1	94940.00 ppb	1.06	100000	94.9	90 - 110	
59 Co	72	1	937.10 ppb	1.00	1000	93.7	90 - 110	
60 Ni	72	1	926.30 ppb	1.42	1000	92.6	90 - 110	
63 Cu	72	1	894.90 ppb	1.52	1000	89.5	90 - 110	Fail
66 Zn	72	1	910.10 ppb	2.20	1000	91.0	90 - 110	
75 As	72	1	957.10 ppb	1.28	1000	95.7	90 - 110	
78 Se	72	1	934.30 ppb	1.11	1000	93.4	90 - 110	
93 Nb	72	1	2252.00 ppb	1.30	2000	112.6	90 - 110	Fail
95 Mo	72	1	994.00 ppb	0.33	1000	99.4	90 - 110	
105 Pd	115	1	906.90 ppb	0.43	1000	90.7	90 - 110	
107 Ag	115	1	885.00 ppb	0.74	1000	88.5	90 - 110	Fail
111 Cd	115	1	933.70 ppb	1.14	1000	93.4	90 - 110	
118 Sn	115	1	945.30 ppb	0.55	1000	94.5	90 - 110	
121 Sb	115	1	937.70 ppb	0.72	1000	93.8	90 - 110	
137 Ba	115	1	980.70 ppb	0.91	1000	98.1	90 - 110	
182 W	165	1	966.40 ppb	0.42	1000	96.6	90 - 110	
195 Pt	165	1	925.70 ppb	0.22	1000	92.6	90 - 110	
205 Tl	165	1	943.40 ppb	0.69	1000	94.3	90 - 110	
208 Pb	165	1	916.60 ppb	0.69	1000	91.7	90 - 110	
232 Th	165	1	974.50 ppb	1.33	1000	97.5	90 - 110	
238 U	165	1	971.30 ppb	0.43	1000	97.1	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	510401	1.65	613401	83.2	30 - 120	
45 Sc	1	2772323	0.84	3328415	83.3	30 - 120	
72 Ge	1	1233806	0.89	1482070	83.2	30 - 120	
115 In	1	3002824	0.95	3719636	80.7	30 - 120	
165 Ho	1	4527867	0.86	5558876	81.5	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\AG080409.B\003CALB.D\003CALB.D#

3 :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\AG080409.B\015SMPL.D\015SMPL.D#
Date Acquired: Aug 4 2009 06:05 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: Aug 04 2009 05:33 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	0.07	0.07	ppb	48.32	3600	
23 Na	6	1	29.14	29.14	ppb	82.84	100000	
24 Mg	6	1	30.32	30.32	ppb	83.38	100000	
27 Al	45	1	31.88	31.88	ppb	85.45	100000	
39 K	45	1	26.56	26.56	ppb	98.16	100000	
43 Ca	45	1	29.46	29.46	ppb	104.68	100000	
51 V	72	1	0.06	0.06	ppb	35.99	3600	
52 Cr	72	1	0.08	0.08	ppb	13.36	3600	
55 Mn	72	1	0.07	0.07	ppb	14.28	18000	
57 Fe	72	1	32.88	32.88	ppb	80.32	100000	
59 Co	72	1	0.08	0.08	ppb	19.80	3600	
60 Ni	72	1	0.08	0.08	ppb	18.95	3600	
63 Cu	72	1	0.09	0.09	ppb	14.48	3600	
66 Zn	72	1	0.06	0.06	ppb	100.05	3600	
75 As	72	1	0.08	0.08	ppb	21.57	3600	
78 Se	72	1	0.21	0.21	ppb	135.98	3600	
93 Nb	72	1	2.57	2.57	ppb	6.91	2000	
95 Mo	72	1	1.11	1.11	ppb	42.33	3600	
105 Pd	115	1	0.35	0.35	ppb	13.01	1000	
107 Ag	115	1	0.14	0.14	ppb	90.61	3600	
111 Cd	115	1	0.07	0.07	ppb	11.74	3600	
118 Sn	115	1	0.10	0.10	ppb	45.44	3600	
121 Sb	115	1	0.51	0.51	ppb	3.38	3600	
137 Ba	115	1	0.08	0.08	ppb	11.45	3600	
182 W	165	1	0.30	0.30	ppb	6.75	1000	
195 Pt	165	1	0.08	0.08	ppb	9.38	1000	
205 Tl	165	1	0.06	0.06	ppb	14.89	3600	
208 Pb	165	1	0.08	0.08	ppb	15.45	3600	
232 Th	165	1	0.63	0.63	ppb	11.37	1000	
238 U	165	1	0.15	0.15	ppb	8.95	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	636485	2.37	613401	103.8	30 - 120	
45 Sc	1	3258183	0.99	3328415	97.9	30 - 120	
72 Ge	1	1456251	1.25	1482070	98.3	30 - 120	
115 In	1	3639887	0.96	3719636	97.9	30 - 120	
165 Ho	1	5321897	0.82	5558876	95.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.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\AG080409.B\016_CCV.D\016_CCV.D#
Date Acquired: Aug 4 2009 06:08 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: Aug 04 2009 05:33 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	48.78	ppb	0.49	50	97.6	90 - 110	
23 Na	6	1	4760.00	ppb	1.12	5000	95.2	90 - 110	
24 Mg	6	1	4816.00	ppb	1.08	5000	96.3	90 - 110	
27 Al	45	1	5035.00	ppb	1.14	5000	100.7	90 - 110	
39 K	45	1	5082.00	ppb	0.66	5000	101.6	90 - 110	
43 Ca	45	1	5059.00	ppb	2.14	5000	101.2	90 - 110	
51 V	72	1	51.79	ppb	2.01	50	103.6	90 - 110	
52 Cr	72	1	51.99	ppb	1.10	50	104.0	90 - 110	
55 Mn	72	1	51.12	ppb	0.22	50	102.2	90 - 110	
57 Fe	72	1	5151.00	ppb	0.27	5000	103.0	90 - 110	
59 Co	72	1	51.21	ppb	0.57	50	102.4	90 - 110	
60 Ni	72	1	51.45	ppb	0.65	50	102.9	90 - 110	
63 Cu	72	1	52.11	ppb	1.84	50	104.2	90 - 110	
66 Zn	72	1	50.89	ppb	0.91	50	101.8	90 - 110	
75 As	72	1	50.97	ppb	0.96	50	101.9	90 - 110	
78 Se	72	1	49.64	ppb	1.37	50	99.3	90 - 110	
93 Nb	72	1	95.63	ppb	0.52	100	95.6	90 - 110	
95 Mo	72	1	50.17	ppb	0.72	50	100.3	90 - 110	
105 Pd	115	1	50.80	ppb	1.97	50	101.6	90 - 110	
107 Ag	115	1	50.98	ppb	1.22	50	102.0	90 - 110	
111 Cd	115	1	49.67	ppb	1.69	50	99.3	90 - 110	
118 Sn	115	1	49.48	ppb	1.14	50	99.0	90 - 110	
121 Sb	115	1	49.35	ppb	1.28	50	98.7	90 - 110	
137 Ba	115	1	49.77	ppb	1.62	50	99.5	90 - 110	
182 W	165	1	48.67	ppb	0.25	50	97.3	90 - 110	
195 Pt	165	1	50.37	ppb	0.44	50	100.7	90 - 110	
205 Tl	165	1	50.63	ppb	1.93	50	101.3	90 - 110	
208 Pb	165	1	51.33	ppb	0.02	50	102.7	90 - 110	
232 Th	165	1	51.28	ppb	0.04	50	102.6	90 - 110	
238 U	165	1	50.86	ppb	1.58	50	101.7	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	628515	0.96	613401	102.5	30 - 120	
45 Sc	1	3221822	1.47	3328415	96.8	30 - 120	
72 Ge	1	1435947	0.25	1482070	96.9	30 - 120	
115 In	1	3596795	1.09	3719636	96.7	30 - 120	
165 Ho	1	5266006	0.51	5558876	94.7	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\AG080409.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\AG080409.B\017_CCB.D\017_CCB.D#
Date Acquired: Aug 4 2009 06:10 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: Aug 04 2009 05:33 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	-0.262	ppb	85.71	20.00	
24 Mg	6	1	0.283	ppb	48.06	20.00	
27 Al	45	1	0.421	ppb	35.34	20.00	
39 K	45	1	-0.622	ppb	196.49	20.00	
43 Ca	45	1	-1.825	ppb	36.62	20.00	
51 V	72	1	-0.003	ppb	1202.80	1.00	
52 Cr	72	1	-0.008	ppb	72.38	1.00	
55 Mn	72	1	0.000	ppb	42322.00	1.00	
57 Fe	72	1	0.855	ppb	24.84	20.00	
59 Co	72	1	0.004	ppb	37.15	1.00	
60 Ni	72	1	-0.004	ppb	166.56	1.00	
63 Cu	72	1	0.029	ppb	30.11	1.00	
66 Zn	72	1	-0.052	ppb	35.40	10.00	
75 As	72	1	-0.006	ppb	126.53	1.00	
78 Se	72	1	0.114	ppb	65.70	1.00	
93 Nb	72	1	3.313	ppb	10.30	2.00	Fail
95 Mo	72	1	0.106	ppb	4.23	1.00	
105 Pd	115	1	0.078	ppb	2.54	1.00	
107 Ag	115	1	0.011	ppb	24.39	1.00	
111 Cd	115	1	0.006	ppb	29.05	1.00	
118 Sn	115	1	-0.044	ppb	55.28	10.00	
121 Sb	115	1	0.224	ppb	5.55	1.00	
137 Ba	115	1	0.008	ppb	52.42	1.00	
182 W	165	1	0.076	ppb	7.55	5.00	
195 Pt	165	1	0.004	ppb	72.15	1.00	
205 Tl	165	1	0.017	ppb	16.74	1.00	
208 Pb	165	1	0.004	ppb	53.83	1.00	
232 Th	165	1	0.302	ppb	10.04	2.00	
238 U	165	1	0.014	ppb	13.03	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	639510	1.15	613401	104.3	30 - 120	
45 Sc	1	3307384	1.05	3328415	99.4	30 - 120	
72 Ge	1	1500542	0.71	1482070	101.2	30 - 120	
115 In	1	3717920	0.26	3719636	100.0	30 - 120	
165 Ho	1	5368130	0.70	5558876	96.6	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\AG080409.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\AG080409.B\018WASH.D\018WASH.D#
Date Acquired: Aug 4 2009 06:13 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 04 2009 05:33 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	0.966 ppb	19.98	1.30	
23 Na	6	1	50.660 ppb	1.28	65.00	
24 Mg	6	1	52.770 ppb	0.74	65.00	
27 Al	45	1	34.250 ppb	0.60	39.00	
39 K	45	1	107.000 ppb	1.34	130.00	
43 Ca	45	1	61.380 ppb	12.89	65.00	
51 V	72	1	5.247 ppb	2.06	6.50	
52 Cr	72	1	2.159 ppb	3.17	2.60	
55 Mn	72	1	1.047 ppb	2.30	1.30	
57 Fe	72	1	55.000 ppb	0.91	65.00	
59 Co	72	1	1.081 ppb	3.35	1.30	
60 Ni	72	1	2.225 ppb	0.84	2.60	
63 Cu	72	1	2.218 ppb	0.66	2.60	
66 Zn	72	1	10.630 ppb	1.13	13.00	
75 As	72	1	5.190 ppb	1.34	6.50	
78 Se	72	1	4.780 ppb	9.72	6.50	
93 Nb	72	1	44.630 ppb	1.58	52.00	
95 Mo	72	1	2.164 ppb	2.78	2.60	
105 Pd	115	1	0.971 ppb	1.68	1.30	
107 Ag	115	1	5.468 ppb	2.23	6.50	
111 Cd	115	1	1.067 ppb	6.04	1.30	
118 Sn	115	1	10.240 ppb	1.46	13.00	
121 Sb	115	1	2.046 ppb	0.96	2.60	
137 Ba	115	1	1.024 ppb	1.96	1.30	
182 W	165	1	4.992 ppb	0.40	6.50	
195 Pt	165	1	1.016 ppb	6.07	1.30	
205 Tl	165	1	1.134 ppb	0.58	1.30	
208 Pb	165	1	1.104 ppb	2.61	1.30	
232 Th	165	1	2.579 ppb	4.95	2.60	
238 U	165	1	1.115 ppb	1.37	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	653683	0.81	613401	106.6	30 - 120	
45 Sc	1	3353924	0.65	3328415	100.8	30 - 120	
72 Ge	1	1497601	0.60	1482070	101.0	30 - 120	
115 In	1	3740478	0.96	3719636	100.6	30 - 120	
165 Ho	1	5408001	0.74	5558876	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\AG080409.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\019SMPL.D\019SMPL.D#
Date Acquired: Aug 4 2009 06:18 pm
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: ALTLR
Misc Info:
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 04 2009 05:33 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	0.12	0.12	ppb	176.13	100000	
24 Mg	6	1	0.42	0.42	ppb	17.15	100000	
27 Al	45	1	0.09	0.09	ppb	82.68	100000	
39 K	45	1	0.19	0.19	ppb	520.06	100000	
43 Ca	45	1	4.98	4.98	ppb	41.27	100000	
51 V	72	1	-0.01	-0.01	ppb	142.22	3600	
52 Cr	72	1	0.01	0.01	ppb	147.66	3600	
55 Mn	72	1	0.01	0.01	ppb	43.31	18000	
57 Fe	72	1	0.77	0.77	ppb	37.26	100000	
59 Co	72	1	0.00	0.00	ppb	207.28	3600	
60 Ni	72	1	0.01	0.01	ppb	32.71	3600	
63 Cu	72	1	1,021.00	1021.00	ppb	1.47	3600	
66 Zn	72	1	0.18	0.18	ppb	12.36	3600	
75 As	72	1	-0.01	-0.01	ppb	54.80	3600	
78 Se	72	1	0.22	0.22	ppb	145.05	3600	
93 Nb	72	1	1.49	1.49	ppb	13.66	2000	
95 Mo	72	1	0.04	0.04	ppb	41.08	3600	
105 Pd	115	1	0.03	0.03	ppb	33.11	1000	
107 Ag	115	1	997.10	997.10	ppb	1.04	3600	
111 Cd	115	1	0.00	0.00	ppb	237.61	3600	
118 Sn	115	1	0.01	0.01	ppb	76.14	3600	
121 Sb	115	1	0.06	0.06	ppb	19.76	3600	
137 Ba	115	1	0.01	0.01	ppb	10.26	3600	
182 W	165	1	0.00	0.00	ppb	132.52	1000	
195 Pt	165	1	0.00	0.00	ppb	5.89	1000	
205 Tl	165	1	0.00	0.00	ppb	143.26	3600	
208 Pb	165	1	0.00	0.00	ppb	97.75	3600	
232 Th	165	1	0.00	0.00	ppb	42.61	1000	
238 U	165	1	0.00	0.00	ppb	21.15	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	645817	2.26	613401	105.3	30 - 120	
45 Sc	1	3364358	1.91	3328415	101.1	30 - 120	
72 Ge	1	1505138	0.77	1482070	101.6	30 - 120	
115 In	1	3723444	0.73	3719636	100.1	30 - 120	
165 Ho	1	5413880	0.82	5558876	97.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.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\AG080409.B\020SMPL.D\020SMPL.D#
Date Acquired: Aug 4 2009 06:21 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: Aug 04 2009 05:33 pm
Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.21	3600	
23 Na	6	1	-1.08	-1.08	ppb	30.22	100000	
24 Mg	6	1	0.90	0.90	ppb	8.10	100000	
27 Al	45	1	0.66	0.66	ppb	6.43	100000	
39 K	45	1	0.89	0.89	ppb	42.26	100000	
43 Ca	45	1	0.94	0.94	ppb	32.30	100000	
51 V	72	1	0.01	0.01	ppb	182.83	3600	
52 Cr	72	1	0.01	0.01	ppb	138.67	3600	
55 Mn	72	1	0.00	0.00	ppb	594.11	18000	
57 Fe	72	1	1.09	1.09	ppb	24.34	100000	
59 Co	72	1	0.00	0.00	ppb	124.28	3600	
60 Ni	72	1	-0.01	-0.01	ppb	33.43	3600	
63 Cu	72	1	0.07	0.07	ppb	30.65	3600	
66 Zn	72	1	-0.05	-0.05	ppb	13.23	3600	
75 As	72	1	-0.01	-0.01	ppb	56.38	3600	
78 Se	72	1	0.13	0.13	ppb	263.90	3600	
93 Nb	72	1	0.99	0.99	ppb	14.14	2000	
95 Mo	72	1	0.03	0.03	ppb	62.65	3600	
105 Pd	115	1	0.04	0.04	ppb	28.83	1000	
107 Ag	115	1	0.06	0.06	ppb	34.60	3600	
111 Cd	115	1	0.01	0.01	ppb	36.71	3600	
118 Sn	115	1	-0.09	-0.09	ppb	11.11	3600	
121 Sb	115	1	0.03	0.03	ppb	12.48	3600	
137 Ba	115	1	0.01	0.01	ppb	32.40	3600	
182 W	165	1	0.00	0.00	ppb	113.47	1000	
195 Pt	165	1	0.01	0.01	ppb	47.21	1000	
205 Tl	165	1	0.00	0.00	ppb	22.13	3600	
208 Pb	165	1	0.00	0.00	ppb	71.75	3600	
232 Th	165	1	-0.01	-0.01	ppb	15.66	1000	
238 U	165	1	0.01	0.01	ppb	11.09	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	641513	1.37	613401	104.6	30 - 120	
45 Sc	1	3366434	1.69	3328415	101.1	30 - 120	
72 Ge	1	1514557	0.93	1482070	102.2	30 - 120	
115 In	1	3724160	0.53	3719636	100.1	30 - 120	
165 Ho	1	5321318	0.19	5558876	95.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.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\AG080409.B\021_CCV.D\021_CCV.D#
Date Acquired: Aug 4 2009 06:24 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: Aug 04 2009 05:33 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	48.03	ppb	0.94	50	96.1	90 - 110	
23 Na	6	1	4744.00	ppb	2.21	5000	94.9	90 - 110	
24 Mg	6	1	4798.00	ppb	0.73	5000	96.0	90 - 110	
27 Al	45	1	5084.00	ppb	2.25	5000	101.7	90 - 110	
39 K	45	1	5110.00	ppb	0.62	5000	102.2	90 - 110	
43 Ca	45	1	5069.00	ppb	0.73	5000	101.4	90 - 110	
51 V	72	1	51.56	ppb	1.43	50	103.1	90 - 110	
52 Cr	72	1	50.99	ppb	1.52	50	102.0	90 - 110	
55 Mn	72	1	51.46	ppb	1.14	50	102.9	90 - 110	
57 Fe	72	1	5155.00	ppb	0.58	5000	103.1	90 - 110	
59 Co	72	1	51.58	ppb	1.14	50	103.2	90 - 110	
60 Ni	72	1	51.36	ppb	1.50	50	102.7	90 - 110	
63 Cu	72	1	51.89	ppb	1.29	50	103.8	90 - 110	
66 Zn	72	1	50.99	ppb	0.93	50	102.0	90 - 110	
75 As	72	1	50.84	ppb	1.52	50	101.7	90 - 110	
78 Se	72	1	51.24	ppb	1.36	50	102.5	90 - 110	
93 Nb	72	1	94.55	ppb	0.52	100	94.6	90 - 110	
95 Mo	72	1	49.93	ppb	1.53	50	99.9	90 - 110	
105 Pd	115	1	50.85	ppb	0.34	50	101.7	90 - 110	
107 Ag	115	1	51.69	ppb	0.86	50	103.4	90 - 110	
111 Cd	115	1	50.15	ppb	0.49	50	100.3	90 - 110	
118 Sn	115	1	50.23	ppb	0.51	50	100.5	90 - 110	
121 Sb	115	1	49.70	ppb	0.83	50	99.4	90 - 110	
137 Ba	115	1	50.28	ppb	0.28	50	100.6	90 - 110	
182 W	165	1	48.40	ppb	0.99	50	96.8	90 - 110	
195 Pt	165	1	50.19	ppb	1.03	50	100.4	90 - 110	
205 Tl	165	1	51.30	ppb	0.24	50	102.6	90 - 110	
208 Pb	165	1	51.13	ppb	0.92	50	102.3	90 - 110	
232 Th	165	1	50.02	ppb	1.31	50	100.0	90 - 110	
238 U	165	1	50.40	ppb	0.39	50	100.8	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	637798	1.11	613401	104.0	30 - 120	
45 Sc	1	3256719	1.41	3328415	97.8	30 - 120	
72 Ge	1	1445937	0.36	1482070	97.6	30 - 120	
115 In	1	3556246	0.63	3719636	95.6	30 - 120	
165 Ho	1	5266849	0.14	5558876	94.7	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\AG080409.B\003CALB.D\003CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\022_CCB.D\022_CCB.D#
Date Acquired: Aug 4 2009 06:27 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: Aug 04 2009 05:33 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.008	ppb	173.18	1.00	
23 Na	6	1	-5.657	ppb	6.88	20.00	
24 Mg	6	1	0.282	ppb	35.67	20.00	
27 Al	45	1	0.364	ppb	31.23	20.00	
39 K	45	1	0.504	ppb	74.31	20.00	
43 Ca	45	1	-0.577	ppb	232.24	20.00	
51 V	72	1	-0.031	ppb	73.13	1.00	
52 Cr	72	1	-0.012	ppb	100.88	1.00	
55 Mn	72	1	0.000	ppb	6998.30	1.00	
57 Fe	72	1	0.867	ppb	28.00	20.00	
59 Co	72	1	0.001	ppb	226.14	1.00	
60 Ni	72	1	0.014	ppb	104.94	1.00	
63 Cu	72	1	0.023	ppb	40.09	1.00	
66 Zn	72	1	-0.069	ppb	6.01	10.00	
75 As	72	1	-0.003	ppb	205.31	1.00	
78 Se	72	1	0.070	ppb	329.91	1.00	
93 Nb	72	1	3.296	ppb	11.66	2.00	Fail
95 Mo	72	1	0.043	ppb	22.77	1.00	
105 Pd	115	1	0.033	ppb	13.82	1.00	
107 Ag	115	1	0.014	ppb	53.32	1.00	
111 Cd	115	1	0.005	ppb	37.33	1.00	
118 Sn	115	1	-0.066	ppb	13.39	10.00	
121 Sb	115	1	0.174	ppb	1.91	1.00	
137 Ba	115	1	0.007	ppb	32.98	1.00	
182 W	165	1	0.034	ppb	15.67	5.00	
195 Pt	165	1	0.009	ppb	63.42	1.00	
205 Tl	165	1	0.011	ppb	35.61	1.00	
208 Pb	165	1	0.003	ppb	37.08	1.00	
232 Th	165	1	0.271	ppb	11.18	2.00	
238 U	165	1	0.010	ppb	9.62	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	639094	1.93	613401	104.2	30 - 120	
45 Sc	1	3307521	1.41	3328415	99.4	30 - 120	
72 Ge	1	1478496	0.34	1482070	99.8	30 - 120	
115 In	1	3684210	0.86	3719636	99.0	30 - 120	
165 Ho	1	5345603	0.83	5558876	96.2	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.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\AG080409.B\023WASH.D\023WASH.D#
Date Acquired: Aug 4 2009 06:30 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 04 2009 05:33 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	1.029 ppb	12.28	1.30	
23 Na	6	1	47.570 ppb	0.74	65.00	
24 Mg	6	1	54.960 ppb	0.32	65.00	
27 Al	45	1	34.190 ppb	0.42	39.00	
39 K	45	1	109.700 ppb	0.43	130.00	
43 Ca	45	1	50.300 ppb	12.46	65.00	
51 V	72	1	5.194 ppb	1.40	6.50	
52 Cr	72	1	2.165 ppb	0.83	2.60	
55 Mn	72	1	1.041 ppb	7.83	1.30	
57 Fe	72	1	55.780 ppb	1.03	65.00	
59 Co	72	1	1.076 ppb	4.16	1.30	
60 Ni	72	1	2.241 ppb	1.15	2.60	
63 Cu	72	1	2.192 ppb	2.30	2.60	
66 Zn	72	1	10.470 ppb	1.51	13.00	
75 As	72	1	5.234 ppb	0.88	6.50	
78 Se	72	1	4.928 ppb	3.74	6.50	
93 Nb	72	1	44.410 ppb	1.15	52.00	
95 Mo	72	1	2.015 ppb	1.75	2.60	
105 Pd	115	1	0.924 ppb	4.65	1.30	
107 Ag	115	1	5.423 ppb	1.73	6.50	
111 Cd	115	1	1.049 ppb	1.47	1.30	
118 Sn	115	1	10.170 ppb	1.85	13.00	
121 Sb	115	1	2.016 ppb	0.80	2.60	
137 Ba	115	1	1.044 ppb	1.15	1.30	
182 W	165	1	4.928 ppb	0.25	6.50	
195 Pt	165	1	1.060 ppb	6.37	1.30	
205 Tl	165	1	1.096 ppb	0.95	1.30	
208 Pb	165	1	1.109 ppb	1.02	1.30	
232 Th	165	1	2.531 ppb	4.87	2.60	
238 U	165	1	1.102 ppb	0.12	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	630390	0.15	613401	102.8	30 - 120	
45 Sc	1	3346385	0.19	3328415	100.5	30 - 120	
72 Ge	1	1491495	1.26	1482070	100.6	30 - 120	
115 In	1	3717652	0.76	3719636	99.9	30 - 120	
165 Ho	1	5359965	0.44	5558876	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\AG080409.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\AG080409.B\073_CCV.D\073_CCV.D#
Date Acquired: Aug 4 2009 08:57 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: Aug 04 2009 05:33 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	48.85	ppb	1.22	50	97.7	90 - 110	
23 Na	6	1	4630.00	ppb	0.55	5000	92.6	90 - 110	
24 Mg	6	1	4615.00	ppb	0.54	5000	92.3	90 - 110	
27 Al	45	1	4970.00	ppb	1.01	5000	99.4	90 - 110	
39 K	45	1	5084.00	ppb	0.34	5000	101.7	90 - 110	
43 Ca	45	1	5088.00	ppb	0.60	5000	101.8	90 - 110	
51 V	72	1	48.15	ppb	0.66	50	96.3	90 - 110	
52 Cr	72	1	49.27	ppb	0.83	50	98.5	90 - 110	
55 Mn	72	1	49.48	ppb	0.98	50	99.0	90 - 110	
57 Fe	72	1	5144.00	ppb	1.99	5000	102.9	90 - 110	
59 Co	72	1	50.39	ppb	0.43	50	100.8	90 - 110	
60 Ni	72	1	51.00	ppb	1.27	50	102.0	90 - 110	
63 Cu	72	1	50.95	ppb	1.52	50	101.9	90 - 110	
66 Zn	72	1	49.95	ppb	1.72	50	99.9	90 - 110	
75 As	72	1	51.28	ppb	1.14	50	102.6	90 - 110	
78 Se	72	1	51.85	ppb	1.86	50	103.7	90 - 110	
93 Nb	72	1	96.37	ppb	1.62	100	96.4	90 - 110	
95 Mo	72	1	51.02	ppb	1.46	50	102.0	90 - 110	
105 Pd	115	1	49.75	ppb	0.61	50	99.5	90 - 110	
107 Ag	115	1	50.69	ppb	1.92	50	101.4	90 - 110	
111 Cd	115	1	49.68	ppb	1.54	50	99.4	90 - 110	
118 Sn	115	1	49.98	ppb	0.77	50	100.0	90 - 110	
121 Sb	115	1	49.57	ppb	0.87	50	99.1	90 - 110	
137 Ba	115	1	51.39	ppb	1.55	50	102.8	90 - 110	
182 W	165	1	48.62	ppb	1.47	50	97.2	90 - 110	
195 Pt	165	1	51.40	ppb	1.31	50	102.8	90 - 110	
205 Tl	165	1	53.00	ppb	0.05	50	106.0	90 - 110	
208 Pb	165	1	53.03	ppb	1.48	50	106.1	90 - 110	
232 Th	165	1	53.92	ppb	1.60	50	107.8	90 - 110	
238 U	165	1	54.58	ppb	0.32	50	109.2	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	502116	0.53	613401	81.9	30 - 120	
45 Sc	1	2551161	0.20	3328415	76.6	30 - 120	
72 Ge	1	1172184	0.91	1482070	79.1	30 - 120	
115 In	1	3047707	0.36	3719636	81.9	30 - 120	
165 Ho	1	4581521	0.89	5558876	82.4	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\AG080409.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\AG080409.B\074_CCB.D\074_CCB.D#
Date Acquired: Aug 4 2009 09:00 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: Aug 04 2009 05:33 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.015	ppb	0.39	1.00	
23 Na	6	1	20.750	ppb	2.87	20.00	Fail
24 Mg	6	1	5.330	ppb	0.82	20.00	
27 Al	45	1	4.710	ppb	5.38	20.00	
39 K	45	1	5.379	ppb	14.61	20.00	
43 Ca	45	1	10.870	ppb	19.09	20.00	
51 V	72	1	0.006	ppb	327.39	1.00	
52 Cr	72	1	-0.007	ppb	115.54	1.00	
55 Mn	72	1	0.024	ppb	16.38	1.00	
57 Fe	72	1	5.460	ppb	13.32	20.00	
59 Co	72	1	0.012	ppb	9.44	1.00	
60 Ni	72	1	0.004	ppb	92.45	1.00	
63 Cu	72	1	0.055	ppb	11.35	1.00	
66 Zn	72	1	0.618	ppb	0.56	10.00	
75 As	72	1	0.003	ppb	213.08	1.00	
78 Se	72	1	0.340	ppb	27.76	1.00	
93 Nb	72	1	3.125	ppb	10.95	2.00	Fail
95 Mo	72	1	0.092	ppb	3.17	1.00	
105 Pd	115	1	0.022	ppb	20.37	1.00	
107 Ag	115	1	0.014	ppb	25.61	1.00	
111 Cd	115	1	0.011	ppb	6.99	1.00	
118 Sn	115	1	-0.029	ppb	97.06	10.00	
121 Sb	115	1	0.168	ppb	4.09	1.00	
137 Ba	115	1	0.048	ppb	9.04	1.00	
182 W	165	1	0.030	ppb	39.29	5.00	
195 Pt	165	1	0.013	ppb	7.02	1.00	
205 Tl	165	1	0.015	ppb	26.65	1.00	
208 Pb	165	1	0.012	ppb	19.11	1.00	
232 Th	165	1	0.322	ppb	8.98	2.00	
238 U	165	1	0.016	ppb	1.36	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	510194	0.39	613401	83.2	30 - 120	
45 Sc	1	2553969	1.20	3328415	76.7	30 - 120	
72 Ge	1	1188753	1.07	1482070	80.2	30 - 120	
115 In	1	3141584	0.24	3719636	84.5	30 - 120	
165 Ho	1	4623990	0.39	5558876	83.2	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\AG080409.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\AG080409.B\075WASH.D\075WASH.D#
Date Acquired: Aug 4 2009 09:03 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 04 2009 05:33 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	0.938 ppb	9.33	1.30	
23 Na	6	1	66.090 ppb	0.92	65.00	
24 Mg	6	1	53.950 ppb	1.55	65.00	
27 Al	45	1	36.250 ppb	3.04	39.00	
39 K	45	1	108.500 ppb	5.33	130.00	
43 Ca	45	1	56.550 ppb	22.55	65.00	
51 V	72	1	4.944 ppb	0.93	6.50	
52 Cr	72	1	2.082 ppb	1.09	2.60	
55 Mn	72	1	1.041 ppb	2.17	1.30	
57 Fe	72	1	57.710 ppb	1.58	65.00	
59 Co	72	1	1.074 ppb	3.31	1.30	
60 Ni	72	1	2.124 ppb	2.34	2.60	
63 Cu	72	1	2.167 ppb	4.88	2.60	
66 Zn	72	1	10.530 ppb	0.92	13.00	
75 As	72	1	5.113 ppb	0.71	6.50	
78 Se	72	1	5.345 ppb	3.39	6.50	
93 Nb	72	1	44.320 ppb	1.25	52.00	
95 Mo	72	1	2.227 ppb	2.04	2.60	
105 Pd	115	1	0.924 ppb	3.69	1.30	
107 Ag	115	1	5.264 ppb	2.21	6.50	
111 Cd	115	1	1.020 ppb	4.87	1.30	
118 Sn	115	1	10.210 ppb	1.20	13.00	
121 Sb	115	1	1.987 ppb	1.39	2.60	
137 Ba	115	1	1.105 ppb	5.07	1.30	
182 W	165	1	4.926 ppb	1.89	6.50	
195 Pt	165	1	1.032 ppb	3.13	1.30	
205 Tl	165	1	1.144 ppb	1.72	1.30	
208 Pb	165	1	1.154 ppb	1.20	1.30	
232 Th	165	1	2.676 ppb	7.24	2.60	
238 U	165	1	1.183 ppb	1.63	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	511501	1.12	613401	83.4	30 - 120	
45 Sc	1	2555651	1.40	3328415	76.8	30 - 120	
72 Ge	1	1187479	0.16	1482070	80.1	30 - 120	
115 In	1	3119343	0.98	3719636	83.9	30 - 120	
165 Ho	1	4597620	0.16	5558876	82.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\003CALB.D\003CALB.D#

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst: LRD

Date: 08/04/2009

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\089CALB.D\089CALB.D#
Date Acquired: Aug 4 2009 09:44 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: Aug 04 2009 09:42 pm
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
23	Na	6	1	178484	1.47
24	Mg	6	1	14468	3.45
27	Al	45	1	12259	2.42
39	K	45	1	291167	0.16
43	Ca	45	1	117	30.31
51	V	72	1	62	998.48
52	Cr	72	1	3150	3.30
55	Mn	72	1	817	14.72
57	Fe	72	1	1950	3.11
59	Co	72	1	130	27.41
60	Ni	72	1	133	4.91
63	Cu	72	1	733	18.66
66	Zn	72	1	501	5.89
75	As	72	1	82	4.27
78	Se	72	1	760	16.24
93	Nb	72	1	9040	12.14
95	Mo	72	1	630	15.13
105	Pd	115	1	30	32.80
107	Ag	115	1	47	43.69
111	Cd	115	1	21	37.48
118	Sn	115	1	1340	13.26
121	Sb	115	1	107	20.01
137	Ba	115	1	127	14.14
182	W	165	1	970	10.27
195	Pt	165	1	193	16.47
205	Tl	165	1	123	18.04
208	Pb	165	1	272	24.67
232	Th	165	1	633	14.00
238	U	165	1	150	16.83

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	474143	0.42
45	Sc	1	2484770	0.24
72	Ge	1	1162179	0.64
115	In	1	3064413	0.99
165	Ho	1	4475388	0.32

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\AG080409.B\090ICAL.D\090ICAL.D#
Date Acquired: Aug 4 2009 09:47 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: Aug 04 2009 09:45 pm
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	57654	0.96
23	Na	6	1	47290952	0.20
24	Mg	6	1	28755110	0.81
27	Al	45	1	26040040	0.31
39	K	45	1	46198380	0.52
43	Ca	45	1	115441	0.38
51	V	72	1	1322279	2.55
52	Cr	72	1	1278938	2.13
55	Mn	72	1	1389024	2.06
57	Fe	72	1	3272399	1.40
59	Co	72	1	1648690	2.74
60	Ni	72	1	372393	1.98
63	Cu	72	1	875339	1.93
66	Zn	72	1	175015	1.90
75	As	72	1	156097	1.98
78	Se	72	1	28029	1.73
93	Nb	72	1	4307845	2.13
95	Mo	72	1	418828	1.87
105	Pd	115	1	523266	0.92
107	Ag	115	1	1134900	0.27
111	Cd	115	1	220605	1.15
118	Sn	115	1	625068	1.30
121	Sb	115	1	692878	1.09
137	Ba	115	1	307510	1.18
182	W	165	1	947071	1.18
195	Pt	165	1	658257	1.17
205	Tl	165	1	2087953	0.61
208	Pb	165	1	2813110	0.86
232	Th	165	1	2965553	0.76
238	U	165	1	3109441	0.25

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	443695	0.31	474143	93.6	30 - 120	
45	Sc	1	2341196	0.60	2484770	94.2	30 - 120	
72	Ge	1	1096796	1.48	1162179	94.4	30 - 120	
115	In	1	2858030	0.81	3064413	93.3	30 - 120	
165	Ho	1	4293346	0.21	4475388	95.9	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\089CALB.D\089CALB.D#

0 :Element Failures 0
0 :ISTD Failures 0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\091_CCV.D\091_CCV.D#
Date Acquired: Aug 4 2009 09:50 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: Aug 04 2009 09:48 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	50.75	ppb	2.38	50	101.5	90 - 110	
23 Na	6	1	5030.00	ppb	0.76	5000	100.6	90 - 110	
24 Mg	6	1	5070.00	ppb	2.00	5000	101.4	90 - 110	
27 Al	45	1	5077.00	ppb	0.58	5000	101.5	90 - 110	
39 K	45	1	5046.00	ppb	1.31	5000	100.9	90 - 110	
43 Ca	45	1	5110.00	ppb	1.76	5000	102.2	90 - 110	
51 V	72	1	49.26	ppb	0.37	50	98.5	90 - 110	
52 Cr	72	1	50.67	ppb	0.26	50	101.3	90 - 110	
55 Mn	72	1	50.26	ppb	0.80	50	100.5	90 - 110	
57 Fe	72	1	5175.00	ppb	1.75	5000	103.5	90 - 110	
59 Co	72	1	50.69	ppb	0.60	50	101.4	90 - 110	
60 Ni	72	1	51.38	ppb	0.38	50	102.8	90 - 110	
63 Cu	72	1	51.26	ppb	0.64	50	102.5	90 - 110	
66 Zn	72	1	51.04	ppb	0.43	50	102.1	90 - 110	
75 As	72	1	50.48	ppb	0.68	50	101.0	90 - 110	
78 Se	72	1	49.38	ppb	1.31	50	98.8	90 - 110	
93 Nb	72	1	104.00	ppb	0.79	100	104.0	90 - 110	
95 Mo	72	1	50.31	ppb	0.31	50	100.6	90 - 110	
105 Pd	115	1	50.43	ppb	2.44	50	100.9	90 - 110	
107 Ag	115	1	51.37	ppb	0.85	50	102.7	90 - 110	
111 Cd	115	1	50.44	ppb	0.84	50	100.9	90 - 110	
118 Sn	115	1	50.18	ppb	0.58	50	100.4	90 - 110	
121 Sb	115	1	50.27	ppb	0.24	50	100.5	90 - 110	
137 Ba	115	1	50.21	ppb	0.87	50	100.4	90 - 110	
182 W	165	1	49.77	ppb	1.37	50	99.5	90 - 110	
195 Pt	165	1	50.42	ppb	1.61	50	100.8	90 - 110	
205 Tl	165	1	51.69	ppb	0.62	50	103.4	90 - 110	
208 Pb	165	1	51.58	ppb	0.71	50	103.2	90 - 110	
232 Th	165	1	51.36	ppb	1.04	50	102.7	90 - 110	
238 U	165	1	50.74	ppb	0.66	50	101.5	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	445523	0.71	474143	94.0	30 - 120	
45 Sc	1	2345322	1.04	2484770	94.4	30 - 120	
72 Ge	1	1098830	0.62	1162179	94.5	30 - 120	
115 In	1	2880071	0.20	3064413	94.0	30 - 120	
165 Ho	1	4310631	0.28	4475388	96.3	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\089CALB.D\089CALB.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\AG080409.B\092_CCB.D\092_CCB.D#
Date Acquired: Aug 4 2009 09:53 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: Aug 04 2009 09:48 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	0.011	ppb	86.60	1.00	
23 Na	6	1	-2.469	ppb	14.44	20.00	
24 Mg	6	1	0.728	ppb	3.99	20.00	
27 Al	45	1	0.569	ppb	31.92	20.00	
39 K	45	1	1.055	ppb	52.13	20.00	
43 Ca	45	1	9.441	ppb	18.68	20.00	
51 V	72	1	-0.003	ppb	936.55	1.00	
52 Cr	72	1	0.019	ppb	67.57	1.00	
55 Mn	72	1	0.006	ppb	92.29	1.00	
57 Fe	72	1	0.940	ppb	70.09	20.00	
59 Co	72	1	0.007	ppb	26.51	1.00	
60 Ni	72	1	0.007	ppb	235.68	1.00	
63 Cu	72	1	0.012	ppb	109.20	1.00	
66 Zn	72	1	0.597	ppb	3.65	10.00	
75 As	72	1	0.006	ppb	196.78	1.00	
78 Se	72	1	0.133	ppb	38.77	1.00	
93 Nb	72	1	3.759	ppb	11.75	2.00	Fail
95 Mo	72	1	0.005	ppb	571.85	1.00	
105 Pd	115	1	0.037	ppb	17.09	1.00	
107 Ag	115	1	0.004	ppb	77.56	1.00	
111 Cd	115	1	0.004	ppb	100.36	1.00	
118 Sn	115	1	0.001	ppb	4722.60	10.00	
121 Sb	115	1	0.195	ppb	5.19	1.00	
137 Ba	115	1	0.000	ppb	1432.70	1.00	
182 W	165	1	0.065	ppb	15.72	5.00	
195 Pt	165	1	0.000	ppb	570.74	1.00	
205 Tl	165	1	0.034	ppb	3.20	1.00	
208 Pb	165	1	0.012	ppb	12.70	1.00	
232 Th	165	1	0.315	ppb	10.07	2.00	
238 U	165	1	0.014	ppb	4.38	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	458285	0.52	474143	96.7	30 - 120	
45 Sc	1	2423480	1.64	2484770	97.5	30 - 120	
72 Ge	1	1125409	0.33	1162179	96.8	30 - 120	
115 In	1	2976971	0.11	3064413	97.1	30 - 120	
165 Ho	1	4386990	0.35	4475388	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\089CALB.D\089CALB.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\AG080409.B\093WASH.D\093WASH.D#
Date Acquired: Aug 4 2009 09:56 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 04 2009 09:48 pm
Sample Type: WASH
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.970 ppb	1.25	1.30	
23 Na	6	1	49.500 ppb	0.87	65.00	
24 Mg	6	1	55.400 ppb	1.06	65.00	
27 Al	45	1	32.730 ppb	0.97	39.00	
39 K	45	1	104.900 ppb	0.89	130.00	
43 Ca	45	1	54.920 ppb	13.10	65.00	
51 V	72	1	5.096 ppb	3.25	6.50	
52 Cr	72	1	2.148 ppb	2.32	2.60	
55 Mn	72	1	1.052 ppb	2.55	1.30	
57 Fe	72	1	54.430 ppb	1.16	65.00	
59 Co	72	1	1.065 ppb	2.09	1.30	
60 Ni	72	1	2.263 ppb	5.73	2.60	
63 Cu	72	1	2.200 ppb	4.92	2.60	
66 Zn	72	1	10.700 ppb	1.85	13.00	
75 As	72	1	5.312 ppb	3.05	6.50	
78 Se	72	1	5.832 ppb	7.17	6.50	
93 Nb	72	1	45.720 ppb	2.05	52.00	
95 Mo	72	1	1.995 ppb	3.37	2.60	
105 Pd	115	1	0.969 ppb	8.73	1.30	
107 Ag	115	1	5.402 ppb	1.43	6.50	
111 Cd	115	1	1.111 ppb	2.62	1.30	
118 Sn	115	1	10.270 ppb	3.18	13.00	
121 Sb	115	1	2.053 ppb	1.10	2.60	
137 Ba	115	1	1.034 ppb	3.28	1.30	
182 W	165	1	5.145 ppb	1.66	6.50	
195 Pt	165	1	1.024 ppb	3.68	1.30	
205 Tl	165	1	1.113 ppb	1.88	1.30	
208 Pb	165	1	1.114 ppb	3.16	1.30	
232 Th	165	1	2.515 ppb	7.50	2.60	
238 U	165	1	1.095 ppb	1.48	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	455069	0.82	474143	96.0	30 - 120	
45 Sc	1	2446968	0.47	2484770	98.5	30 - 120	
72 Ge	1	1128565	1.30	1162179	97.1	30 - 120	
115 In	1	2992883	0.67	3064413	97.7	30 - 120	
165 Ho	1	4387134	0.62	4475388	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\089CALB.D\089CALB.D#

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

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\094ICSA.D\094ICSA.D#
Date Acquired: Aug 4 2009 09:59 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: Aug 04 2009 09:48 pm
Sample Type: ICSA
Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9 Be	6	1	0.01 ppb	86.63	1.00	
23 Na	6	1	98320.00 ppb	0.42	100.00	
24 Mg	6	1	95360.00 ppb	0.89	100.00	
27 Al	45	1	100700.00 ppb	1.38	100.00	
39 K	45	1	99400.00 ppb	1.67	100.00	
43 Ca	45	1	104800.00 ppb	1.65	100.00	
51 V	72	1	-0.28 ppb	37.57	1.00	
52 Cr	72	1	0.72 ppb	2.04	1.00	
55 Mn	72	1	3.64 ppb	0.48	1.00	
57 Fe	72	1	98190.00 ppb	0.33	100.00	
59 Co	72	1	1.57 ppb	3.16	1.00	
60 Ni	72	1	1.73 ppb	3.25	1.00	
63 Cu	72	1	1.54 ppb	0.54	1.00	
66 Zn	72	1	3.11 ppb	1.46	10.00	
75 As	72	1	0.47 ppb	5.96	1.00	
78 Se	72	1	-0.41 ppb	3.60	1.00	
93 Nb	72	1	4.26 ppb	8.33	2.00	
95 Mo	72	1	2031.00 ppb	1.28	2000.00	
105 Pd	115	1	0.11 ppb	11.68	1.00	
107 Ag	115	1	0.04 ppb	3.09	1.00	
111 Cd	115	1	3.27 ppb	2.45	1.00	
118 Sn	115	1	0.20 ppb	12.29	10.00	
121 Sb	115	1	0.30 ppb	4.78	1.00	
137 Ba	115	1	0.04 ppb	16.65	1.00	
182 W	165	1	0.14 ppb	23.34	5.00	
195 Pt	165	1	0.00 ppb	35.04	1.00	
205 Tl	165	1	0.03 ppb	46.05	1.00	
208 Pb	165	1	0.11 ppb	7.16	1.00	
232 Th	165	1	0.09 ppb	28.99	2.00	
238 U	165	1	0.00 ppb	200.21	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	459671	0.67	474143	96.9	30 - 120	
45 Sc	1	2308339	1.69	2484770	92.9	30 - 120	
72 Ge	1	1044007	0.53	1162179	89.8	30 - 120	
115 In	1	2661248	0.76	3064413	86.8	30 - 120	
165 Ho	1	4140212	0.09	4475388	92.5	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\AG080409.B\089CALB.D\089CALB.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\AG080409.B\095ICSB.D\095ICSB.D#
Date Acquired: Aug 4 2009 10:02 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: Aug 04 2009 09:48 pm
Sample Type: ICSAB
Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	96.32	1.28	100	96.3	80 - 120	
23 Na	6	1	105200.00	0.58	110000	95.6	80 - 120	
24 Mg	6	1	102400.00	0.40	110000	93.1	80 - 120	
27 Al	45	1	107900.00	0.79	110000	98.1	80 - 120	
39 K	45	1	106300.00	0.33	110000	96.6	80 - 120	
43 Ca	45	1	111000.00	0.16	110000	100.9	80 - 120	
51 V	72	1	100.60	0.93	100	100.6	80 - 120	
52 Cr	72	1	100.70	0.13	100	100.7	80 - 120	
55 Mn	72	1	101.80	0.94	100	101.8	80 - 120	
57 Fe	72	1	104800.00	0.86	110000	95.3	80 - 120	
59 Co	72	1	99.01	0.04	100	99.0	80 - 120	
60 Ni	72	1	96.66	1.28	100	96.7	80 - 120	
63 Cu	72	1	94.38	1.35	100	94.4	80 - 120	
66 Zn	72	1	96.36	1.54	100	96.4	80 - 120	
75 As	72	1	99.30	1.06	100	99.3	80 - 120	
78 Se	72	1	99.29	3.35	100	99.3	80 - 120	
93 Nb	72	1	198.80	1.14	200	99.4	80 - 120	
95 Mo	72	1	2085.00	0.09	2100	99.3	80 - 120	
105 Pd	115	1	96.05	0.65	100	96.1	80 - 120	
107 Ag	115	1	88.64	5.52	100	88.6	80 - 120	
111 Cd	115	1	99.13	1.34	100	99.1	80 - 120	
118 Sn	115	1	100.50	1.16	100	100.5	80 - 120	
121 Sb	115	1	102.10	0.79	100	102.1	80 - 120	
137 Ba	115	1	102.40	1.38	100	102.4	80 - 120	
182 W	165	1	101.50	1.12	100	101.5	80 - 120	
195 Pt	165	1	95.01	0.62	100	95.0	80 - 120	
205 Tl	165	1	95.85	0.52	100	95.9	80 - 120	
208 Pb	165	1	95.62	0.56	100	95.6	80 - 120	
232 Th	165	1	99.13	1.09	100	99.1	80 - 120	
238 U	165	1	98.87	0.92	100	98.9	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	458521	0.47	474143	96.7	30 - 120	
45 Sc	1	2282460	0.85	2484770	91.9	30 - 120	
72 Ge	1	1049641	1.14	1162179	90.3	30 - 120	
115 In	1	2646524	0.84	3064413	86.4	30 - 120	
165 Ho	1	4131415	0.80	4475388	92.3	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\089CALB.D\089CALB.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\AG080409.B\096WASH.D\096WASH.D#
Date Acquired: Aug 4 2009 10:04 pm
Operator: TEL
Sample Name: WASH
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 04 2009 09:48 pm
Sample Type: WASH
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.005 ppb	173.21	1.30	
23 Na	6	1	12.240 ppb	16.49	65.00	
24 Mg	6	1	8.620 ppb	21.44	65.00	
27 Al	45	1	10.170 ppb	15.99	39.00	
39 K	45	1	6.753 ppb	15.22	130.00	
43 Ca	45	1	9.370 ppb	32.31	65.00	
51 V	72	1	0.008 ppb	405.72	6.50	
52 Cr	72	1	0.026 ppb	46.31	2.60	
55 Mn	72	1	0.005 ppb	106.07	1.30	
57 Fe	72	1	11.250 ppb	18.36	65.00	
59 Co	72	1	0.010 ppb	10.14	1.30	
60 Ni	72	1	0.015 ppb	47.08	2.60	
63 Cu	72	1	-0.003 ppb	437.61	2.60	
66 Zn	72	1	0.066 ppb	29.89	13.00	
75 As	72	1	0.013 ppb	82.10	6.50	
78 Se	72	1	0.195 ppb	201.23	6.50	
93 Nb	72	1	4.577 ppb	12.60	52.00	
95 Mo	72	1	1.211 ppb	10.88	2.60	
105 Pd	115	1	0.013 ppb	64.65	1.30	
107 Ag	115	1	0.014 ppb	22.07	6.50	
111 Cd	115	1	0.008 ppb	27.07	1.30	
118 Sn	115	1	-0.023 ppb	88.90	13.00	
121 Sb	115	1	0.127 ppb	5.44	2.60	
137 Ba	115	1	-0.006 ppb	163.76	1.30	
182 W	165	1	0.067 ppb	4.32	6.50	
195 Pt	165	1	0.010 ppb	98.77	1.30	
205 Tl	165	1	0.012 ppb	10.40	1.30	
208 Pb	165	1	0.013 ppb	18.73	1.30	
232 Th	165	1	0.448 ppb	10.88	2.60	
238 U	165	1	0.020 ppb	8.71	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	465019	1.73	474143	98.1	30 - 120	
45 Sc	1	2361340	0.44	2484770	95.0	30 - 120	
72 Ge	1	1114627	1.15	1162179	95.9	30 - 120	
115 In	1	2938079	0.52	3064413	95.9	30 - 120	
165 Ho	1	4404170	0.74	4475388	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\AG080409.B\089CALB.D\089CALB.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\AG080409.B\097_CCV.D\097_CCV.D#
Date Acquired: Aug 4 2009 10:07 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: Aug 04 2009 09:48 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	50.87	ppb	2.72	50	101.7	90 - 110	
23 Na	6	1	5030.00	ppb	0.84	5000	100.6	90 - 110	
24 Mg	6	1	4975.00	ppb	0.37	5000	99.5	90 - 110	
27 Al	45	1	4999.00	ppb	0.47	5000	100.0	90 - 110	
39 K	45	1	5015.00	ppb	0.50	5000	100.3	90 - 110	
43 Ca	45	1	4978.00	ppb	1.01	5000	99.6	90 - 110	
51 V	72	1	49.01	ppb	1.42	50	98.0	90 - 110	
52 Cr	72	1	50.21	ppb	0.85	50	100.4	90 - 110	
55 Mn	72	1	49.79	ppb	0.40	50	99.6	90 - 110	
57 Fe	72	1	5145.00	ppb	0.75	5000	102.9	90 - 110	
59 Co	72	1	50.00	ppb	0.78	50	100.0	90 - 110	
60 Ni	72	1	50.92	ppb	1.18	50	101.8	90 - 110	
63 Cu	72	1	50.89	ppb	0.59	50	101.8	90 - 110	
66 Zn	72	1	50.52	ppb	0.98	50	101.0	90 - 110	
75 As	72	1	50.18	ppb	0.62	50	100.4	90 - 110	
78 Se	72	1	50.48	ppb	2.52	50	101.0	90 - 110	
93 Nb	72	1	102.30	ppb	0.52	100	102.3	90 - 110	
95 Mo	72	1	49.96	ppb	0.89	50	99.9	90 - 110	
105 Pd	115	1	51.24	ppb	1.91	50	102.5	90 - 110	
107 Ag	115	1	52.00	ppb	1.21	50	104.0	90 - 110	
111 Cd	115	1	50.74	ppb	1.30	50	101.5	90 - 110	
118 Sn	115	1	50.67	ppb	2.00	50	101.3	90 - 110	
121 Sb	115	1	50.48	ppb	0.65	50	101.0	90 - 110	
137 Ba	115	1	50.64	ppb	1.63	50	101.3	90 - 110	
182 W	165	1	50.21	ppb	0.95	50	100.4	90 - 110	
195 Pt	165	1	50.66	ppb	0.75	50	101.3	90 - 110	
205 Tl	165	1	51.44	ppb	0.95	50	102.9	90 - 110	
208 Pb	165	1	51.96	ppb	0.78	50	103.9	90 - 110	
232 Th	165	1	51.39	ppb	0.50	50	102.8	90 - 110	
238 U	165	1	51.14	ppb	0.75	50	102.3	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	451853	0.49	474143	95.3	30 - 120	
45 Sc	1	2375883	0.80	2484770	95.6	30 - 120	
72 Ge	1	1117949	0.39	1162179	96.2	30 - 120	
115 In	1	2884699	0.90	3064413	94.1	30 - 120	
165 Ho	1	4343104	0.09	4475388	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\AG080409.B\089CALB.D\089CALB.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\AG080409.B\098_CCB.D\098_CCB.D#
Date Acquired:	Aug 4 2009 10:10 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:	Aug 04 2009 09:48 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	0.011	ppb	86.62	1.00	
23 Na	6	1	-0.490	ppb	61.81	20.00	
24 Mg	6	1	1.180	ppb	7.96	20.00	
27 Al	45	1	1.100	ppb	10.01	20.00	
39 K	45	1	2.088	ppb	54.65	20.00	
43 Ca	45	1	6.293	ppb	52.60	20.00	
51 V	72	1	0.014	ppb	77.05	1.00	
52 Cr	72	1	0.021	ppb	28.37	1.00	
55 Mn	72	1	-0.001	ppb	855.24	1.00	
57 Fe	72	1	1.036	ppb	33.15	20.00	
59 Co	72	1	0.006	ppb	23.17	1.00	
60 Ni	72	1	0.004	ppb	179.98	1.00	
63 Cu	72	1	0.011	ppb	54.22	1.00	
66 Zn	72	1	0.597	ppb	3.14	10.00	
75 As	72	1	0.015	ppb	1.13	1.00	
78 Se	72	1	0.358	ppb	47.89	1.00	
93 Nb	72	1	3.709	ppb	10.86	2.00	Fail
95 Mo	72	1	0.077	ppb	63.62	1.00	
105 Pd	115	1	0.027	ppb	62.89	1.00	
107 Ag	115	1	0.010	ppb	19.56	1.00	
111 Cd	115	1	0.006	ppb	124.41	1.00	
118 Sn	115	1	-0.013	ppb	18.38	10.00	
121 Sb	115	1	0.174	ppb	3.42	1.00	
137 Ba	115	1	-0.004	ppb	188.93	1.00	
182 W	165	1	0.059	ppb	19.97	5.00	
195 Pt	165	1	0.007	ppb	116.96	1.00	
205 Tl	165	1	0.023	ppb	14.74	1.00	
208 Pb	165	1	0.010	ppb	17.15	1.00	
232 Th	165	1	0.319	ppb	13.63	2.00	
238 U	165	1	0.012	ppb	11.50	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	465208	0.92	474143	98.1	30 - 120	
45 Sc	1	2436587	0.89	2484770	98.1	30 - 120	
72 Ge	1	1130740	1.00	1162179	97.3	30 - 120	
115 In	1	3009733	1.46	3064413	98.2	30 - 120	
165 Ho	1	4399005	0.53	4475388	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\AG080409.B\089CALB.D\089CALB.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\AG080409.B\099WASH.D\099WASH.D#
Date Acquired: Aug 4 2009 10:13 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 04 2009 09:48 pm
Sample Type: WASH
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.886 ppb	5.66	1.30	
23 Na	6	1	50.810 ppb	1.06	65.00	
24 Mg	6	1	56.000 ppb	0.89	65.00	
27 Al	45	1	33.700 ppb	1.84	39.00	
39 K	45	1	110.100 ppb	2.95	130.00	
43 Ca	45	1	60.140 ppb	8.21	65.00	
51 V	72	1	5.031 ppb	2.05	6.50	
52 Cr	72	1	2.150 ppb	2.93	2.60	
55 Mn	72	1	1.027 ppb	2.91	1.30	
57 Fe	72	1	53.480 ppb	4.59	65.00	
59 Co	72	1	1.040 ppb	2.92	1.30	
60 Ni	72	1	2.121 ppb	5.54	2.60	
63 Cu	72	1	2.137 ppb	0.81	2.60	
66 Zn	72	1	10.480 ppb	0.89	13.00	
75 As	72	1	5.104 ppb	1.55	6.50	
78 Se	72	1	5.343 ppb	9.92	6.50	
93 Nb	72	1	44.650 ppb	1.78	52.00	
95 Mo	72	1	2.036 ppb	3.83	2.60	
105 Pd	115	1	0.925 ppb	0.87	1.30	
107 Ag	115	1	5.458 ppb	0.05	6.50	
111 Cd	115	1	1.039 ppb	1.83	1.30	
118 Sn	115	1	10.330 ppb	0.19	13.00	
121 Sb	115	1	2.032 ppb	1.67	2.60	
137 Ba	115	1	1.015 ppb	2.72	1.30	
182 W	165	1	4.992 ppb	2.53	6.50	
195 Pt	165	1	1.006 ppb	6.57	1.30	
205 Tl	165	1	1.109 ppb	1.70	1.30	
208 Pb	165	1	1.085 ppb	3.59	1.30	
232 Th	165	1	2.535 ppb	7.55	2.60	
238 U	165	1	1.089 ppb	0.63	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	466268	0.29	474143	98.3	30 - 120	
45 Sc	1	2447934	0.46	2484770	98.5	30 - 120	
72 Ge	1	1160377	0.46	1162179	99.8	30 - 120	
115 In	1	3020765	0.22	3064413	98.6	30 - 120	
165 Ho	1	4470835	1.08	4475388	99.9	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\089CALB.D\089CALB.D#

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst: T. Hill

Date: 8/5/09

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\226CALB.D\226CALB.D#
Date Acquired: Aug 5 2009 04:28 am
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: Aug 05 2009 04:26 am
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	7	86.59
23	Na	6	1	131691	1.73
24	Mg	6	1	9390	11.72
27	Al	45	1	53306	2.59
39	K	45	1	261277	0.52
43	Ca	45	1	83	49.60
51	V	72	1	330	36.73
52	Cr	72	1	2827	4.46
55	Mn	72	1	1473	7.79
57	Fe	72	1	2044	17.38
59	Co	72	1	100	27.12
60	Ni	72	1	150	40.38
63	Cu	72	1	610	12.19
66	Zn	72	1	1897	1.71
75	As	72	1	84	18.18
78	Se	72	1	797	11.63
93	Nb	72	1	7432	18.62
95	Mo	72	1	337	16.97
105	Pd	115	1	23	98.57
107	Ag	115	1	27	57.64
111	Cd	115	1	26	49.92
118	Sn	115	1	717	20.65
121	Sb	115	1	121	3.27
137	Ba	115	1	111	17.27
182	W	165	1	937	5.05
195	Pt	165	1	130	42.78
205	Tl	165	1	101	32.43
208	Pb	165	1	457	18.94
232	Th	165	1	587	19.51
238	U	165	1	113	44.31

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	386520	1.88
45	Sc	1	2036677	0.39
72	Ge	1	948113	0.79
115	In	1	2584999	0.54
165	Ho	1	3810783	0.33

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\227ICAL.D\227ICAL.D#
Date Acquired: Aug 5 2009 04:31 am
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: Aug 05 2009 04:29 am
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	47110	1.19
23	Na	6	1	38442380	1.11
24	Mg	6	1	23493240	1.23
27	Al	45	1	21390430	0.98
39	K	45	1	38587368	0.65
43	Ca	45	1	97968	0.48
51	V	72	1	1086049	1.49
52	Cr	72	1	1061884	0.75
55	Mn	72	1	1152970	1.40
57	Fe	72	1	2735382	1.09
59	Co	72	1	1371886	1.47
60	Ni	72	1	306100	0.42
63	Cu	72	1	720721	0.22
66	Zn	72	1	144015	0.41
75	As	72	1	130331	0.48
78	Se	72	1	23574	3.50
93	Nb	72	1	3693534	1.19
95	Mo	72	1	351858	1.08
105	Pd	115	1	437392	1.43
107	Ag	115	1	960623	0.80
111	Cd	115	1	187545	1.19
118	Sn	115	1	534833	1.23
121	Sb	115	1	596356	1.37
137	Ba	115	1	268674	1.14
182	W	165	1	808869	1.11
195	Pt	165	1	571830	0.63
205	Tl	165	1	1835975	0.66
208	Pb	165	1	2479516	0.70
232	Th	165	1	2646999	0.13
238	U	165	1	2714689	1.19

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	362734	1.61	386520	93.8	30 - 120	
45	Sc	1	1933114	0.80	2036677	94.9	30 - 120	
72	Ge	1	883364	0.81	948113	93.2	30 - 120	
115	In	1	2407609	0.33	2584999	93.1	30 - 120	
165	Ho	1	3651733	0.85	3810783	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\AG080409.B\226CALB.D\226CALB.D#

0 :Element Failures 0
0 :ISTD Failures 0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\228_CCV.D\228_CCV.D#
Date Acquired: Aug 5 2009 04:34 am
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: Aug 05 2009 04:31 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	50.62	ppb	2.03	50	101.2	90 - 110	
23 Na	6	1	5008.00	ppb	0.93	5000	100.2	90 - 110	
24 Mg	6	1	5030.00	ppb	0.24	5000	100.6	90 - 110	
27 Al	45	1	5051.00	ppb	0.74	5000	101.0	90 - 110	
39 K	45	1	5068.00	ppb	1.04	5000	101.4	90 - 110	
43 Ca	45	1	4950.00	ppb	2.16	5000	99.0	90 - 110	
51 V	72	1	48.74	ppb	1.28	50	97.5	90 - 110	
52 Cr	72	1	49.41	ppb	1.29	50	98.8	90 - 110	
55 Mn	72	1	49.59	ppb	1.08	50	99.2	90 - 110	
57 Fe	72	1	5144.00	ppb	2.53	5000	102.9	90 - 110	
59 Co	72	1	49.21	ppb	0.77	50	98.4	90 - 110	
60 Ni	72	1	50.43	ppb	0.50	50	100.9	90 - 110	
63 Cu	72	1	50.58	ppb	1.34	50	101.2	90 - 110	
66 Zn	72	1	50.00	ppb	1.63	50	100.0	90 - 110	
75 As	72	1	49.81	ppb	1.16	50	99.6	90 - 110	
78 Se	72	1	51.19	ppb	3.92	50	102.4	90 - 110	
93 Nb	72	1	102.50	ppb	1.26	100	102.5	90 - 110	
95 Mo	72	1	50.51	ppb	0.81	50	101.0	90 - 110	
105 Pd	115	1	49.67	ppb	2.21	50	99.3	90 - 110	
107 Ag	115	1	49.93	ppb	1.78	50	99.9	90 - 110	
111 Cd	115	1	49.33	ppb	1.02	50	98.7	90 - 110	
118 Sn	115	1	49.15	ppb	1.08	50	98.3	90 - 110	
121 Sb	115	1	48.85	ppb	1.26	50	97.7	90 - 110	
137 Ba	115	1	49.01	ppb	1.73	50	98.0	90 - 110	
182 W	165	1	49.48	ppb	0.82	50	99.0	90 - 110	
195 Pt	165	1	49.39	ppb	1.36	50	98.8	90 - 110	
205 Tl	165	1	50.24	ppb	1.64	50	100.5	90 - 110	
208 Pb	165	1	50.64	ppb	1.09	50	101.3	90 - 110	
232 Th	165	1	50.69	ppb	0.65	50	101.4	90 - 110	
238 U	165	1	50.97	ppb	0.77	50	101.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	363180	0.38	386520	94.0	30 - 120	
45 Sc	1	1912795	0.48	2036677	93.9	30 - 120	
72 Ge	1	889102	1.47	948113	93.8	30 - 120	
115 In	1	2462460	0.82	2584999	95.3	30 - 120	
165 Ho	1	3694671	0.68	3810783	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\229_CCB.D\229_CCB.D#
Date Acquired: Aug 5 2009 04:36 am
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: Aug 05 2009 04:31 am
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	-0.013	ppb	0.00	1.00	
23 Na	6	1	1.425	ppb	22.25	20.00	
24 Mg	6	1	1.453	ppb	12.71	20.00	
27 Al	45	1	-16.820	ppb	1.15	20.00	
39 K	45	1	2.291	ppb	8.09	20.00	
43 Ca	45	1	6.459	ppb	79.98	20.00	
51 V	72	1	-0.001	ppb	2285.70	1.00	
52 Cr	72	1	-0.004	ppb	346.87	1.00	
55 Mn	72	1	0.030	ppb	9.53	1.00	
57 Fe	72	1	1.546	ppb	26.05	20.00	
59 Co	72	1	0.011	ppb	35.80	1.00	
60 Ni	72	1	0.002	ppb	412.56	1.00	
63 Cu	72	1	0.014	ppb	142.93	1.00	
66 Zn	72	1	-0.631	ppb	3.04	10.00	
75 As	72	1	0.003	ppb	576.92	1.00	
78 Se	72	1	-0.017	ppb	2214.00	1.00	
93 Nb	72	1	3.830	ppb	10.98	2.00	Fail
95 Mo	72	1	0.027	ppb	35.03	1.00	
105 Pd	115	1	0.042	ppb	35.24	1.00	
107 Ag	115	1	0.007	ppb	34.36	1.00	
111 Cd	115	1	0.003	ppb	284.29	1.00	
118 Sn	115	1	0.111	ppb	8.98	10.00	
121 Sb	115	1	0.203	ppb	7.14	1.00	
137 Ba	115	1	0.016	ppb	87.97	1.00	
182 W	165	1	0.053	ppb	23.46	5.00	
195 Pt	165	1	0.010	ppb	56.43	1.00	
205 Tl	165	1	0.040	ppb	14.03	1.00	
208 Pb	165	1	0.014	ppb	23.60	1.00	
232 Th	165	1	0.322	ppb	9.93	2.00	
238 U	165	1	0.018	ppb	5.10	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	375524	1.15	386520	97.2	30 - 120	
45 Sc	1	1947341	0.37	2036677	95.6	30 - 120	
72 Ge	1	905504	0.73	948113	95.5	30 - 120	
115 In	1	2511033	1.57	2584999	97.1	30 - 120	
165 Ho	1	3725580	0.96	3810783	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\230WASH.D\230WASH.D#
Date Acquired: Aug 5 2009 04:39 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 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	0.871 ppb	43.02	1.30	
23 Na	6	1	50.480 ppb	0.37	65.00	
24 Mg	6	1	54.970 ppb	0.67	65.00	
27 Al	45	1	15.680 ppb	6.59	39.00	
39 K	45	1	108.500 ppb	0.29	130.00	
43 Ca	45	1	56.890 ppb	21.22	65.00	
51 V	72	1	4.879 ppb	1.69	6.50	
52 Cr	72	1	2.074 ppb	0.40	2.60	
55 Mn	72	1	1.015 ppb	5.96	1.30	
57 Fe	72	1	51.200 ppb	3.83	65.00	
59 Co	72	1	1.024 ppb	2.54	1.30	
60 Ni	72	1	2.131 ppb	1.71	2.60	
63 Cu	72	1	2.098 ppb	1.92	2.60	
66 Zn	72	1	9.491 ppb	1.27	13.00	
75 As	72	1	5.013 ppb	3.98	6.50	
78 Se	72	1	4.413 ppb	15.30	6.50	
93 Nb	72	1	42.320 ppb	0.76	52.00	
95 Mo	72	1	2.071 ppb	1.37	2.60	
105 Pd	115	1	0.937 ppb	3.17	1.30	
107 Ag	115	1	5.235 ppb	1.40	6.50	
111 Cd	115	1	1.045 ppb	1.58	1.30	
118 Sn	115	1	10.260 ppb	2.14	13.00	
121 Sb	115	1	1.972 ppb	0.69	2.60	
137 Ba	115	1	1.021 ppb	2.39	1.30	
182 W	165	1	4.956 ppb	0.62	6.50	
195 Pt	165	1	0.954 ppb	2.21	1.30	
205 Tl	165	1	1.103 ppb	2.05	1.30	
208 Pb	165	1	1.084 ppb	0.29	1.30	
232 Th	165	1	2.443 ppb	5.58	2.60	
238 U	165	1	1.092 ppb	1.80	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	376829	0.70	386520	97.5	30 - 120	
45 Sc	1	1987143	0.72	2036677	97.6	30 - 120	
72 Ge	1	928031	1.45	948113	97.9	30 - 120	
115 In	1	2544787	1.14	2584999	98.4	30 - 120	
165 Ho	1	3746765	0.33	3810783	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\231_BLK.D\231_BLK.D#
Date Acquired: Aug 5 2009 04:42 am
Operator: TEL
Sample Name: LG88DBF
Misc Info: BLANK 9211109 6020
Vial Number: 4312
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 am
Sample Type: BLK
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.013 ppb	0.00	2.00	
23 Na	6	1	-3.175 ppb	17.70	40.00	
24 Mg	6	1	-0.434 ppb	61.83	40.00	
27 Al	45	1	-8.812 ppb	4.20	40.00	
39 K	45	1	0.559 ppb	184.50	40.00	
43 Ca	45	1	7.155 ppb	78.20	40.00	
51 V	72	1	0.002 ppb	1406.40	2.00	
52 Cr	72	1	-0.018 ppb	136.52	2.00	
55 Mn	72	1	0.003 ppb	348.27	2.00	
57 Fe	72	1	0.058 ppb	1056.70	40.00	
59 Co	72	1	0.003 ppb	39.21	2.00	
60 Ni	72	1	-0.006 ppb	129.50	2.00	
63 Cu	72	1	0.018 ppb	19.01	2.00	
66 Zn	72	1	-0.311 ppb	16.65	20.00	
75 As	72	1	-0.010 ppb	65.90	2.00	
78 Se	72	1	-0.105 ppb	38.68	2.00	
93 Nb	72	1	2.044 ppb	9.72	4.00	
95 Mo	72	1	-0.035 ppb	14.16	2.00	
105 Pd	115	1	0.003 ppb	211.10	2.00	
107 Ag	115	1	0.002 ppb	72.85	2.00	
111 Cd	115	1	-0.002 ppb	200.05	2.00	
118 Sn	115	1	0.147 ppb	13.38	20.00	
121 Sb	115	1	0.035 ppb	21.94	2.00	
137 Ba	115	1	0.005 ppb	47.89	2.00	
182 W	165	1	0.023 ppb	101.17	10.00	
195 Pt	165	1	0.003 ppb	54.45	2.00	
205 Tl	165	1	0.025 ppb	14.27	2.00	
208 Pb	165	1	0.006 ppb	38.52	2.00	
232 Th	165	1	0.017 ppb	15.46	4.00	
238 U	165	1	0.002 ppb	32.41	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	379219	0.35	386520	98.1	30 - 120	
45 Sc	1	1987654	1.02	2036677	97.6	30 - 120	
72 Ge	1	938744	1.58	948113	99.0	30 - 120	
115 In	1	2561679	1.02	2584999	99.1	30 - 120	
165 Ho	1	3733652	1.21	3810783	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\226CALB.D\226CALB.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\AG080409.B\232_LCS.D\232_LCS.D#
Date Acquired: Aug 5 2009 04:45 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG88DCF
Misc Info: LCS
Vial Number: 4401
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	42.32	1.50	40	105.8	80 - 120	
23 Na	6	1	-4.34	4.22	4000	-0.1	80 - 120	
24 Mg	6	1	-0.71	30.95	4000	0.0	80 - 120	
27 Al	45	1	35.70	1.39	4000	0.9	80 - 120	
39 K	45	1	-0.16	330.00	4000	0.0	80 - 120	
43 Ca	45	1	6.31	33.40	4000	0.2	80 - 120	
51 V	72	1	38.93	2.21	40	97.3	80 - 120	
52 Cr	72	1	39.94	2.02	40	99.9	80 - 120	
55 Mn	72	1	39.75	1.80	40	99.4	80 - 120	
57 Fe	72	1	-0.25	53.75	4000	0.0	80 - 120	
59 Co	72	1	39.93	1.01	40	99.8	80 - 120	
60 Ni	72	1	41.44	0.47	40	103.6	80 - 120	
63 Cu	72	1	42.19	2.08	40	105.5	80 - 120	
66 Zn	72	1	41.25	1.50	40	103.1	80 - 120	
75 As	72	1	40.13	2.28	40	100.3	80 - 120	
78 Se	72	1	40.28	8.34	40	100.7	80 - 120	
93 Nb	72	1	1.05	19.76	80	1.3	80 - 120	
95 Mo	72	1	39.67	2.15	40	99.2	80 - 120	
105 Pd	115	1	0.01	113.07	40	0.0	80 - 120	
107 Ag	115	1	42.18	0.81	40	105.5	80 - 120	
111 Cd	115	1	40.35	0.90	40	100.9	80 - 120	
118 Sn	115	1	0.13	10.56	40	0.3	80 - 120	
121 Sb	115	1	40.07	0.46	40	100.2	80 - 120	
137 Ba	115	1	39.70	0.32	40	99.3	80 - 120	
182 W	165	1	0.01	81.61	40	0.0	80 - 120	
195 Pt	165	1	0.00	1858.50	40	0.0	80 - 120	
205 Tl	165	1	41.83	1.56	40	104.6	80 - 120	
208 Pb	165	1	42.34	1.62	40	105.9	80 - 120	
232 Th	165	1	35.75	1.03	40	89.4	80 - 120	
238 U	165	1	41.35	1.19	40	103.4	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	375095	0.49	386520	97.0	30 - 120	
45 Sc	1	1968786	1.66	2036677	96.7	30 - 120	
72 Ge	1	933217	2.05	948113	98.4	30 - 120	
115 In	1	2542761	0.74	2584999	98.4	30 - 120	
165 Ho	1	3760796	1.26	3810783	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\233AREF.D\233AREF.D#
Date Acquired: Aug 5 2009 04:48 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WEF 5X
Misc Info: D9G290174
Vial Number: 4402
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: AllRef
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

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	0.07	0.01	ppb	87.01	3600	
23 Na	6	1	903,000.00	180600.00	ppb	0.75	100000	>LDR
24 Mg	6	1	46,790.00	9358.00	ppb	0.85	100000	
27 Al	45	1	-37.25	-7.45	ppb	5.41	100000	
39 K	45	1	20,830.00	4166.00	ppb	0.12	100000	
43 Ca	45	1	57,800.00	11560.00	ppb	1.77	100000	
51 V	72	1	3.86	0.77	ppb	578.93	3600	
52 Cr	72	1	3,297.50	659.50	ppb	0.33	3600	
55 Mn	72	1	5.17	1.03	ppb	1.39	18000	
57 Fe	72	1	281.10	56.22	ppb	0.95	100000	
59 Co	72	1	0.58	0.12	ppb	20.10	3600	
60 Ni	72	1	1.83	0.37	ppb	10.78	3600	
63 Cu	72	1	0.29	0.06	ppb	18.68	3600	
66 Zn	72	1	-3.43	-0.69	ppb	6.30	3600	
75 As	72	1	191.55	38.31	ppb	0.25	3600	
78 Se	72	1	2.48	0.50	ppb	43.71	3600	
93 Nb	72	1	4.07	0.81	ppb	21.25	2000	
95 Mo	72	1	19.67	3.93	ppb	2.47	3600	
105 Pd	115	1	1.57	0.31	ppb	7.45	1000	
107 Ag	115	1	0.05	0.01	ppb	36.10	3600	
111 Cd	115	1	0.03	0.01	ppb	66.38	3600	
118 Sn	115	1	0.38	0.08	ppb	52.36	3600	
121 Sb	115	1	0.40	0.08	ppb	8.97	3600	
137 Ba	115	1	11.12	2.22	ppb	2.17	3600	
182 W	165	1	3.04	0.61	ppb	3.64	1000	
195 Pt	165	1	0.21	0.04	ppb	18.03	1000	
205 Tl	165	1	0.26	0.05	ppb	31.93	3600	
208 Pb	165	1	0.06	0.01	ppb	48.66	3600	
232 Th	165	1	6.49	1.30	ppb	18.00	1000	
238 U	165	1	15.66	3.13	ppb	1.72	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366177	2.15	386520	94.7	30 - 120	
45 Sc	1	1922121	1.55	2036677	94.4	30 - 120	
72 Ge	1	870792	0.60	948113	91.8	30 - 120	
115 In	1	2323215	1.29	2584999	89.9	30 - 120	
165 Ho	1	3554011	0.96	3810783	93.3	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\AG080409.B\226CALB.D\226CALB.D#

1 :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\AG080409.B\234SDIL.D\234SDIL.D#
Date Acquired: Aug 5 2009 04:51 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WEP25F
Misc Info: SERIAL DILUTION
Vial Number: 4403
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: SDIL
Dilution Factor: 5.00

QC Summary:
Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG080409.B\233AREF.D\233AREF.D#

QC elements

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9 Be	6	1	0.01	ppb	85.96	0.00	462.4	90 - 110	
23 Na	6	1	35800.00	ppb	0.80	36120.00	99.1	90 - 110	
24 Mg	6	1	1895.00	ppb	0.46	1871.60	101.3	90 - 110	
27 Al	45	1	-2.94	ppb	15.03	-1.49	197.1	90 - 110	
39 K	45	1	865.00	ppb	2.19	833.20	103.8	90 - 110	
43 Ca	45	1	2394.00	ppb	0.93	2312.00	103.5	90 - 110	
51 V	72	1	1.33	ppb	52.01	0.15	859.2	90 - 110	
52 Cr	72	1	136.10	ppb	1.22	131.90	103.2	90 - 110	
55 Mn	72	1	0.32	ppb	10.14	0.21	156.7	90 - 110	
57 Fe	72	1	15.95	ppb	3.07	11.24	141.9	90 - 110	
59 Co	72	1	0.03	ppb	14.77	0.02	145.0	90 - 110	
60 Ni	72	1	0.28	ppb	4.16	0.07	383.7	90 - 110	
63 Cu	72	1	0.07	ppb	14.93	0.01	574.8	90 - 110	
66 Zn	72	1	-0.43	ppb	5.84	-0.14	315.1	90 - 110	
75 As	72	1	7.72	ppb	1.76	7.66	100.8	90 - 110	
78 Se	72	1	0.08	ppb	131.65	0.10	81.9	90 - 110	
93 Nb	72	1	0.45	ppb	27.08	0.16	274.9	90 - 110	
95 Mo	72	1	0.77	ppb	6.27	0.79	97.3	90 - 110	
105 Pd	115	1	0.06	ppb	41.06	0.06	102.3	90 - 110	
107 Ag	115	1	0.00	ppb	1166.80	0.00	8.7	90 - 110	
111 Cd	115	1	-0.01	ppb	82.41	0.00	-438.4	90 - 110	
118 Sn	115	1	0.10	ppb	39.68	0.02	663.2	90 - 110	
121 Sb	115	1	0.02	ppb	1.40	0.02	94.7	90 - 110	
137 Ba	115	1	0.48	ppb	4.72	0.44	108.8	90 - 110	
182 W	165	1	0.12	ppb	2.07	0.12	99.7	90 - 110	
195 Pt	165	1	0.03	ppb	53.66	0.01	348.6	90 - 110	
205 Tl	165	1	0.01	ppb	19.58	0.01	93.3	90 - 110	
208 Pb	165	1	0.00	ppb	52.18	0.00	-57.8	90 - 110	
232 Th	165	1	0.27	ppb	7.36	0.26	103.3	90 - 110	
238 U	165	1	0.65	ppb	1.35	0.63	103.1	90 - 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	379024	0.27	386520	98.1	30 - 120	
45 Sc	1	1930229	1.07	2036677	94.8	30 - 120	
72 Ge	1	897969	1.30	948113	94.7	30 - 120	
115 In	1	2411173	0.38	2584999	93.3	30 - 120	
165 Ho	1	3653196	0.37	3810783	95.9	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\226CALB.D\226CALB.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: 08/05/09 11:11:14

Department: 090 (Metals) | Source: Spreadsheet

Sample: **LG7WEP25F** | Serial Dilution: **25.00** | Sample Dilution: **5.00**

Instrument: **Agilent7500** | Channel 272
File: AG080409 # 234 | Method 6020_
Acquired: 08/05/2009 04:51:00 | ICPMS_024 | Matrix: AQUEOUS
Calibrated: 08/05/2009 04:28:00 | Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	13	0.34165	0.07393	362		*	
7440-62-2	Vanadium	51	14985	33.200	3.8640	759		*	
7440-47-3	Chromium	52	1468570	3403.5	3297.0	3.23		*	
7439-96-5	Manganese	55	5185	8.0900	5.1660	56.6		*	
7440-48-4	Cobalt	59	560	0.83400	0.57490	45.1		*	
7440-02-0	Nickel	60	1017	7.0300	1.8320	284		*	
7440-50-8	Copper	63	1063	1.6585	0.28850	475		*	
7440-66-6	Zinc	66	1172	-10.800	-3.4270			*	
7440-38-2	Arsenic	75	10301	193.00	191.50	0.783	0.21	0.8	☑
7782-49-2	Selenium	78	773	2.0300	2.4800	18.1	0.70	NC	☑
7439-98-7	Molybdenum	95	3054	19.140	19.670	2.69		*	
7440-22-4	Silver	107	27	0.00466	0.05368	91.3		*	
7440-43-9	Cadmium	111	14	-0.12535	0.02860	538		*	
7440-31-5	Tin	118	1200	2.4890	0.37530	563		*	
7440-36-0	Antimony	121	204	0.38295	0.40450	5.33		*	
7440-39-3	Barium	137	1405	12.090	11.110	8.82		*	
7440-28-0	Thallium	205	276	0.24325	0.26080	6.73		*	
7439-92-1	Lead	208	402	-0.03598	0.06222	158		*	
7440-61-1	Uranium	238	17647	16.145	15.660	3.10		*	
7440-23-5	Sodium	23	43482000	895000	903200	0.908		*	
7439-95-4	Magnesium	24	4659020	47365	46790	1.23		*	
7429-90-5	Aluminum	27	44266	-73.400	-37.240			*	
7440-09-7	Potassium	39	3558720	21625	20830	3.82		*	
7440-70-2	Calcium	43	23483	59850	57820	3.51		*	
7439-89-6	Iron	57	6368	398.75	281.10	41.9		*	
7440-03-1	Niobium	93	15439	11.190	4.0710	175		*	
7440-05-3	Palladium	105	303	1.6060	1.5700	2.29		*	
7440-33-7	Tungsten	182	1877	3.0270	3.0360	0.296		*	
7440-06-4	Platinum	195	293	0.73700	0.21140	249		*	
7440-29-1	Thorium	232	7656	6.7000	6.4860	3.30		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			0			*	

*** Analyte not requested for this batch, no MDL**

NC : Serial dilution concentration < 100 X MDL

E : Difference greater than Limit (10%)

Reviewed by: Date:

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\235PDS.D\235PDS.D#
Date Acquired: Aug 5 2009 04:54 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WEZF
Misc Info: POST DIGESTION SPIKE
Vial Number: 4404
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
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	197.50	0.01	ppb	1.74	200	98.7	75 - 125	
23 Na	6	1	174000.00	180600.00	ppb	2.15	200000	45.7	75 - 125	
24 Mg	6	1	8970.00	9358.00	ppb	2.26	200000	4.3	75 - 125	
27 Al	45	1	13.75	-7.45	ppb	6.56	200000	0.0	75 - 125	
39 K	45	1	4094.00	4166.00	ppb	1.42	200000	2.0	75 - 125	
43 Ca	45	1	11260.00	11560.00	ppb	0.77	200000	5.3	75 - 125	
51 V	72	1	195.10	0.77	ppb	1.72	200	97.2	75 - 125	
52 Cr	72	1	853.30	659.50	ppb	1.51	200	99.3	75 - 125	
55 Mn	72	1	199.50	1.03	ppb	1.06	200	99.2	75 - 125	
57 Fe	72	1	42.35	56.22	ppb	4.22	200000	0.0	75 - 125	
59 Co	72	1	196.20	0.12	ppb	1.20	200	98.0	75 - 125	
60 Ni	72	1	198.60	0.37	ppb	0.90	200	99.1	75 - 125	
63 Cu	72	1	197.40	0.06	ppb	0.82	200	98.7	75 - 125	
66 Zn	72	1	201.50	-0.69	ppb	0.29	200	101.1	75 - 125	
75 As	72	1	239.50	38.31	ppb	0.23	200	100.5	75 - 125	
78 Se	72	1	205.80	0.50	ppb	1.10	200	102.6	75 - 125	
93 Nb	72	1	0.46	0.81	ppb	28.45	400	0.1	75 - 125	
95 Mo	72	1	207.20	3.93	ppb	0.32	200	101.6	75 - 125	
105 Pd	115	1	0.27	0.31	ppb	2.89	200	0.1	75 - 125	
107 Ag	115	1	47.72	0.01	ppb	1.18	50	95.4	75 - 125	
111 Cd	115	1	197.40	0.01	ppb	1.18	200	98.7	75 - 125	
118 Sn	115	1	181.70	0.08	ppb	1.23	200	90.8	75 - 125	
121 Sb	115	1	200.00	0.08	ppb	0.84	200	100.0	75 - 125	
137 Ba	115	1	202.40	2.22	ppb	0.92	200	100.1	75 - 125	
182 W	165	1	0.63	0.61	ppb	7.32	200	0.3	75 - 125	
195 Pt	165	1	0.02	0.04	ppb	15.56	200	0.0	75 - 125	
205 Tl	165	1	189.70	0.05	ppb	0.23	200	94.8	75 - 125	
208 Pb	165	1	191.30	0.01	ppb	0.73	200	95.6	75 - 125	
232 Th	165	1	0.23	1.30	ppb	9.07	200	0.1	75 - 125	
238 U	165	1	199.80	3.13	ppb	0.83	200	98.4	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	373796	1.11	386520	96.7	30 - 120	
45 Sc	1	1919104	2.70	2036677	94.2	30 - 120	
72 Ge	1	856425	0.93	948113	90.3	30 - 120	
115 In	1	2311802	1.27	2584999	89.4	30 - 120	
165 Ho	1	3561067	1.00	3810783	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\AG080409.B\226CALB.D\226CALB.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: 08/05/09 11:11:17

Department: 090 (Metals) | Source: Spreadsheet

Sample: **LG7WEZF** | Spike Dilution: **1.00** | Sample Dilution: **5.00**

Instrument: **Agilent7500** | Channel 272
File: AG080409 # 235 | Method 6020_
Acquired: 08/05/2009 04:54:00 | ICPMS_024 | Matrix: AQUEOUS
Calibrated: 08/05/2009 04:28:00 | Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	95863	197.50	0.01479	98.7	200		☑
7440-62-2	Vanadium	51	2053890	195.10	0.77280	97.2	200		☑
7440-47-3	Chromium	52	8765330	853.30	659.40	96.9	200		☑
7439-96-5	Manganese	55	2228400	199.50	1.0332	99.2	200		☐
7440-48-4	Cobalt	59	2609080	196.20	0.11498	98.0	200		☑
7440-02-0	Nickel	60	589374	198.60	0.36640	99.1	200		☑
7440-50-8	Copper	63	1378590	197.40	0.05770	98.7	200		☑
7440-66-6	Zinc	66	279559	201.50	-0.68540	101	200		☑
7440-38-2	Arsenic	75	302534	239.50	38.300	101	200		☑
7782-49-2	Selenium	78	46261	205.80	0.49600	103	200		☑
7439-98-7	Molybdenum	95	706607	207.20	3.9340	102	200		☐
7440-22-4	Silver	107	440172	47.720	0.01074	95.4	50.0		☑
7440-43-9	Cadmium	111	355376	197.40	0.00572	98.7	200		☑
7440-31-5	Tin	118	932590	181.70	0.07506	90.8	200		☑
7440-36-0	Antimony	121	1144890	200.00	0.08090	100	200		☑
7440-39-3	Barium	137	522152	202.40	2.2220	100	200		☑
7440-28-0	Thallium	205	3396160	189.70	0.05216	94.8	200		☑
7439-92-1	Lead	208	4625930	191.30	0.01244	95.6	200		☑
7440-61-1	Uranium	238	5289360	199.80	3.1320	98.3	200		☑
7440-23-5	Sodium	23	87270000	174000	180640				
7439-95-4	Magnesium	24	21717000	8970.0	9358.0				
7429-90-5	Aluminum	27	79324	13.750	-7.4480				
7440-09-7	Potassium	39	15824300	4094.0	4166.0				
7440-70-2	Calcium	43	109518	11260	11564				
7439-89-6	Iron	57	13073	42.350	56.220				
7440-03-1	Niobium	93	14889	0.45690	0.81420				
7440-05-3	Palladium	105	1147	0.26820	0.31400				
7440-33-7	Tungsten	182	5835	0.62930	0.60720				
7440-06-4	Platinum	195	230	0.01946	0.04228				
7440-29-1	Thorium	232	6392	0.22650	1.2972				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

Reviewed by: Date:

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\236_MS.D\236_MS.D#
Date Acquired: Aug 5 2009 04:57 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WESF 5X
Misc Info: MATRIX SPIKE
Vial Number: 4405
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: MS
Prep Dil. Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

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	8.26	0.01	ppb	1.62	40	20.6	50 - 150	
23 Na	6	1	185700.00	180600.00	ppb	0.97	4000	100.6	50 - 150	
24 Mg	6	1	9515.00	9358.00	ppb	1.32	4000	71.2	50 - 150	
27 Al	45	1	-6.11	-7.45	ppb	14.07	4000	-0.2	50 - 150	
39 K	45	1	4354.00	4166.00	ppb	1.86	4000	53.3	50 - 150	
43 Ca	45	1	12000.00	11560.00	ppb	1.79	4000	77.1	50 - 150	
51 V	72	1	8.51	0.77	ppb	38.39	40	20.9	50 - 150	
52 Cr	72	1	696.60	659.50	ppb	1.20	40	99.6	50 - 150	
55 Mn	72	1	9.17	1.03	ppb	1.57	40	22.3	50 - 150	
57 Fe	72	1	42.13	56.22	ppb	1.75	4000	1.0	50 - 150	
59 Co	72	1	8.37	0.12	ppb	0.97	40	20.9	50 - 150	
60 Ni	72	1	8.60	0.37	ppb	2.30	40	21.3	50 - 150	
63 Cu	72	1	8.39	0.06	ppb	0.77	40	21.0	50 - 150	
66 Zn	72	1	7.52	-0.69	ppb	0.61	40	19.1	50 - 150	
75 As	72	1	48.34	38.31	ppb	0.27	40	61.7	50 - 150	
78 Se	72	1	9.23	0.50	ppb	7.43	40	22.8	50 - 150	
93 Nb	72	1	0.25	0.81	ppb	26.82	80	0.3	50 - 150	
95 Mo	72	1	12.57	3.93	ppb	1.13	40	28.6	50 - 150	
105 Pd	115	1	0.27	0.31	ppb	6.89	40	0.7	50 - 150	
107 Ag	115	1	8.05	0.01	ppb	1.71	40	20.1	50 - 150	
111 Cd	115	1	8.13	0.01	ppb	2.07	40	20.3	50 - 150	
118 Sn	115	1	0.43	0.08	ppb	17.24	40	1.1	50 - 150	
121 Sb	115	1	8.66	0.08	ppb	1.13	40	21.6	50 - 150	
137 Ba	115	1	10.76	2.22	ppb	0.88	40	25.5	50 - 150	
182 W	165	1	0.69	0.61	ppb	2.09	40	1.7	50 - 150	
195 Pt	165	1	0.02	0.04	ppb	12.97	40	0.1	50 - 150	
205 Tl	165	1	8.20	0.05	ppb	1.40	40	20.5	50 - 150	
208 Pb	165	1	8.23	0.01	ppb	2.21	40	20.6	50 - 150	
232 Th	165	1	7.70	1.30	ppb	0.95	40	18.7	50 - 150	
238 U	165	1	12.04	3.13	ppb	1.28	40	27.9	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	380584	0.49	386520	98.5	30 - 120	
45 Sc	1	1957497	1.58	2036677	96.1	30 - 120	
72 Ge	1	880828	0.69	948113	92.9	30 - 120	
115 In	1	2344434	1.32	2584999	90.7	30 - 120	
165 Ho	1	3608834	1.33	3810783	94.7	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\AG080409.B\226CALB.D\226CALB.D#

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

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\237_MSD.D\237_MSD.D#
Date Acquired: Aug 5 2009 05:00 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WEDF 5X
Misc Info: MATRIX SPIKE DUPLICATE
Vial Number: 4406
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: MSD
Dilution Factor: 5.00

QC Summary:
Analytes: Pass
ISTD: Pass

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG080409.B\236_MS.D\236_MS.D#

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	7.99	ppb	1.74	8.26	3.30	20	
23 Na	6	1	178200.00	ppb	1.54	185700.00	4.12	20	
24 Mg	6	1	9198.00	ppb	0.42	9515.00	3.39	20	
27 Al	45	1	41.00	ppb	2.81	-6.11	269.98	20	
39 K	45	1	4228.00	ppb	0.70	4354.00	2.94	20	
43 Ca	45	1	11790.00	ppb	0.29	12000.00	1.77	20	
51 V	72	1	9.95	ppb	17.89	8.51	15.65	20	
52 Cr	72	1	689.40	ppb	2.46	696.60	1.04	20	
55 Mn	72	1	9.20	ppb	1.32	9.17	0.41	20	
57 Fe	72	1	42.59	ppb	1.71	42.13	1.09	20	
59 Co	72	1	8.38	ppb	2.81	8.37	0.17	20	
60 Ni	72	1	8.69	ppb	2.11	8.60	1.08	20	
63 Cu	72	1	8.46	ppb	2.97	8.39	0.81	20	
66 Zn	72	1	8.99	ppb	1.82	7.51	17.85	20	
75 As	72	1	47.75	ppb	2.08	48.34	1.23	20	
78 Se	72	1	8.55	ppb	11.96	9.23	7.62	20	
93 Nb	72	1	0.16	ppb	66.27	0.25	45.77	20	
95 Mo	72	1	12.67	ppb	3.15	12.57	0.79	20	
105 Pd	115	1	0.26	ppb	12.40	0.27	4.57	20	
107 Ag	115	1	8.06	ppb	0.45	8.05	0.17	20	
111 Cd	115	1	8.19	ppb	1.80	8.13	0.69	20	
118 Sn	115	1	0.22	ppb	21.08	0.43	64.22	20	
121 Sb	115	1	8.54	ppb	0.76	8.66	1.43	20	
137 Ba	115	1	10.65	ppb	0.59	10.76	1.03	20	
182 W	165	1	0.64	ppb	3.45	0.69	7.05	20	
195 Pt	165	1	0.03	ppb	29.54	0.02	13.10	20	
205 Tl	165	1	8.16	ppb	0.55	8.20	0.50	20	
208 Pb	165	1	8.16	ppb	0.91	8.23	0.88	20	
232 Th	165	1	7.94	ppb	0.56	7.70	2.99	20	
238 U	165	1	11.93	ppb	1.45	12.04	0.92	20	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	388229	0.86	386520	100.4	30 - 120	
45 Sc	1	1965464	1.43	2036677	96.5	30 - 120	
72 Ge	1	877156	1.99	948113	92.5	30 - 120	
115 In	1	2361274	1.24	2584999	91.3	30 - 120	
165 Ho	1	3624956	0.94	3810783	95.1	30 - 120	

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

ISTD Ref. File : C:\ICPCHEM\1\DATA\AG080409.B\226CALB.D\226CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\238SMPL.D\238SMPL.D#
Date Acquired: Aug 5 2009 05:03 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WHF 5X
Misc Info: D9G290174
Vial Number: 4407
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

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	0.06	0.01	ppb	176.80	3600	
23 Na	6	1	891,000.00	178200.00	ppb	1.39	100000	>LDR
24 Mg	6	1	44,985.00	8997.00	ppb	0.84	100000	
27 Al	45	1	-33.80	-6.76	ppb	6.64	100000	
39 K	45	1	21,295.00	4259.00	ppb	0.99	100000	
43 Ca	45	1	58,600.00	11720.00	ppb	1.18	100000	
51 V	72	1	1.64	0.33	ppb	1085.30	3600	
52 Cr	72	1	3,348.00	669.60	ppb	1.26	3600	
55 Mn	72	1	5.22	1.04	ppb	3.02	18000	
57 Fe	72	1	246.15	49.23	ppb	3.27	100000	
59 Co	72	1	0.55	0.11	ppb	3.56	3600	
60 Ni	72	1	2.08	0.42	ppb	6.85	3600	
63 Cu	72	1	0.46	0.09	ppb	6.76	3600	
66 Zn	72	1	-2.58	-0.52	ppb	10.78	3600	
75 As	72	1	197.45	39.49	ppb	1.56	3600	
78 Se	72	1	3.24	0.65	ppb	72.66	3600	
93 Nb	72	1	0.46	0.09	ppb	82.77	2000	
95 Mo	72	1	19.39	3.88	ppb	1.91	3600	
105 Pd	115	1	1.31	0.26	ppb	16.88	1000	
107 Ag	115	1	0.03	0.01	ppb	69.13	3600	
111 Cd	115	1	0.07	0.01	ppb	34.85	3600	
118 Sn	115	1	0.62	0.12	ppb	22.65	3600	
121 Sb	115	1	0.24	0.05	ppb	15.51	3600	
137 Ba	115	1	11.21	2.24	ppb	1.10	3600	
182 W	165	1	3.06	0.61	ppb	3.07	1000	
195 Pt	165	1	0.13	0.03	ppb	12.71	1000	
205 Tl	165	1	0.11	0.02	ppb	4.98	3600	
208 Pb	165	1	0.03	0.01	ppb	5.85	3600	
232 Th	165	1	1.84	0.37	ppb	15.29	1000	
238 U	165	1	15.70	3.14	ppb	1.13	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	391595	0.63	386520	101.3	30 - 120	
45 Sc	1	1958363	2.08	2036677	96.2	30 - 120	
72 Ge	1	886110	1.63	948113	93.5	30 - 120	
115 In	1	2377112	1.26	2584999	92.0	30 - 120	
165 Ho	1	3651976	1.24	3810783	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\AG080409.B\226CALB.D\226CALB.D#

1 :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\AG080409.B\239_CCV.D\239_CCV.D#
Date Acquired: Aug 5 2009 05:06 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 am
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	48.87	ppb	0.59	50	97.7	90 - 110	
23 Na	6	1	4875.00	ppb	1.49	5000	97.5	90 - 110	
24 Mg	6	1	4832.00	ppb	1.50	5000	96.6	90 - 110	
27 Al	45	1	4894.00	ppb	1.00	5000	97.9	90 - 110	
39 K	45	1	4891.00	ppb	1.22	5000	97.8	90 - 110	
43 Ca	45	1	4776.00	ppb	3.30	5000	95.5	90 - 110	
51 V	72	1	47.55	ppb	0.93	50	95.1	90 - 110	
52 Cr	72	1	48.27	ppb	0.34	50	96.5	90 - 110	
55 Mn	72	1	48.39	ppb	0.48	50	96.8	90 - 110	
57 Fe	72	1	4944.00	ppb	0.95	5000	98.9	90 - 110	
59 Co	72	1	47.94	ppb	0.76	50	95.9	90 - 110	
60 Ni	72	1	49.35	ppb	1.03	50	98.7	90 - 110	
63 Cu	72	1	49.26	ppb	0.60	50	98.5	90 - 110	
66 Zn	72	1	48.90	ppb	1.09	50	97.8	90 - 110	
75 As	72	1	48.26	ppb	1.34	50	96.5	90 - 110	
78 Se	72	1	49.15	ppb	2.12	50	98.3	90 - 110	
93 Nb	72	1	88.68	ppb	2.18	100	88.7	90 - 110	Fail
95 Mo	72	1	48.77	ppb	1.20	50	97.5	90 - 110	
105 Pd	115	1	48.98	ppb	1.81	50	98.0	90 - 110	
107 Ag	115	1	48.98	ppb	1.68	50	98.0	90 - 110	
111 Cd	115	1	48.74	ppb	1.21	50	97.5	90 - 110	
118 Sn	115	1	48.53	ppb	1.43	50	97.1	90 - 110	
121 Sb	115	1	47.52	ppb	1.32	50	95.0	90 - 110	
137 Ba	115	1	47.81	ppb	1.65	50	95.6	90 - 110	
182 W	165	1	48.27	ppb	1.03	50	96.5	90 - 110	
195 Pt	165	1	48.02	ppb	1.06	50	96.0	90 - 110	
205 Tl	165	1	48.98	ppb	0.76	50	98.0	90 - 110	
208 Pb	165	1	49.44	ppb	0.77	50	98.9	90 - 110	
232 Th	165	1	49.07	ppb	1.02	50	98.1	90 - 110	
238 U	165	1	49.83	ppb	0.59	50	99.7	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	373760	1.89	386520	96.7	30 - 120	
45 Sc	1	1936544	0.38	2036677	95.1	30 - 120	
72 Ge	1	891287	0.90	948113	94.0	30 - 120	
115 In	1	2462261	0.89	2584999	95.3	30 - 120	
165 Ho	1	3716383	0.15	3810783	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\240_CCB.D\240_CCB.D#
Date Acquired: Aug 5 2009 05:09 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 am
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	-0.007	ppb	174.11	1.00	
23 Na	6	1	18.670	ppb	3.30	20.00	
24 Mg	6	1	-0.384	ppb	27.27	20.00	
27 Al	45	1	-18.500	ppb	0.64	20.00	
39 K	45	1	-0.791	ppb	110.89	20.00	
43 Ca	45	1	-0.871	ppb	213.79	20.00	
51 V	72	1	-0.012	ppb	137.95	1.00	
52 Cr	72	1	0.039	ppb	47.05	1.00	
55 Mn	72	1	-0.017	ppb	64.65	1.00	
57 Fe	72	1	0.293	ppb	65.03	20.00	
59 Co	72	1	0.005	ppb	62.66	1.00	
60 Ni	72	1	0.024	ppb	24.01	1.00	
63 Cu	72	1	-0.002	ppb	282.35	1.00	
66 Zn	72	1	-0.888	ppb	2.57	10.00	
75 As	72	1	0.004	ppb	395.11	1.00	
78 Se	72	1	-0.279	ppb	89.73	1.00	
93 Nb	72	1	2.835	ppb	13.84	2.00	Fail
95 Mo	72	1	-0.024	ppb	51.08	1.00	
105 Pd	115	1	0.033	ppb	26.18	1.00	
107 Ag	115	1	0.007	ppb	6.02	1.00	
111 Cd	115	1	-0.003	ppb	378.76	1.00	
118 Sn	115	1	0.075	ppb	26.38	10.00	
121 Sb	115	1	0.131	ppb	15.44	1.00	
137 Ba	115	1	0.005	ppb	335.54	1.00	
182 W	165	1	0.023	ppb	52.31	5.00	
195 Pt	165	1	0.003	ppb	339.12	1.00	
205 Tl	165	1	0.021	ppb	16.14	1.00	
208 Pb	165	1	0.003	ppb	25.01	1.00	
232 Th	165	1	0.334	ppb	13.48	2.00	
238 U	165	1	0.010	ppb	5.23	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	383022	1.59	386520	99.1	30 - 120	
45 Sc	1	1923702	1.06	2036677	94.5	30 - 120	
72 Ge	1	901731	2.00	948113	95.1	30 - 120	
115 In	1	2498165	1.66	2584999	96.6	30 - 120	
165 Ho	1	3695986	1.12	3810783	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\241WASH.D\241WASH.D#
Date Acquired: Aug 5 2009 05:12 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 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	0.911 ppb	5.33	1.30	
23 Na	6	1	64.240 ppb	1.00	65.00	
24 Mg	6	1	51.930 ppb	0.41	65.00	
27 Al	45	1	15.020 ppb	2.24	39.00	
39 K	45	1	108.200 ppb	0.69	130.00	
43 Ca	45	1	50.670 ppb	21.33	65.00	
51 V	72	1	4.880 ppb	2.15	6.50	
52 Cr	72	1	2.027 ppb	2.10	2.60	
55 Mn	72	1	1.010 ppb	2.96	1.30	
57 Fe	72	1	49.620 ppb	3.84	65.00	
59 Co	72	1	1.004 ppb	1.81	1.30	
60 Ni	72	1	2.067 ppb	4.44	2.60	
63 Cu	72	1	2.073 ppb	0.87	2.60	
66 Zn	72	1	9.521 ppb	0.31	13.00	
75 As	72	1	4.965 ppb	0.58	6.50	
78 Se	72	1	4.889 ppb	15.33	6.50	
93 Nb	72	1	39.970 ppb	1.00	52.00	
95 Mo	72	1	1.966 ppb	2.26	2.60	
105 Pd	115	1	0.946 ppb	3.94	1.30	
107 Ag	115	1	5.177 ppb	0.28	6.50	
111 Cd	115	1	1.033 ppb	6.63	1.30	
118 Sn	115	1	10.010 ppb	1.18	13.00	
121 Sb	115	1	1.955 ppb	1.30	2.60	
137 Ba	115	1	1.003 ppb	3.71	1.30	
182 W	165	1	5.039 ppb	1.85	6.50	
195 Pt	165	1	0.945 ppb	2.73	1.30	
205 Tl	165	1	1.073 ppb	1.48	1.30	
208 Pb	165	1	1.047 ppb	1.67	1.30	
232 Th	165	1	2.487 ppb	5.71	2.60	
238 U	165	1	1.090 ppb	1.85	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	377644	0.30	386520	97.7	30 - 120	
45 Sc	1	1918095	0.72	2036677	94.2	30 - 120	
72 Ge	1	907890	0.19	948113	95.8	30 - 120	
115 In	1	2498301	0.22	2584999	96.6	30 - 120	
165 Ho	1	3682224	0.90	3810783	96.6	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\242_BLK.D\242_BLK.D#
Date Acquired: Aug 5 2009 05:15 am
Operator: TEL
Sample Name: LG87WB
Misc Info: BLANK 9211099 6020
Vial Number: 4408
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 am
Sample Type: BLK
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.006 ppb	185.24	2.00	
23 Na	6	1	15.020 ppb	7.23	40.00	
24 Mg	6	1	-0.478 ppb	47.51	40.00	
27 Al	45	1	-3.059 ppb	3.65	40.00	
39 K	45	1	-2.412 ppb	23.35	40.00	
43 Ca	45	1	3.737 ppb	58.98	40.00	
51 V	72	1	-0.035 ppb	137.78	2.00	
52 Cr	72	1	0.077 ppb	16.82	2.00	
55 Mn	72	1	0.093 ppb	17.25	2.00	
57 Fe	72	1	4.790 ppb	27.60	40.00	
59 Co	72	1	0.001 ppb	266.17	2.00	
60 Ni	72	1	-0.004 ppb	167.00	2.00	
63 Cu	72	1	0.043 ppb	35.15	2.00	
66 Zn	72	1	6.690 ppb	1.69	20.00	
75 As	72	1	-0.007 ppb	164.21	2.00	
78 Se	72	1	-0.258 ppb	38.13	2.00	
93 Nb	72	1	1.928 ppb	14.53	4.00	
95 Mo	72	1	-0.045 ppb	47.76	2.00	
105 Pd	115	1	0.009 ppb	131.36	2.00	
107 Ag	115	1	0.004 ppb	115.29	2.00	
111 Cd	115	1	-0.005 ppb	147.74	2.00	
118 Sn	115	1	0.098 ppb	23.17	20.00	
121 Sb	115	1	0.035 ppb	36.58	2.00	
137 Ba	115	1	0.012 ppb	100.68	2.00	
182 W	165	1	0.010 ppb	29.26	10.00	
195 Pt	165	1	-0.001 ppb	311.43	2.00	
205 Tl	165	1	0.026 ppb	28.23	2.00	
208 Pb	165	1	0.006 ppb	51.01	2.00	
232 Th	165	1	0.057 ppb	18.94	4.00	
238 U	165	1	0.003 ppb	51.74	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	370560	0.93	386520	95.9	30 - 120	
45 Sc	1	1896371	0.33	2036677	93.1	30 - 120	
72 Ge	1	878815	0.59	948113	92.7	30 - 120	
115 In	1	2439764	0.27	2584999	94.4	30 - 120	
165 Ho	1	3651304	0.41	3810783	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\AG080409.B\226CALB.D\226CALB.D#

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

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\243_LCS.D\243_LCS.D#
Date Acquired: Aug 5 2009 05:18 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG87WC
Misc Info: LCS
Vial Number: 4409
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	39.99	0.35	40	100.0	80 - 120	
23 Na	6	1	24.39	2.14	4000	0.6	80 - 120	
24 Mg	6	1	0.07	49.57	4000	0.0	80 - 120	
27 Al	45	1	41.76	1.79	4000	1.0	80 - 120	
39 K	45	1	0.58	95.41	4000	0.0	80 - 120	
43 Ca	45	1	13.12	62.72	4000	0.3	80 - 120	
51 V	72	1	40.47	0.59	40	101.2	80 - 120	
52 Cr	72	1	41.51	0.31	40	103.8	80 - 120	
55 Mn	72	1	41.81	0.75	40	104.5	80 - 120	
57 Fe	72	1	-0.02	3006.90	4000	0.0	80 - 120	
59 Co	72	1	41.64	0.47	40	104.1	80 - 120	
60 Ni	72	1	42.47	1.03	40	106.2	80 - 120	
63 Cu	72	1	43.08	0.73	40	107.7	80 - 120	
66 Zn	72	1	40.79	0.80	40	102.0	80 - 120	
75 As	72	1	39.15	0.25	40	97.9	80 - 120	
78 Se	72	1	40.98	4.46	40	102.5	80 - 120	
93 Nb	72	1	1.07	20.45	80	1.3	80 - 120	
95 Mo	72	1	42.00	1.44	40	105.0	80 - 120	
105 Pd	115	1	0.00	113.76	40	0.0	80 - 120	
107 Ag	115	1	42.32	0.55	40	105.8	80 - 120	
111 Cd	115	1	40.23	0.60	40	100.6	80 - 120	
118 Sn	115	1	0.15	12.59	40	0.4	80 - 120	
121 Sb	115	1	39.78	0.32	40	99.5	80 - 120	
137 Ba	115	1	40.93	0.37	40	102.3	80 - 120	
182 W	165	1	0.05	19.34	40	0.1	80 - 120	
195 Pt	165	1	0.02	17.69	40	0.0	80 - 120	
205 Tl	165	1	42.77	1.49	40	106.9	80 - 120	
208 Pb	165	1	43.17	1.34	40	107.9	80 - 120	
232 Th	165	1	38.94	2.37	40	97.4	80 - 120	
238 U	165	1	42.84	1.64	40	107.1	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	361658	0.56	386520	93.6	30 - 120	
45 Sc	1	1831872	1.07	2036677	89.9	30 - 120	
72 Ge	1	852140	0.30	948113	89.9	30 - 120	
115 In	1	2395011	0.22	2584999	92.7	30 - 120	
165 Ho	1	3594063	0.76	3810783	94.3	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\226CALB.D\226CALB.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\AG080409.B\244SMPL.D\244SMPL.D#
Date Acquired: Aug 5 2009 05:21 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7V7 5X
Misc Info: D9G290174
Vial Number: 4410
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

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	0.07	0.01	ppb	169.49	3600	
23 Na	6	1	899,000.00	179800.00	ppb	1.26	100000	>LDR
24 Mg	6	1	46,710.00	9342.00	ppb	1.12	100000	
27 Al	45	1	-60.35	-12.07	ppb	2.67	100000	
39 K	45	1	21,330.00	4266.00	ppb	0.56	100000	
43 Ca	45	1	59,900.00	11980.00	ppb	0.94	100000	
51 V	72	1	-12.45	-2.49	ppb	62.97	3600	
52 Cr	72	1	3,703.00	740.60	ppb	0.64	3600	
55 Mn	72	1	22.30	4.46	ppb	0.35	18000	
57 Fe	72	1	1,920.00	384.00	ppb	0.60	100000	
59 Co	72	1	0.66	0.13	ppb	4.20	3600	
60 Ni	72	1	1.72	0.34	ppb	4.07	3600	
63 Cu	72	1	0.46	0.09	ppb	13.49	3600	
66 Zn	72	1	-0.61	-0.12	ppb	54.94	3600	
75 As	72	1	220.30	44.06	ppb	0.83	3600	
78 Se	72	1	0.69	0.14	ppb	392.77	3600	
93 Nb	72	1	3.34	0.67	ppb	23.43	2000	
95 Mo	72	1	19.93	3.99	ppb	6.43	3600	
105 Pd	115	1	1.40	0.28	ppb	8.26	1000	
107 Ag	115	1	0.05	0.01	ppb	56.55	3600	
111 Cd	115	1	0.01	0.00	ppb	57.40	3600	
118 Sn	115	1	0.36	0.07	ppb	13.87	3600	
121 Sb	115	1	0.32	0.06	ppb	16.03	3600	
137 Ba	115	1	12.72	2.54	ppb	1.41	3600	
182 W	165	1	3.22	0.64	ppb	4.36	1000	
195 Pt	165	1	0.20	0.04	ppb	3.39	1000	
205 Tl	165	1	0.20	0.04	ppb	24.36	3600	
208 Pb	165	1	0.08	0.02	ppb	32.40	3600	
232 Th	165	1	5.07	1.01	ppb	18.71	1000	
238 U	165	1	16.27	3.25	ppb	1.24	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	373792	0.82	386520	96.7	30 - 120	
45 Sc	1	1894406	2.09	2036677	93.0	30 - 120	
72 Ge	1	858875	1.11	948113	90.6	30 - 120	
115 In	1	2303396	2.20	2584999	89.1	30 - 120	
165 Ho	1	3581505	0.91	3810783	94.0	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\AG080409.B\226CALB.D\226CALB.D#

1 :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\AG080409.B\245AREF.D\245AREF.D#
Date Acquired: Aug 5 2009 05:24 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WG 5X
Misc Info: D9G290174
Vial Number: 4411
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: AllRef
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

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	0.13	0.03	ppb	74.45	3600	
23 Na	6	1	913,000.00	182600.00	ppb	0.52	100000	>LDR
24 Mg	6	1	47,360.00	9472.00	ppb	0.41	100000	
27 Al	45	1	-12.19	-2.44	ppb	13.92	100000	
39 K	45	1	21,795.00	4359.00	ppb	1.38	100000	
43 Ca	45	1	60,450.00	12090.00	ppb	1.16	100000	
51 V	72	1	7.78	1.56	ppb	244.57	3600	
52 Cr	72	1	3,745.00	749.00	ppb	0.52	3600	
55 Mn	72	1	28.13	5.63	ppb	0.92	18000	
57 Fe	72	1	2,121.50	424.30	ppb	1.15	100000	
59 Co	72	1	0.68	0.14	ppb	4.90	3600	
60 Ni	72	1	2.02	0.40	ppb	5.36	3600	
63 Cu	72	1	0.48	0.10	ppb	7.02	3600	
66 Zn	72	1	-0.40	-0.08	ppb	93.85	3600	
75 As	72	1	221.40	44.28	ppb	0.61	3600	
78 Se	72	1	1.72	0.34	ppb	147.35	3600	
93 Nb	72	1	2.15	0.43	ppb	29.60	2000	
95 Mo	72	1	20.64	4.13	ppb	1.20	3600	
105 Pd	115	1	1.44	0.29	ppb	3.18	1000	
107 Ag	115	1	0.05	0.01	ppb	24.44	3600	
111 Cd	115	1	0.02	0.00	ppb	251.80	3600	
118 Sn	115	1	0.30	0.06	ppb	40.54	3600	
121 Sb	115	1	0.23	0.05	ppb	19.11	3600	
137 Ba	115	1	12.40	2.48	ppb	1.50	3600	
182 W	165	1	3.25	0.65	ppb	6.86	1000	
195 Pt	165	1	0.09	0.02	ppb	16.31	1000	
205 Tl	165	1	0.11	0.02	ppb	19.88	3600	
208 Pb	165	1	0.05	0.01	ppb	24.04	3600	
232 Th	165	1	1.34	0.27	ppb	12.91	1000	
238 U	165	1	16.45	3.29	ppb	0.67	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	386330	1.08	386520	100.0	30 - 120	
45 Sc	1	1946652	1.84	2036677	95.6	30 - 120	
72 Ge	1	885847	0.81	948113	93.4	30 - 120	
115 In	1	2356855	1.34	2584999	91.2	30 - 120	
165 Ho	1	3631511	0.55	3810783	95.3	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\226CALB.D\226CALB.D#

1 :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\AG080409.B\246SDIL.D\246SDIL.D#
Date Acquired: Aug 5 2009 05:27 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WGP25
Misc Info: SERIAL DILUTION
Vial Number: 4412
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: SDIL
Dilution Factor: 5.00

QC Summary:
Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG080409.B\245AREF.D\245AREF.D#

QC elements

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9 Be	6	1	0.00	ppb	4835.00	0.01	-4.5	90 - 110	
23 Na	6	1	35740.00	ppb	1.01	36520.00	97.9	90 - 110	
24 Mg	6	1	1912.00	ppb	1.41	1894.40	100.9	90 - 110	
27 Al	45	1	-15.11	ppb	1.21	-0.49	3100.1	90 - 110	
39 K	45	1	885.40	ppb	1.62	871.80	101.6	90 - 110	
43 Ca	45	1	2442.00	ppb	6.43	2418.00	101.0	90 - 110	
51 V	72	1	2.09	ppb	45.56	0.31	672.0	90 - 110	
52 Cr	72	1	154.70	ppb	1.57	149.80	103.3	90 - 110	
55 Mn	72	1	1.19	ppb	2.94	1.13	105.8	90 - 110	
57 Fe	72	1	89.70	ppb	1.53	84.86	105.7	90 - 110	
59 Co	72	1	0.03	ppb	2.26	0.03	107.5	90 - 110	
60 Ni	72	1	0.25	ppb	11.83	0.08	315.8	90 - 110	
63 Cu	72	1	0.04	ppb	40.12	0.02	196.1	90 - 110	
66 Zn	72	1	-0.76	ppb	3.68	-0.02	4755.6	90 - 110	
75 As	72	1	8.88	ppb	0.28	8.86	100.3	90 - 110	
78 Se	72	1	-0.10	ppb	64.73	0.07	-139.0	90 - 110	
93 Nb	72	1	0.20	ppb	43.44	0.09	231.5	90 - 110	
95 Mo	72	1	0.73	ppb	4.29	0.83	88.8	90 - 110	
105 Pd	115	1	0.05	ppb	12.29	0.06	92.7	90 - 110	
107 Ag	115	1	0.00	ppb	41.40	0.00	138.6	90 - 110	
111 Cd	115	1	0.00	ppb	130.39	0.00	-325.4	90 - 110	
118 Sn	115	1	0.08	ppb	19.84	0.01	693.4	90 - 110	
121 Sb	115	1	0.01	ppb	34.62	0.01	81.8	90 - 110	
137 Ba	115	1	0.47	ppb	2.42	0.50	95.4	90 - 110	
182 W	165	1	0.14	ppb	6.95	0.13	104.2	90 - 110	
195 Pt	165	1	0.02	ppb	68.97	0.00	542.3	90 - 110	
205 Tl	165	1	0.01	ppb	10.36	0.00	135.2	90 - 110	
208 Pb	165	1	0.00	ppb	351.61	0.00	-29.1	90 - 110	
232 Th	165	1	0.07	ppb	11.76	0.05	138.2	90 - 110	
238 U	165	1	0.65	ppb	2.39	0.66	99.0	90 - 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	391512	1.17	386520	101.3	30 - 120	
45 Sc	1	1936081	0.83	2036677	95.1	30 - 120	
72 Ge	1	902951	1.53	948113	95.2	30 - 120	
115 In	1	2449790	0.92	2584999	94.8	30 - 120	
165 Ho	1	3709240	0.20	3810783	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\AG080409.B\226CALB.D\226CALB.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: 08/05/09 11:11:23

Department: 090 (Metals) | Source: Spreadsheet

Sample: **LG7WGP25** | Serial Dilution: **25.00** | Sample Dilution: **5.00**

Instrument: **Agilent7500** | Channel 272
File: AG080409 # 246 | Method 6020_
Acquired: 08/05/2009 05:27:00 | ICPMS_024 | Matrix: AQUEOUS
Calibrated: 08/05/2009 04:28:00 | Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	7	-0.00591	0.13190	104		*	
7440-62-2	Vanadium	51	23545	52.250	7.7740	572		*	
7440-47-3	Chromium	52	1677860	3868.0	3745.0	3.28		*	
7439-96-5	Manganese	55	15406	29.745	28.130	5.74		*	
7440-48-4	Cobalt	59	507	0.73300	0.68210	7.46		*	
7440-02-0	Nickel	60	940	6.3650	2.0150	216		*	
7440-50-8	Copper	63	860	0.95100	0.48490	96.1		*	
7440-66-6	Zinc	66	704	-18.970	-0.39890			*	
7440-38-2	Arsenic	75	11905	222.05	221.40	0.294	0.21	0.3	☑
7782-49-2	Selenium	78	737	-2.3950	1.7240	239	0.70	NC	☑
7439-98-7	Molybdenum	95	2957	18.335	20.630	11.1		*	
7440-22-4	Silver	107	50	0.06320	0.04561	38.6		*	
7440-43-9	Cadmium	111	19	-0.07015	0.02156	425		*	
7440-31-5	Tin	118	1137	2.1080	0.30400	593		*	
7440-36-0	Antimony	121	161	0.19100	0.23340	18.2		*	
7440-39-3	Barium	137	1398	11.825	12.400	4.64		*	
7440-28-0	Thallium	205	211	0.15105	0.11170	35.2		*	
7439-92-1	Lead	208	429	-0.01555	0.05342	129		*	
7440-61-1	Uranium	238	18074	16.285	16.440	0.943		*	
7440-23-5	Sodium	23	47943000	893500	912800	2.11		*	
7439-95-4	Magnesium	24	4855050	47790	47360	0.908		*	
7429-90-5	Aluminum	27	18359	-377.95	-12.180			*	
7440-09-7	Potassium	39	3648190	22135	21790	1.58		*	
7440-70-2	Calcium	43	24011	61050	60440	1.01		*	
7439-89-6	Iron	57	27013	2242.5	2122.0	5.68		*	
7440-03-1	Niobium	93	10801	4.9645	2.1450	131		*	
7440-05-3	Palladium	105	260	1.3365	1.4420	7.32		*	
7440-33-7	Tungsten	182	2024	3.3865	3.2510	4.17		*	
7440-06-4	Platinum	195	237	0.47440	0.08750	442		*	
7440-29-1	Thorium	232	2557	1.8475	1.3370	38.2		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			0			*	

*** Analyte not requested for this batch, no MDL**

NC : Serial dilution concentration < 100 X MDL

E : Difference greater than Limit (10%)

Reviewed by: Date:

Post Digestion Spiked Sample (PDS) QC Report

Data File:	C:\ICPCHEM\1\DATA\AG080409.B\247PDS.D\247PDS.D#
Date Acquired:	Aug 5 2009 05:30 am
Acq. Method:	6020isis.M
Operator:	TEL
Sample Name:	LG7WGZ
Misc Info:	POST DIGESTION SPIKE
Vial Number:	4501
Current Method:	C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File:	C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update:	Aug 05 2009 04:31 am
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	195.80	0.03	ppb	0.53	200	97.9	75 - 125	
23 Na	6	1	177300.00	182600.00	ppb	0.48	200000	46.3	75 - 125	
24 Mg	6	1	9204.00	9472.00	ppb	0.43	200000	4.4	75 - 125	
27 Al	45	1	13.14	-2.44	ppb	7.39	200000	0.0	75 - 125	
39 K	45	1	4248.00	4359.00	ppb	0.54	200000	2.1	75 - 125	
43 Ca	45	1	11710.00	12090.00	ppb	1.02	200000	5.5	75 - 125	
51 V	72	1	196.60	1.55	ppb	0.82	200	97.5	75 - 125	
52 Cr	72	1	938.70	749.00	ppb	0.78	200	98.9	75 - 125	
55 Mn	72	1	202.80	5.63	ppb	0.79	200	98.6	75 - 125	
57 Fe	72	1	403.60	424.30	ppb	1.79	200000	0.2	75 - 125	
59 Co	72	1	195.80	0.14	ppb	1.00	200	97.8	75 - 125	
60 Ni	72	1	200.70	0.40	ppb	1.07	200	100.1	75 - 125	
63 Cu	72	1	199.30	0.10	ppb	0.57	200	99.6	75 - 125	
66 Zn	72	1	202.50	-0.08	ppb	0.33	200	101.3	75 - 125	
75 As	72	1	243.90	44.28	ppb	0.53	200	99.8	75 - 125	
78 Se	72	1	206.40	0.34	ppb	1.42	200	103.0	75 - 125	
93 Nb	72	1	0.21	0.43	ppb	42.62	400	0.1	75 - 125	
95 Mo	72	1	208.40	4.13	ppb	0.30	200	102.1	75 - 125	
105 Pd	115	1	0.28	0.29	ppb	14.57	200	0.1	75 - 125	
107 Ag	115	1	47.98	0.01	ppb	0.73	50	95.9	75 - 125	
111 Cd	115	1	197.80	0.00	ppb	0.06	200	98.9	75 - 125	
118 Sn	115	1	180.50	0.06	ppb	1.55	200	90.2	75 - 125	
121 Sb	115	1	198.30	0.05	ppb	0.58	200	99.1	75 - 125	
137 Ba	115	1	203.10	2.48	ppb	0.45	200	100.3	75 - 125	
182 W	165	1	0.63	0.65	ppb	4.49	200	0.3	75 - 125	
195 Pt	165	1	0.03	0.02	ppb	5.79	200	0.0	75 - 125	
205 Tl	165	1	188.60	0.02	ppb	1.19	200	94.3	75 - 125	
208 Pb	165	1	189.00	0.01	ppb	0.80	200	94.5	75 - 125	
232 Th	165	1	0.09	0.27	ppb	6.51	200	0.0	75 - 125	
238 U	165	1	197.60	3.29	ppb	0.43	200	97.2	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	384120	0.80	386520	99.4	30 - 120	
45 Sc	1	1927326	2.06	2036677	94.6	30 - 120	
72 Ge	1	867864	0.93	948113	91.5	30 - 120	
115 In	1	2351032	0.65	2584999	90.9	30 - 120	
165 Ho	1	3658945	1.36	3810783	96.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\226CALB.D\226CALB.D#

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) | ICPMS_024 | Reported: 08/05/09 11:11:26

Department: 090 (Metals) | Source: Spreadsheet

Sample: **LG7WGZ** | Spike Dilution: **1.00** | Sample Dilution: **5.00**

Instrument: **Agilent7500**
File: AG080409 # 247
Acquired: 08/05/2009 05:30:00
Calibrated: 08/05/2009 04:28:00

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	97669	195.80	0.02638	97.9	200		☑
7440-62-2	Vanadium	51	2097390	196.60	1.5548	97.5	200		☑
7440-47-3	Chromium	52	9772660	938.70	749.00	94.8	200		☑
7439-96-5	Manganese	55	2295530	202.80	5.6260	98.6	200		☐
7440-48-4	Cobalt	59	2639670	195.80	0.13642	97.8	200		☑
7440-02-0	Nickel	60	603270	200.70	0.40300	100	200		☑
7440-50-8	Copper	63	1410950	199.30	0.09698	99.6	200		☑
7440-66-6	Zinc	66	284671	202.50	-0.07978	101	200		☑
7440-38-2	Arsenic	75	312198	243.90	44.280	99.8	200		☑
7782-49-2	Selenium	78	47024	206.40	0.34480	103	200		☑
7439-98-7	Molybdenum	95	720087	208.40	4.1260	102	200		☐
7440-22-4	Silver	107	450132	47.980	0.00912	95.9	50.0		☑
7440-43-9	Cadmium	111	362250	197.80	0.00431	98.9	200		☑
7440-31-5	Tin	118	942206	180.50	0.06080	90.2	200		☑
7440-36-0	Antimony	121	1154610	198.30	0.04668	99.1	200		☑
7440-39-3	Barium	137	532846	203.10	2.4800	100	200		☑
7440-28-0	Thallium	205	3468340	188.60	0.02234	94.3	200		☑
7439-92-1	Lead	208	4695600	189.00	0.01068	94.5	200		☑
7440-61-1	Uranium	238	5375840	197.60	3.2880	97.2	200		☑
7440-23-5	Sodium	23	19823000	177300	182560				
7439-95-4	Magnesium	24	22901500	9204.0	9472.0				
7429-90-5	Aluminum	27	78370	13.140	-2.4360				
7440-09-7	Potassium	39	16484700	4248.0	4358.0				
7440-70-2	Calcium	43	114325	11710	12088				
7439-89-6	Iron	57	110264	403.60	424.40				
7440-03-1	Niobium	93	10524	0.20510	0.42900				
7440-05-3	Palladium	105	1197	0.27530	0.28840				
7440-33-7	Tungsten	182	5985	0.62830	0.65020				
7440-06-4	Platinum	195	300	0.03059	0.01750				
7440-29-1	Thorium	232	3071	0.09459	0.26740				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

Reviewed by: Date:

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\248_MS.D\248_MS.D#
Date Acquired: Aug 5 2009 05:33 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WGS 5X
Misc Info: MATRIX SPIKE
Vial Number: 4502
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: MS
Prep Dil. Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

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	7.82	0.03	ppb	2.87	40	19.5	50 - 150	
23 Na	6	1	178600.00	182600.00	ppb	1.01	4000	95.7	50 - 150	
24 Mg	6	1	9364.00	9472.00	ppb	0.30	4000	69.5	50 - 150	
27 Al	45	1	19.95	-2.44	ppb	4.88	4000	0.5	50 - 150	
39 K	45	1	4281.00	4359.00	ppb	0.90	4000	51.2	50 - 150	
43 Ca	45	1	11920.00	12090.00	ppb	0.85	4000	74.1	50 - 150	
51 V	72	1	6.29	1.55	ppb	16.77	40	15.1	50 - 150	
52 Cr	72	1	756.70	749.00	ppb	1.33	40	95.9	50 - 150	
55 Mn	72	1	13.27	5.63	ppb	1.22	40	29.1	50 - 150	
57 Fe	72	1	411.30	424.30	ppb	2.37	4000	9.3	50 - 150	
59 Co	72	1	8.36	0.14	ppb	1.36	40	20.8	50 - 150	
60 Ni	72	1	8.84	0.40	ppb	1.73	40	21.9	50 - 150	
63 Cu	72	1	8.42	0.10	ppb	2.08	40	21.0	50 - 150	
66 Zn	72	1	8.43	-0.08	ppb	1.19	40	21.1	50 - 150	
75 As	72	1	52.76	44.28	ppb	1.33	40	62.6	50 - 150	
78 Se	72	1	9.92	0.34	ppb	8.20	40	24.6	50 - 150	
93 Nb	72	1	0.06	0.43	ppb	105.24	80	0.1	50 - 150	
95 Mo	72	1	12.71	4.13	ppb	0.70	40	28.8	50 - 150	
105 Pd	115	1	0.28	0.29	ppb	6.68	40	0.7	50 - 150	
107 Ag	115	1	8.06	0.01	ppb	1.12	40	20.1	50 - 150	
111 Cd	115	1	8.15	0.00	ppb	1.95	40	20.4	50 - 150	
118 Sn	115	1	0.43	0.06	ppb	9.23	40	1.1	50 - 150	
121 Sb	115	1	8.58	0.05	ppb	1.43	40	21.4	50 - 150	
137 Ba	115	1	10.84	2.48	ppb	0.73	40	25.5	50 - 150	
182 W	165	1	0.64	0.65	ppb	5.31	40	1.6	50 - 150	
195 Pt	165	1	0.02	0.02	ppb	34.46	40	0.1	50 - 150	
205 Tl	165	1	8.09	0.02	ppb	0.56	40	20.2	50 - 150	
208 Pb	165	1	8.23	0.01	ppb	0.49	40	20.6	50 - 150	
232 Th	165	1	7.72	0.27	ppb	3.08	40	19.2	50 - 150	
238 U	165	1	11.99	3.29	ppb	0.91	40	27.7	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	398386	0.83	386520	103.1	30 - 120	
45 Sc	1	2000787	2.05	2036677	98.2	30 - 120	
72 Ge	1	891224	1.47	948113	94.0	30 - 120	
115 In	1	2412143	1.06	2584999	93.3	30 - 120	
165 Ho	1	3695472	0.86	3810783	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\AG080409.B\226CALB.D\226CALB.D#

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

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\249_MSD.D\249_MSD.D#
Date Acquired: Aug 5 2009 05:36 am
Acq. Method: 6020isis.M
Operator: TEL
Sample Name: LG7WGD 5X
Misc Info: MATRIX SPIKE DUPLICATE
Vial Number: 4503
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal. Update: Aug 05 2009 04:31 am
Sample Type: MSD
Dilution Factor: 5.00

QC Summary:
Analytes: Pass
ISTD: Pass

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG080409.B\248_MS.D\248_MS.D#

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	8.31	ppb	7.30	7.82	6.07	20	
23 Na	6	1	185900.00	ppb	1.38	178600.00	4.01	20	
24 Mg	6	1	9589.00	ppb	0.78	9364.00	2.37	20	
27 Al	45	1	3.49	ppb	11.69	19.95	140.39	20	
39 K	45	1	4455.00	ppb	1.81	4281.00	3.98	20	
43 Ca	45	1	12380.00	ppb	0.85	11920.00	3.79	20	
51 V	72	1	9.79	ppb	52.59	6.28	43.61	20	
52 Cr	72	1	790.90	ppb	2.18	756.70	4.42	20	
55 Mn	72	1	13.75	ppb	2.90	13.27	3.55	20	
57 Fe	72	1	440.20	ppb	2.23	411.30	6.79	20	
59 Co	72	1	8.67	ppb	1.50	8.36	3.62	20	
60 Ni	72	1	8.95	ppb	2.32	8.84	1.26	20	
63 Cu	72	1	8.75	ppb	1.78	8.42	3.81	20	
66 Zn	72	1	15.39	ppb	2.14	8.43	58.42	20	
75 As	72	1	54.98	ppb	2.18	52.76	4.12	20	
78 Se	72	1	8.89	ppb	10.88	9.92	11.00	20	
93 Nb	72	1	0.03	ppb	259.92	0.06	65.14	20	
95 Mo	72	1	12.92	ppb	3.73	12.71	1.64	20	
105 Pd	115	1	0.28	ppb	13.41	0.28	0.39	20	
107 Ag	115	1	8.15	ppb	0.33	8.06	1.11	20	
111 Cd	115	1	8.31	ppb	3.54	8.15	1.97	20	
118 Sn	115	1	0.18	ppb	12.69	0.43	82.92	20	
121 Sb	115	1	8.64	ppb	0.43	8.58	0.73	20	
137 Ba	115	1	11.13	ppb	0.71	10.84	2.64	20	
182 W	165	1	0.65	ppb	2.25	0.64	1.44	20	
195 Pt	165	1	0.03	ppb	24.27	0.02	35.87	20	
205 Tl	165	1	8.27	ppb	0.72	8.09	2.16	20	
208 Pb	165	1	8.32	ppb	0.66	8.23	1.05	20	
232 Th	165	1	8.18	ppb	1.57	7.72	5.83	20	
238 U	165	1	12.19	ppb	1.04	11.99	1.65	20	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398599	0.32	386520	103.1	30 - 120	
45 Sc	1	1994144	1.21	2036677	97.9	30 - 120	
72 Ge	1	888987	1.89	948113	93.8	30 - 120	
115 In	1	2415641	0.36	2584999	93.4	30 - 120	
165 Ho	1	3724963	1.24	3810783	97.7	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\250_CCV.D\250_CCV.D#
Date Acquired: Aug 5 2009 05:39 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 am
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	48.19	ppb	0.35	50	96.4	90 - 110	
23 Na	6	1	4796.00	ppb	0.70	5000	95.9	90 - 110	
24 Mg	6	1	4754.00	ppb	1.21	5000	95.1	90 - 110	
27 Al	45	1	4873.00	ppb	0.76	5000	97.5	90 - 110	
39 K	45	1	4912.00	ppb	0.18	5000	98.2	90 - 110	
43 Ca	45	1	4834.00	ppb	0.65	5000	96.7	90 - 110	
51 V	72	1	47.72	ppb	1.69	50	95.4	90 - 110	
52 Cr	72	1	48.52	ppb	1.61	50	97.0	90 - 110	
55 Mn	72	1	48.59	ppb	1.55	50	97.2	90 - 110	
57 Fe	72	1	4946.00	ppb	1.58	5000	98.9	90 - 110	
59 Co	72	1	47.93	ppb	1.52	50	95.9	90 - 110	
60 Ni	72	1	49.45	ppb	1.24	50	98.9	90 - 110	
63 Cu	72	1	49.13	ppb	1.53	50	98.3	90 - 110	
66 Zn	72	1	48.75	ppb	1.16	50	97.5	90 - 110	
75 As	72	1	48.78	ppb	1.31	50	97.6	90 - 110	
78 Se	72	1	50.06	ppb	3.84	50	100.1	90 - 110	
93 Nb	72	1	88.62	ppb	0.69	100	88.6	90 - 110	Fail
95 Mo	72	1	48.62	ppb	1.12	50	97.2	90 - 110	
105 Pd	115	1	49.64	ppb	1.73	50	99.3	90 - 110	
107 Ag	115	1	49.88	ppb	1.82	50	99.8	90 - 110	
111 Cd	115	1	48.87	ppb	1.94	50	97.7	90 - 110	
118 Sn	115	1	48.77	ppb	2.25	50	97.5	90 - 110	
121 Sb	115	1	48.32	ppb	1.90	50	96.6	90 - 110	
137 Ba	115	1	48.11	ppb	1.57	50	96.2	90 - 110	
182 W	165	1	49.42	ppb	1.18	50	98.8	90 - 110	
195 Pt	165	1	48.97	ppb	2.52	50	97.9	90 - 110	
205 Tl	165	1	49.95	ppb	1.02	50	99.9	90 - 110	
208 Pb	165	1	50.37	ppb	1.23	50	100.7	90 - 110	
232 Th	165	1	50.19	ppb	1.87	50	100.4	90 - 110	
238 U	165	1	50.76	ppb	0.70	50	101.5	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	388296	0.90	386520	100.5	30 - 120	
45 Sc	1	1971740	0.48	2036677	96.8	30 - 120	
72 Ge	1	914357	1.03	948113	96.4	30 - 120	
115 In	1	2501492	1.15	2584999	96.8	30 - 120	
165 Ho	1	3733524	1.59	3810783	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\226CALB.D\226CALB.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\AG080409.B\251_CCB.D\251_CCB.D#
Date Acquired: Aug 5 2009 05:42 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 am
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	0.10	1.00	
23 Na	6	1	24.460	ppb	3.73	20.00	Fail
24 Mg	6	1	-0.988	ppb	17.97	20.00	
27 Al	45	1	-19.290	ppb	1.43	20.00	
39 K	45	1	-1.913	ppb	54.68	20.00	
43 Ca	45	1	-0.338	ppb	616.73	20.00	
51 V	72	1	-0.032	ppb	45.35	1.00	
52 Cr	72	1	0.038	ppb	20.24	1.00	
55 Mn	72	1	-0.044	ppb	17.65	1.00	
57 Fe	72	1	-1.225	ppb	59.74	20.00	
59 Co	72	1	0.005	ppb	80.83	1.00	
60 Ni	72	1	0.034	ppb	45.56	1.00	
63 Cu	72	1	0.008	ppb	80.54	1.00	
66 Zn	72	1	-0.890	ppb	2.93	10.00	
75 As	72	1	0.000	ppb	2845.80	1.00	
78 Se	72	1	-0.184	ppb	102.01	1.00	
93 Nb	72	1	2.796	ppb	9.26	2.00	Fail
95 Mo	72	1	-0.038	ppb	22.22	1.00	
105 Pd	115	1	0.025	ppb	9.52	1.00	
107 Ag	115	1	0.005	ppb	13.13	1.00	
111 Cd	115	1	0.000	ppb	401.64	1.00	
118 Sn	115	1	0.084	ppb	19.50	10.00	
121 Sb	115	1	0.144	ppb	6.00	1.00	
137 Ba	115	1	-0.012	ppb	65.67	1.00	
182 W	165	1	0.043	ppb	45.03	5.00	
195 Pt	165	1	0.006	ppb	216.61	1.00	
205 Tl	165	1	0.022	ppb	25.58	1.00	
208 Pb	165	1	-0.001	ppb	502.26	1.00	
232 Th	165	1	0.328	ppb	13.70	2.00	
238 U	165	1	0.011	ppb	16.05	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	386576	0.03	386520	100.0	30 - 120	
45 Sc	1	1957788	0.35	2036677	96.1	30 - 120	
72 Ge	1	907338	2.23	948113	95.7	30 - 120	
115 In	1	2534828	0.60	2584999	98.1	30 - 120	
165 Ho	1	3765316	0.53	3810783	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\AG080409.B\226CALB.D\226CALB.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\AG080409.B\252WASH.D\252WASH.D#
Date Acquired: Aug 5 2009 05:45 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 04:31 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	0.939 ppb	15.48	1.30	
23 Na	6	1	71.790 ppb	0.72	65.00	
24 Mg	6	1	51.570 ppb	1.19	65.00	
27 Al	45	1	14.270 ppb	4.03	39.00	
39 K	45	1	107.200 ppb	1.47	130.00	
43 Ca	45	1	46.890 ppb	31.29	65.00	
51 V	72	1	4.917 ppb	1.05	6.50	
52 Cr	72	1	2.091 ppb	1.69	2.60	
55 Mn	72	1	0.963 ppb	2.16	1.30	
57 Fe	72	1	49.890 ppb	2.81	65.00	
59 Co	72	1	1.029 ppb	0.43	1.30	
60 Ni	72	1	2.111 ppb	3.04	2.60	
63 Cu	72	1	2.084 ppb	2.53	2.60	
66 Zn	72	1	9.833 ppb	0.71	13.00	
75 As	72	1	4.934 ppb	1.79	6.50	
78 Se	72	1	4.939 ppb	5.42	6.50	
93 Nb	72	1	40.590 ppb	1.40	52.00	
95 Mo	72	1	1.960 ppb	6.26	2.60	
105 Pd	115	1	0.906 ppb	2.51	1.30	
107 Ag	115	1	5.245 ppb	2.21	6.50	
111 Cd	115	1	0.989 ppb	9.43	1.30	
118 Sn	115	1	10.120 ppb	1.39	13.00	
121 Sb	115	1	1.949 ppb	2.47	2.60	
137 Ba	115	1	1.044 ppb	6.97	1.30	
182 W	165	1	5.065 ppb	3.95	6.50	
195 Pt	165	1	0.976 ppb	2.58	1.30	
205 Tl	165	1	1.100 ppb	1.93	1.30	
208 Pb	165	1	1.063 ppb	2.32	1.30	
232 Th	165	1	2.457 ppb	6.35	2.60	
238 U	165	1	1.078 ppb	1.45	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	385276	1.06	386520	99.7	30 - 120	
45 Sc	1	1940022	0.80	2036677	95.3	30 - 120	
72 Ge	1	907051	0.80	948113	95.7	30 - 120	
115 In	1	2541693	0.84	2584999	98.3	30 - 120	
165 Ho	1	3764389	1.24	3810783	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\AG080409.B\226CALB.D\226CALB.D#

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst: _____

Date: 8/5/09

Calibration Blank QC Report

Data File:	C:\ICPCHEM\1\DATA\AG080409.B\260CALB.D\260CALB.D#
Date Acquired:	Aug 5 2009 06:08 am
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:	Aug 05 2009 06:06 am
Sample Type:	CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
23	Na	6	1	187827	2.40
24	Mg	6	1	9630	8.47
27	Al	45	1	58814	4.02
39	K	45	1	263255	0.38
43	Ca	45	1	67	31.10
51	V	72	1	219	73.48
52	Cr	72	1	3240	2.17
55	Mn	72	1	1377	11.93
57	Fe	72	1	1493	4.86
59	Co	72	1	70	0.46
60	Ni	72	1	120	30.42
63	Cu	72	1	837	16.72
66	Zn	72	1	1959	4.75
75	As	72	1	85	14.45
78	Se	72	1	757	7.67
93	Nb	72	1	7549	15.91
95	Mo	72	1	333	15.54
105	Pd	115	1	10	0.13
107	Ag	115	1	27	57.37
111	Cd	115	1	20	49.98
118	Sn	115	1	827	13.93
121	Sb	115	1	92	12.60
137	Ba	115	1	89	9.55
182	W	165	1	913	3.08
195	Pt	165	1	150	11.93
205	Tl	165	1	108	10.39
208	Pb	165	1	392	13.75
232	Th	165	1	620	13.94
238	U	165	1	146	14.19

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	393928	1.04
45	Sc	1	2028815	0.69
72	Ge	1	941983	0.46
115	In	1	2569880	0.13
165	Ho	1	3815249	0.47

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\AG080409.B\261ICAL.D\261ICAL.D#
Date Acquired: Aug 5 2009 06:11 am
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: Aug 05 2009 06:09 am
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	47311	2.51
23	Na	6	1	38674320	0.93
24	Mg	6	1	23514760	1.28
27	Al	45	1	21029520	1.11
39	K	45	1	38603860	0.75
43	Ca	45	1	96384	1.57
51	V	72	1	1081428	2.19
52	Cr	72	1	1065517	2.56
55	Mn	72	1	1144861	2.48
57	Fe	72	1	2722886	1.80
59	Co	72	1	1360236	1.81
60	Ni	72	1	307064	0.20
63	Cu	72	1	721989	1.23
66	Zn	72	1	145337	1.24
75	As	72	1	130744	0.76
78	Se	72	1	23684	1.73
93	Nb	72	1	3687211	2.18
95	Mo	72	1	354963	0.99
105	Pd	115	1	441022	1.25
107	Ag	115	1	969228	0.70
111	Cd	115	1	189472	0.41
118	Sn	115	1	538910	0.59
121	Sb	115	1	595937	0.25
137	Ba	115	1	268341	0.78
182	W	165	1	819145	1.54
195	Pt	165	1	574106	2.07
205	Tl	165	1	1848878	1.64
208	Pb	165	1	2492873	1.19
232	Th	165	1	2656339	0.74
238	U	165	1	2762979	0.81

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	368902	1.08	393928	93.6	30 - 120	
45	Sc	1	1918913	0.73	2028815	94.6	30 - 120	
72	Ge	1	870010	2.02	941983	92.4	30 - 120	
115	In	1	2408421	0.13	2569880	93.7	30 - 120	
165	Ho	1	3661084	0.97	3815249	96.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\260CALB.D\260CALB.D#

0 :Element Failures 0
0 :ISTD Failures 0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG080409.B\262_CCV.D\262_CCV.D#
Date Acquired: Aug 5 2009 06:14 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 06:12 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	49.76	ppb	1.44	50	99.5	90 - 110	
23 Na	6	1	4941.00	ppb	1.21	5000	98.8	90 - 110	
24 Mg	6	1	4950.00	ppb	0.93	5000	99.0	90 - 110	
27 Al	45	1	4997.00	ppb	0.96	5000	99.9	90 - 110	
39 K	45	1	4935.00	ppb	0.71	5000	98.7	90 - 110	
43 Ca	45	1	4857.00	ppb	3.00	5000	97.1	90 - 110	
51 V	72	1	48.04	ppb	1.99	50	96.1	90 - 110	
52 Cr	72	1	48.03	ppb	2.34	50	96.1	90 - 110	
55 Mn	72	1	48.86	ppb	1.44	50	97.7	90 - 110	
57 Fe	72	1	4965.00	ppb	0.97	5000	99.3	90 - 110	
59 Co	72	1	48.40	ppb	1.97	50	96.8	90 - 110	
60 Ni	72	1	49.39	ppb	1.84	50	98.8	90 - 110	
63 Cu	72	1	49.05	ppb	1.68	50	98.1	90 - 110	
66 Zn	72	1	48.51	ppb	2.09	50	97.0	90 - 110	
75 As	72	1	48.56	ppb	2.09	50	97.1	90 - 110	
78 Se	72	1	50.69	ppb	2.92	50	101.4	90 - 110	
93 Nb	72	1	100.20	ppb	0.07	100	100.2	90 - 110	
95 Mo	72	1	48.64	ppb	1.47	50	97.3	90 - 110	
105 Pd	115	1	48.83	ppb	0.98	50	97.7	90 - 110	
107 Ag	115	1	49.08	ppb	0.58	50	98.2	90 - 110	
111 Cd	115	1	48.26	ppb	0.09	50	96.5	90 - 110	
118 Sn	115	1	48.32	ppb	0.51	50	96.6	90 - 110	
121 Sb	115	1	48.32	ppb	0.15	50	96.6	90 - 110	
137 Ba	115	1	48.27	ppb	0.81	50	96.5	90 - 110	
182 W	165	1	48.21	ppb	1.16	50	96.4	90 - 110	
195 Pt	165	1	48.35	ppb	0.64	50	96.7	90 - 110	
205 Tl	165	1	49.30	ppb	0.67	50	98.6	90 - 110	
208 Pb	165	1	49.82	ppb	0.87	50	99.6	90 - 110	
232 Th	165	1	49.95	ppb	0.96	50	99.9	90 - 110	
238 U	165	1	49.50	ppb	0.99	50	99.0	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	365607	1.08	393928	92.8	30 - 120	
45 Sc	1	1904559	0.55	2028815	93.9	30 - 120	
72 Ge	1	878070	1.26	941983	93.2	30 - 120	
115 In	1	2448834	0.41	2569880	95.3	30 - 120	
165 Ho	1	3690166	0.14	3815249	96.7	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\AG080409.B\260CALB.D\260CALB.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\AG080409.B\263_CCB.D\263_CCB.D#
Date Acquired: Aug 5 2009 06:17 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File: C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update: Aug 05 2009 06:12 am
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	-5.424	ppb	22.94	20.00	
24 Mg	6	1	-0.033	ppb	901.60	20.00	
27 Al	45	1	-20.320	ppb	2.49	20.00	
39 K	45	1	0.480	ppb	86.66	20.00	
43 Ca	45	1	0.679	ppb	401.59	20.00	
51 V	72	1	-0.001	ppb	4494.40	1.00	
52 Cr	72	1	-0.028	ppb	95.94	1.00	
55 Mn	72	1	-0.024	ppb	36.48	1.00	
57 Fe	72	1	0.932	ppb	73.92	20.00	
59 Co	72	1	0.005	ppb	14.03	1.00	
60 Ni	72	1	0.029	ppb	43.75	1.00	
63 Cu	72	1	-0.018	ppb	40.09	1.00	
66 Zn	72	1	-0.907	ppb	1.26	10.00	
75 As	72	1	0.012	ppb	49.05	1.00	
78 Se	72	1	0.027	ppb	235.22	1.00	
93 Nb	72	1	3.671	ppb	11.98	2.00	Fail
95 Mo	72	1	0.013	ppb	151.71	1.00	
105 Pd	115	1	0.035	ppb	16.33	1.00	
107 Ag	115	1	0.008	ppb	74.00	1.00	
111 Cd	115	1	0.004	ppb	41.13	1.00	
118 Sn	115	1	0.050	ppb	41.93	10.00	
121 Sb	115	1	0.198	ppb	3.54	1.00	
137 Ba	115	1	-0.011	ppb	26.27	1.00	
182 W	165	1	0.059	ppb	29.02	5.00	
195 Pt	165	1	0.001	ppb	476.43	1.00	
205 Tl	165	1	0.040	ppb	9.66	1.00	
208 Pb	165	1	0.003	ppb	126.03	1.00	
232 Th	165	1	0.325	ppb	10.78	2.00	
238 U	165	1	0.012	ppb	12.42	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	376495	0.85	393928	95.6	30 - 120	
45 Sc	1	1930388	0.79	2028815	95.1	30 - 120	
72 Ge	1	912922	0.63	941983	96.9	30 - 120	
115 In	1	2527549	1.77	2569880	98.4	30 - 120	
165 Ho	1	3724350	0.89	3815249	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\AG080409.B\260CALB.D\260CALB.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\AG080409.B\264WASH.D\264WASH.D#
Date Acquired:	Aug 5 2009 06:20 am
Operator:	TEL
Sample Name:	RLCV
Misc Info:	
Vial Number:	1206
Current Method:	C:\ICPCHEM\1\METHODS\6020isis.M
Calibration File:	C:\ICPCHEM\1\CALIB\6020isis.C
Last Cal Update:	Aug 05 2009 06:12 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	0.975 ppb	9.37	1.30	
23 Na	6	1	45.080 ppb	0.66	65.00	
24 Mg	6	1	54.010 ppb	0.81	65.00	
27 Al	45	1	12.520 ppb	10.26	39.00	
39 K	45	1	108.500 ppb	2.44	130.00	
43 Ca	45	1	58.050 ppb	14.31	65.00	
51 V	72	1	4.899 ppb	1.49	6.50	
52 Cr	72	1	2.000 ppb	2.04	2.60	
55 Mn	72	1	0.940 ppb	2.07	1.30	
57 Fe	72	1	50.480 ppb	2.09	65.00	
59 Co	72	1	1.032 ppb	2.45	1.30	
60 Ni	72	1	2.026 ppb	3.47	2.60	
63 Cu	72	1	1.962 ppb	3.63	2.60	
66 Zn	72	1	9.288 ppb	2.23	13.00	
75 As	72	1	4.923 ppb	1.66	6.50	
78 Se	72	1	4.542 ppb	5.33	6.50	
93 Nb	72	1	41.920 ppb	0.56	52.00	
95 Mo	72	1	1.980 ppb	4.81	2.60	
105 Pd	115	1	0.874 ppb	1.46	1.30	
107 Ag	115	1	5.290 ppb	3.87	6.50	
111 Cd	115	1	1.007 ppb	3.99	1.30	
118 Sn	115	1	9.918 ppb	1.73	13.00	
121 Sb	115	1	1.993 ppb	2.88	2.60	
137 Ba	115	1	1.045 ppb	3.37	1.30	
182 W	165	1	5.078 ppb	2.09	6.50	
195 Pt	165	1	0.964 ppb	2.96	1.30	
205 Tl	165	1	1.092 ppb	1.13	1.30	
208 Pb	165	1	1.078 ppb	1.01	1.30	
232 Th	165	1	2.435 ppb	3.75	2.60	
238 U	165	1	1.079 ppb	1.28	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	375887	0.64	393928	95.4	30 - 120	
45 Sc	1	1933962	0.69	2028815	95.3	30 - 120	
72 Ge	1	920122	1.24	941983	97.7	30 - 120	
115 In	1	2540817	1.45	2569880	98.9	30 - 120	
165 Ho	1	3747376	0.43	3815249	98.2	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG080409.B\260CALB.D\260CALB.D#

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