SDG # 8304640

Close Report

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Tronox LLC, Henderson

SDG: 8304640
Lots #: D9J240192

Frank Hagar

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

TestAmerica Laboratories, Inc.

Michael P. Phillips

Michael P. Phillips
Project Manager

November 12, 2009

Case Narrative
SDG 8304640

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
Three samples were received under chain of custody at a temperature of 1.9°C on October 24, 2009, and were logged under lot D9J240192. The chain of custody did not list the sample collection dates or sample collection times. However, this information was obtained from the labels on the sample containers. This lot is reported here under SDG 8304640.

Total Arsenic and Selenium – SW846 Method 6020/Collision Cell
The method required MS/MSD was performed for Total Metals QC batch 9299123 using sample D9J240192-001 (M-141B), and exhibited MS and MSD recoveries above the upper QC control limit for Arsenic and a MS recovery above the upper QC control limit for Selenium. The acceptable LCS and Method Blank results indicated that the analytical system was operating in control; therefore, corrective action was deemed unnecessary.

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

8304640 : D9J240192

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
M-141B 10/23/09 10:00 001				
Arsenic	91	5.0	ug/L	SW846 6020
Selenium	7.6	5.0	ug/L	SW846 6020
M-141009B 10/23/09 10:00 002				
Arsenic	92	5.0	ug/L	SW846 6020
Selenium	7.6	5.0	ug/L	SW846 6020
PB102309-A3 10/23/09 12:15 003				
Selenium	1.1 B	5.0	ug/L	SW846 6020

METHODS SUMMARY

8304640

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
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

8304640

ANALYTICAL METHOD	ANALYST	ANALYST ID
SW846 6020	Thomas Lill	6929

References:

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

SAMPLE SUMMARY

8304640 : D9J240192

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LM9F9	001	M-141B	10/23/09	10:00
LM9GC	002	M-141009B	10/23/09	10:00
LM9GE	003	PB102309-A3	10/23/09	12:15

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

8304640 : D9J240192

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WG	SW846 6020		9299123	9299071
002	WG	SW846 6020		9299123	9299071
003	WG	SW846 6020		9299123	9299071

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: D9J240192

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001, 002, 003

TestAmerica

Total Metals Analysis

COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc. SDG No.: D9J240192

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

SOW No.: _____

Sample ID.	Lab Sample No.
M-141009B	D9J240192-002
M-141B	D9J240192-001
M-141B MS	D9J240192-001S
M-141B MSD	D9J240192-001SD
PB102309-A3	D9J240192-003

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

Comments:

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

Signature: Janice Collins Name: Janice Collins

Date: 11/6/09 Title: Metals Analyst

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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-141B
Lot/SDG Number:	D9J240192	**Lab Sample ID:**	D9J240192-001
Matrix:	WATER	**Lab WorkOrder:**	LM9F9
% Moisture:	N/A	**Date/Time Collected:**	10/23/09 10:00
Basis:	Wet	**Date/Time Received:**	10/24/09 08:45
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	10/27/09 07:30
QC Batch ID:	9299123	**Date/Time Analyzed:**	11/03/09 08:13
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	**91**	0.21	5.0	
7782-49-2	Selenium	**7.6**	0.70	5.0	

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Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	M-141009B
Lot/SDG Number:	D9J240192	**Lab Sample ID:**	D9J240192-002
Matrix:	WATER	**Lab WorkOrder:**	LM9GC
% Moisture:	N/A	**Date/Time Collected:**	10/23/09 10:00
Basis:	Wet	**Date/Time Received:**	10/24/09 08:45
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	10/27/09 07:30
QC Batch ID:	9299123	**Date/Time Analyzed:**	11/03/09 08:27
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	**92**	0.21	5.0	
7782-49-2	Selenium	**7.6**	0.70	5.0	

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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:**	PB102309-A3
Lot/SDG Number:	D9J240192	**Lab Sample ID:**	D9J240192-003
Matrix:	WATER	**Lab WorkOrder:**	LM9GE
% Moisture:	N/A	**Date/Time Collected:**	10/23/09 12:15
Basis:	Wet	**Date/Time Received:**	10/24/09 08:45
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	10/27/09 07:30
QC Batch ID:	9299123	**Date/Time Analyzed:**	11/03/09 08:30
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	**1.1**	0.70	5.0	B

TestAmerica

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9J240192

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	40.5	101.2	50.0	50.3	100.6	49.6	99.2	M
Selenium	40.0	41.2	103.0	50.0	50.1	100.2	50.6	101.2	M

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

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9J240192

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	51.4	102.8	M
Selenium				50.0	50.7	101.4	53.0	106.0	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.: D9J240192

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	49.3	98.6	52.4	104.8	M
Selenium				50.0	49.3	98.6	50.2	100.4	M

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

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

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9J240192

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	1.022	102.2		
Selenium				1.00	1.437	143.7		

Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9J240192	**Lab Sample ID:**	D9J260000-123B
Matrix:	WATER	**Lab WorkOrder:**	LM9TC
% Moisture:		**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	10/27/09 07:30
QC Batch ID:	9299123	**Date/Time Analyzed:**	11/03/09 08:08
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

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BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9J240192

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.: D9J240192

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	1.571	B			M

Comments:

TestAmerica

Total Metals Analysis

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ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9J240192

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	0.22	100.70	100.7	0.35	98.93	98.9
Selenium	0.0	100.0	-0.04	103.60	103.6	-0.05	104.50	104.5

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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-141B
Lot/SDG Number:	D9J240192	**MS Lab Sample ID:**	D9J240192-001S
Matrix:	WATER	**MS Lab WorkOrder:**	LM9F9
% Moisture:	N/A	**Date/Time Collected:**	10/23/09 10:00
Basis:	Wet	**Date/Time Received:**	10/24/09 08:45
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	10/27/09 07:30
QC Batch ID:	9299123	**Date/Time Analyzed:**	11/03/09 08:22
MS Sample Aliquot:	50 mL	**Instrument ID:**	024
MS Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	91		141		125	N	85 - 117
Selenium	40.0	7.6		57.0		123	N	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-141B
Lot/SDG Number:	D9J240192	**MSD Lab Sample ID:**	D9J240192-001D
Matrix:	WATER	**MSD Lab WorkOrder:**	LM9F9
% Moisture:	N/A	**Date/Time Collected:**	10/23/09 10:00
Basis:	Wet	**Date/Time Received:**	10/24/09 08:45
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	10/27/09 07:30
QC Batch ID:	9299123	**Date/Time Analyzed:**	11/03/09 08:24
MSD Sample Aliquot:	50 mL	**Instrument ID:**	024
MSD Dilution Factor:	1		

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	91		139		121	N	1.1		85 - 117	20
Selenium	40.0	7.6		56.0		121		1.8		77 - 122	20

TestAmerica

Total Metals Analysis
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: M-141B PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9J240192

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	291.300		90.950		200.00	100.2		M
Selenium	75 - 125	235.600		7.621		200.00	114.0		M

Comments: _____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	TESTAMERICA DENVER	**Client Sample ID:**	
Lot/SDG Number:	D9J240192	**Lab Sample ID:**	D9J260000-123C
Matrix:	WATER	**Lab WorkOrder:**	LM9TC
% Moisture:	N/A	**Date/Time Collected:**	
Basis:	Wet	**Date/Time Received:**	
Analysis Method:	6020	**Date Leached:**	
Unit:	ug/L	**Date/Time Extracted:**	10/27/09 07:30
QC Batch ID:	9299123	**Date/Time Analyzed:**	11/03/09 08:11
Sample Aliquot:	50 mL	**Instrument ID:**	024
Dilution Factor:	1		

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	40.2	101		85 - 117
Selenium	40.0	40.0	100		77 - 122

Total Metals Analysis

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ICP SERIAL DILUTIONS

SAMPLE NO.

M-141B SER

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9J240192

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	90.950		84.500		7.1		M
Selenium	7.621		11.940	B	56.7		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.: D9J240192

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

Flame AA ID Number: _____

Furnace AA ID Number:

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

Comments: _____

TestAmerica

Total Metals Analysis
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ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9J240192

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

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

Comments: _____

TestAmerica

Total Metals Analvsis

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PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: D9J240192

Method: MS Prep Method: _____

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
M-141B	10/27/2009	50.0	50.0
M-141B MS	10/27/2009	50.0	50.0
M-141B MSD	10/27/2009	50.0	50.0
M-141009B	10/27/2009	50.0	50.0
PB102309-A3	10/27/2009	50.0	50.0
MB9299123	10/27/2009	50.0	50.0
Check Sample	10/27/2009	50.0	50.0

Comments:

TestAmerica

Total Metals Analysis
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ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: D9J240192

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/2/2009 End Date: 11/3/2009

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	18:45				X															X						
100 PPB	1.00	18:48				X															X						
ICV	1.00	18:50				X															X						
ICB	1.00	18:56				X															X						
RL STD	1.00	18:58				X															X						
ICSA	1.00	19:07				X															X						
ICSAB	1.00	19:09				X															X						
RINSE	1.00	19:12				X															X						
LR1	1.00	19:15				X															X						
RINSE	1.00	19:17				X															X						
LR2	1.00	19:20				X															X						
RINSE	1.00	19:23				X															X						
CCV	1.00	19:26				X															X						
CCB	1.00	19:28				X															X						
CAL BLANK	1.00	21:45				X															X						
100 PPB	1.00	21:48				X															X						
CCV	1.00	21:51				X															X						
CCB	1.00	21:54				X															X						
ICSA	1.00	21:59				X															X						
ICSAB	1.00	22:02				X															X						
WASH	1.00	22:05				X															X						
CCV	1.00	22:07				X															X						
CCB	1.00	22:10				X															X						
CAL BLANK	1.00	07:07				X															X						
100 PPB	1.00	07:10				X															X						
CCV	1.00	07:12				X															X						
CCB	1.00	07:15				X															X						
CCV	1.00	07:59				X															X						
CCB	1.00	08:02				X															X						
MB9299123	1.00	08:08				X															X						
Check Sample	1.00	08:11				X															X						
M-141B	1.00	08:13				X															X						
M-141B SER	5.00	08:16				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.: D9J240192

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/2/2009 End Date: 11/3/2009

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-141B PDS	1.00	08:19				X															X						
M-141B MS	1.00	08:22				X															X						
M-141B MSD	1.00	08:24				X															X						
M-141009B	1.00	08:27				X															X						
PB102309-A3	1.00	08:30				X															X						
CCV	1.00	08:33				X															X						
CCB	1.00	08:35				X															X						

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

19 IR1
Jm 10/24/09

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

CHAIN-OF-CUSTODY / Analytical Request Document

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

COC No. 2027.001.01112
Page: 1 of 1
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	TestAmerica	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X
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
Lab PM:	Michael P. Phillips	City	Henderson	State	NV	Reimbursement project?	X
Phone/Fax:	303-736-0157	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		
Lab PM email	michael.phillips@testamericainc.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only		
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

Rush		Mark One
QC level Required: Standard		Special
EPA Stage 4		Mark one
NJ Reduced Deliverable Package?		
MA MCP Cert?		CT RCP Cert?
Mark One		

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER LF; FREE PRODUCT SO; SOIL SW; OIL AA; WIPE AE; AMBIENT AIR; SVE AIR; SOIL GAS. MATRIX — WATER W; WATER WA; WATER QC WQ; SLUDGE SL; RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8020/Collision Cx	EPA 8141A OPP Pest	Comments/Lab Sample I.D.
1	M-141B	WG	G			1	N			X						X		500 ml Plastic
2	M-141009B	WG	G			1	N			X						X		500 ml Plastic
3	PB102309-A3	WG	G			1	N			X						X		500 ml Plastic
4																		
5																		
6																		
7																		
8	SWO																	
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
[signature]	10/23	1420	[signature] GEI	10/23	1420
[signature] GEI	10/23	1600	Courier Bus	10/24/09	0845

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

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W. Otis
SIGNATURE of SAMPLER: [signature] DATE Signed 10/23 Time: 1400

Sample Receipt Conditions

	Temp in OC	Samples on ice?	Sample intact?	Trip Blank?
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Table of Contents

TestAmerica Denver

Sample Receiving Checklist

Lot #: D9J240192 Date/Time Received: 10-24-09 / 0845

Company Name & Sampling Site: Northgate - Tronox

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

Quote #: 83046

Special Instructions:

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

Unpacking Checks:

Cooler #(s): 1

Temperatures (°C): 1.9

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

TestAmerica Denver

Sample Receiving Checklist

Lot # D9J240192

Login Checks:

Initials CMK

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

Labeling and Storage Checks:

Initials LC

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

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

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: D9J240192

Client: Northgate Environmental

Batch(es) #: 9299123

Associated Samples: 1-3

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

Signature/Date: 11/3/09

Metals Raw Data RoadMap

LotID		*Metal*	*WorkOrder*	*Anal Date*	*TestDesc*	*Batch*	*File Id*	*Instr*
D9J240192	1 D	SE	LM9F91AG	20091103	6020TOTA	9299123	AG110209	024
D9J240192	1 S	SE	LM9F91AF	20091103	6020TOTA	9299123	AG110209	024
D9J240192	1 D	AS	LM9F91AE	20091103	6020TOTA	9299123	AG110209	024
D9J240192	1 S	AS	LM9F91AD	20091103	6020TOTA	9299123	AG110209	024
D9J240192	1	SE	LM9F91AC	20091103	6020TOTA	9299123	AG110209	024
D9J240192	1	AS	LM9F91AA	20091103	6020TOTA	9299123	AG110209	024
D9J240192	2	SE	LM9GC1AC	20091103	6020TOTA	9299123	AG110209	024
D9J240192	2	AS	LM9GC1AA	20091103	6020TOTA	9299123	AG110209	024
D9J240192	3	SE	LM9GE1AC	20091103	6020TOTA	9299123	AG110209	024
D9J240192	3	AS	LM9GE1AA	20091103	6020TOTA	9299123	AG110209	024

METALS
PREPARATION LOGS
ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: **9299123**

TestAmerica Laboratories, Inc.
Metals Prep Log/ Batch Summary

Prepared By: Katie Stoltz

Prep Date: 10/27/09
Due Date: 11/05/09

Lot	Work Order			Initial Weight/Volume
D9J260000 Water	**LM9TC**	B	Due Date: SDG:	50 mL
D9J260000 Water	**LM9TC**	C	Due Date: SDG:	50 mL
D9J240192 Water	**LM9F9** Total		Due Date: 11/05/09 SDG:	50 mL
D9J240192 Water	**LM9F9** Total	S	Due Date: 11/05/09 SDG:	50 mL
D9J240192 Water	**LM9F9** Total	D	Due Date: 11/05/09 SDG:	50 mL
D9J240192 Water	**LM9GC** Total		Due Date: 11/05/09 SDG:	50 mL
D9J240192 Water	**LM9GE** Total		Due Date: 11/05/09 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 11/2/09

11/3/09

METALS PREP SHEET
SOP: DEN-IP-0014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Denver

TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH # 9299123 **ALLIQUOTTED BY:** JRW
PREP DATE: 10.27.2009 **DIGESTED BY:** KS

CONSUMABLES USED

Digestion Cups: **Manufacturer:** Environmental Express **Lot #:** A901LS268

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

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

Analyst(s) Initials:

STANDARDS USED

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5354-09	9/8/10	100uL	15

REAGENTS USED

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

TEMPERATURE CYCLES

Thermometer ID: 14859 Block & Cup # : 5,5

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	730	95	1150	95
HNO3	1200	95	1830	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 Stof ***Date:*** 10.27.09

METALS
SAMPLE DATA
ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L.

Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

Quality Control Standards

ICV = Initial Calibration Verification (Second Source)
CCV = Continuing Calibration Verification

ICB = Initial Calibration Blank
CCB = Continuing Calibration Blank

TestAmerica Denver

Standards Preparation Logbook Record

Nov-02-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Analyst: trudelll

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

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

STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-SN02016 Vendor's Expiration Date: 03-01-2010
Solvent: 1% HNO3
Date Prep./Opened: 03-02-2009 Date Received: 03-02-2009
Date Expires(1): 03-01-2010 (None)
Date Expires(2): 03-01-2010 (None)
(METALS)-Inventory ID: 833

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

STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HN03 Lot No.: H02026 Volume (ml): 100.00
Date Prep./Opened: 04-01-2009
Date Expires(1): 12-01-2009 (1 Year)
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se Aliquot Amount (ml): 0.1000
Parent Date Expires(1): 12-01-2009 Parent Date Expires(2): 12-01-2009

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

STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

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

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

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00
Date Prep./Opened: 10-30-2009
Date Expires(1): 03-16-2010 (1 Year)
Date Verified: 12-31--4714 by - (Verification ID: 0)
pipettes: Met 20

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

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

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

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

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

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

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

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

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

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

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

Analyst: DIAZL

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

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

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

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

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

STD6681-09, ICP-MS ICSA

Analyst: DIAZL

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

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

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

STD6702-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water Volume (ml): 1,000.0
Date Prep./Opened: 11-02-2009
Date Expires(1): 05-02-2010 (6 Months)
Date Expires(2): 05-02-2010 (6 Months)
Date Verified: 12-31--4714 by - (Verification ID: 0)

Parent Std No.: STD6701-09, NITRIC ACID — Aliquot Amount (ml): 50.000

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

STD6703-09, ICP-MS HIGH CAL STD — Analyst: DIAZL

Solvent: 5% HNO3 — Lot No.: H14024 — Volume (ml): 100.00
Date Prep./Opened: 11-02-2009
Date Expires(1): 11-03-2009 (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

STD6704-09, ICP-MS HIGH CCV STD — Analyst: DIAZL

Solvent: 5% HNO3 — Lot No.: H14024 — Volume (ml): 100.00
Date Prep./Opened: 11-02-2009
Date Expires(1): 11-03-2009 (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)
Sn	20.000	0.0500
Mo	20.000	0.0500
Sb	20.000	0.0500

STD6705-09, ICP-MS HIGH RL STD

Analyst: DIAZL

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

Date Prep./Opened: 11-02-2009

Date Expires(1): 11-03-2009 (1 Day)

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

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

Parent Std No.: STD6703-09, 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

STD6706-09, ICP-MS HIGH AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000
Date Prep./Opened: 11-02-2009
Date Expires(1): 11-03-2009 (1 Day)

Parent Std No.: STD6705-09, ICP-MS HIGH RL STD Aliquot Amount (ml): 2.0000

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

STD6707-09, ICP-MS HIGH ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000
Date Prep./Opened: 11-02-2009
Date Expires(1): 11-03-2009 (1 Day)
Date Expires(2): 11-01-2010 (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.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

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

STD6708-09, ICP-MS HIGH LR STD Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000
Date Prep./Opened: 11-02-2009
Date Expires(1): 11-03-2009 (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

STD6709-09, ICP-MS HIGH ICV STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 11-02-2009
Date Expires(1): 11-03-2009 (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

STD6710-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000
Date Prep./Opened: 11-02-2009
Date Expires(1): 11-03-2009 (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

STD6711-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00
Date Prep./Opened: 11-02-2009
Date Expires(1): 11-03-2009 (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

File AG110209

Reviewed By: LRD 11/02/2009

Denver RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/03/09 10:14:32

File ID: AG110209 **Analyst: TEL**

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	11/02/09 18:45		☐
4	100 ppb				1.0	11/02/09 18:48		☐
5	ICV				1.0	11/02/09 18:50		☐
6	RLIV				1.0	11/02/09 18:53		☐
7	ICB				1.0	11/02/09 18:56		☐
8	RL STD				1.0	11/02/09 18:58		☐
9	AFCEE RL				1.0	11/02/09 19:01		☐
10	ALTSe				1.0	11/02/09 19:04		☐
11	ICSA				1.0	11/02/09 19:07		☐
12	ICSAB				1.0	11/02/09 19:09		☐
13	RINSE				1.0	11/02/09 19:12		☐
14	LR1				1.0	11/02/09 19:15		☐
15	RINSE				1.0	11/02/09 19:17		☐
16	~~LR2~~				~~1.0~~	~~11/02/09 19:20~~		☐
17	~~RINSE~~				~~1.0~~	~~11/02/09 19:23~~	~~11/3/09 did not use.~~	☐
18	CCV				1.0	11/02/09 19:26		☐
19	CCB				1.0	11/02/09 19:28		☐
20	RLCV				1.0	11/02/09 19:31		☐
21	LMVMMB	D9J190000	9292467	46	1.0	11/02/09 19:34		☐
22	LMVMMC	D9J190000	9292467	46	1.0	11/02/09 19:37		☐
23	LMP1A	D9J160207-1	9292467	46	1.0	11/02/09 19:39		☐
24	LMP1D	D9J160207-2	9292467	46	1.0	11/02/09 19:42		☐
25	LMP1H	D9J160207-3	9292467	46	1.0	11/02/09 19:45		☐
26	LMP1J	D9J160207-4	9292467	46	1.0	11/02/09 19:48		☐
27	LMP1L	D9J160207-5	9292467	46	1.0	11/02/09 19:50		☐
28	LMP1N	D9J160207-6	9292467	46	1.0	11/02/09 19:53		☐
29	LMP1P	D9J160207-7	9292467	46	1.0	11/02/09 19:56		☐
30	LMP1R	D9J160207-8	9292467	46	1.0	11/02/09 19:59		☐
31	CCV				1.0	11/02/09 20:01		☐
32	CCB				1.0	11/02/09 20:04		☐
33	RLCV				1.0	11/02/09 20:07		☐
34	LMP1V	D9J160207-9	9292467	46	1.0	11/02/09 20:10		☐
35	LMP1X	D9J160207-10	9292467	46	1.0	11/02/09 20:13		☐
36	LMP11	D9J160207-11	9292467	46	1.0	11/02/09 20:15		☐
37	LMP11P5	D9J160207	9292467		5.0	11/02/09 20:18		☐
38	LMP11Z	D9J160207-11	9292467		1.0	11/02/09 20:21		☐
39	LMP11S	D9J160207-11	9292467	46	1.0	11/02/09 20:23		☐
40	LMP11D	D9J160207-11	9292467	46	1.0	11/02/09 20:26		☐
41	LMP19	D9J160207-12	9292467	46	1.0	11/02/09 20:29		☐
42	LMP2A	D9J160207-13	9292467	46	1.0	11/02/09 20:32		☐
43	LMP2F	D9J160207-14	9292467	46	1.0	11/02/09 20:34		☐
44	CCV				1.0	11/02/09 20:38		☐
45	CCB				1.0	11/02/09 20:41		☐
46	RLCV				1.0	11/02/09 20:43		☐
47	LKNFKF	D9I110271-6	9257316		1.0	11/02/09 20:46	See DQR. 11/3/09	☐
48	CCV				1.0	11/02/09 20:49		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/03/09 10:14:32

File ID: AG110209 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	CCB				1.0	11/02/09 20:52		☐
50	RLCV				1.0	11/02/09 20:54		☐
51	~~LNF3RBF~~	~~D9J290000~~	~~9302077~~	~~87~~	~~2.5~~	~~11/02/09 20:57~~		☐
52	LNF3RCF	D9J290000	9302077	87	2.5	~~11/02/09~~ 21:00		☐
53	LNE15F	D9J280239-1	9302077	87	2.5	11/02/09 21:03		☐
54	LNFK3F	D9J280304-1	9302077	87	2.5	11/02/09 21:06		☐
55	LNFK3SF	D9J280304-1	9302077	87	2.5	11/02/09 21:08		☐
56	LNFK3DF	D9J280304-1	9302077	87	2.5	11/02/09 21:11		☐
57	~~LNF3RCF~~	~~D9J290000~~	~~9302077~~	~~87~~	~~2.5~~	~~11/02/09 21:14~~	Rej. 11/3/09 Did not use.	☐
58	CCV				1.0	11/02/09 21:17		☐
59	CCB				1.0	11/02/09 21:19		☐
60	RLCV				1.0	11/02/09 21:22		☐
61	ICSA				1.0	11/02/09 21:25		☐
62	ICSAB				1.0	11/02/09 21:29		☐
63	WASH				1.0	11/02/09 21:31		☐
64	CCV				1.0	11/02/09 21:34		☐
65	CCB				1.0	11/02/09 21:37		☐
66	RLCV				1.0	11/02/09 21:40		☐
67	~~Cal Blank~~				~~1.0~~	~~11/02/09 21:43~~	Rej. 11/3/09 Did not use.	☐
68	Cal Blank				1.0	11/02/09 21:45		☐
69	100 ppb				1.0	11/02/09 21:48		☐
70	CCV				1.0	11/02/09 21:51		☐
71	CCB				1.0	11/02/09 21:54		☐
72	RLCV				1.0	11/02/09 21:56		☐
73	ICSA				1.0	11/02/09 21:59		☐
74	ICSAB				1.0	11/02/09 22:02		☐
75	WASH				1.0	11/02/09 22:05		☐
76	CCV				1.0	11/02/09 22:07		☐
77	CCB				1.0	11/02/09 22:10		☐
78	RLCV				1.0	11/02/09 22:14		☐
79	LMR64B	D9J170000	9290138	04	2.5	11/02/09 22:16		☐
80	LMR64C	D9J170000	9290138	04	2.5	11/02/09 22:19		☐
81	LMRAP	D9J160359-1	9290138	04	2.5	11/02/09 22:22		☐
82	LMRAQ	D9J160359-2	9290138	04	2.5	11/02/09 22:25		☐
83	LMRAT	D9J160359-3	9290138	04	2.5	11/02/09 22:27		☐
84	LMRAV	D9J160359-4	9290138	04	2.5	11/02/09 22:30		☐
85	LMRAW	D9J160359-5	9290138	04	2.5	11/02/09 22:33		☐
86	LMRAWS	D9J160359-5	9290138	04	2.5	11/02/09 22:36		☐
87	LMRAWD	D9J160359-5	9290138	04	2.5	11/02/09 22:39		☐
88	LMRAX	D9J160359-6	9290138	04	2.5	11/02/09 22:41		☐
89	CCV				1.0	11/02/09 22:44		☐
90	CCB				1.0	11/02/09 22:47		☐
91	RLCV				1.0	11/02/09 22:50		☐
92	LMRA0	D9J160359-7	9290138	04	2.5	11/02/09 22:52		☐
93	LMRA1	D9J160359-8	9290138	04	2.5	11/02/09 22:55		☐
94	LMRA3	D9J160359-9	9290138	04	2.5	11/02/09 22:58		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/03/09 10:14:32

File ID: **AG110209** **Analyst: TEL**

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
95	LMRA4	D9J160359-10	9290138	04	2.5	11/02/09 23:01		☐
96	LMRA5	D9J160359-11	9290138	04	2.5	11/02/09 23:03		☐
97	LMRA7	D9J160359-12	9290138	04	2.5	11/02/09 23:06		☐
98	LMRA7S	D9J160359-12	9290138	04	2.5	11/02/09 23:09		☐
99	LMRA7D	D9J160359-12	9290138	04	2.5	11/02/09 23:12		☐
100	LMRCC	D9J160359-13	9290138	04	2.5	11/02/09 23:14		☐
101	CCV				1.0	11/02/09 23:17		☐
102	CCB				1.0	11/02/09 23:20		☐
103	RLCV				1.0	11/02/09 23:23		☐
104	LM96AB	D9J260000	9299307	MS	1.0	11/02/09 23:26		☐
105	LM96AC	D9J260000	9299307	MS	1.0	11/02/09 23:29		☐
106	LM8F5	D9J230381-1	9299307	MS	1.0	11/02/09 23:32		☐
107	LM8F5P5	D9J230381	9299307		5.0	11/02/09 23:34		☐
108	LM8F5Z	D9J230381-1	9299307		1.0	11/02/09 23:37		☐
109	LM8F5S	D9J230381-1	9299307	MS	1.0	11/02/09 23:40		☐
110	LM8F5D	D9J230381-1	9299307	MS	1.0	11/02/09 23:43		☐
111	CCV				1.0	11/02/09 23:45		☐
112	CCB				1.0	11/02/09 23:48		☐
113	RLCV				1.0	11/02/09 23:51		☐
114	LM8F7	D9J230381-2	9299307	MS	1.0	11/02/09 23:54		☐
115	LM8F9	D9J230381-3	9299307	MS	1.0	11/02/09 23:56		☐
116	LM88D	D9J240167-1	9299307	MS	1.0	11/02/09 23:59		☐
117	LM88E	D9J240167-2	9299307	MS	1.0	11/03/09 00:02		☐
118	LM88M	D9J240169-1	9299307	MS	1.0	11/03/09 00:05		☐
119	LM9FV	D9J240189-4	9299307	MS	1.0	11/03/09 00:07		☐
120	LM9FX	D9J240189-5	9299307	MS	1.0	11/03/09 00:10		☐
121	CCV				1.0	11/03/09 00:13		☐
122	CCB				1.0	11/03/09 00:16		☐
123	RLCV				1.0	11/03/09 00:18		☐
124	LM8TWB	D9J240000	9297093	MS	1.0	11/03/09 00:21		☐
125	LM8TWC	D9J240000	9297093	MS	1.0	11/03/09 00:24		☐
126	LM168	D9J210315-1	9297093	MS	1.0	11/03/09 00:27		☐
127	LM17C	D9J210315-2	9297093	MS	1.0	11/03/09 00:30		☐
128	LM17E	D9J210315-3	9297093	MS	1.0	11/03/09 00:32		☐
129	LM17EP5	D9J210315	9297093		5.0	11/03/09 00:35		☐
130	CCV				1.0	11/03/09 00:38		☐
131	CCB				1.0	11/03/09 00:41		☐
132	RLCV				1.0	11/03/09 00:43		☐
133	LM17EZ	D9J210315-3	9297093		1.0	11/03/09 00:46		☐
134	LM17ES	D9J210315-3	9297093	MS	1.0	11/03/09 00:49		☐
135	LM17ED	D9J210315-3	9297093	MS	1.0	11/03/09 00:52		☐
136	LM17G	D9J210315-4	9297093	MS	1.0	11/03/09 00:54		☐
137	LM17K	D9J210315-5	9297093	MS	1.0	11/03/09 00:57		☐
138	CCV				1.0	11/03/09 01:00		☐
139	CCB				1.0	11/03/09 01:03		☐
140	RLCV				1.0	11/03/09 01:05		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/03/09 10:14:32

File ID: AG110209 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	~~RINSE~~				1.0	~~11/03/09 01:08~~		
142	RINSE				1.0	11/03/09 01:11		
143	~~Cal Blank~~				1.0	~~11/03/09 01:14~~	KT 11/3/09 Did not use.	
144	Cal Blank				1.0	11/03/09 01:16		
145	100 ppb				1.0	11/03/09 01:19		
146	CCV				1.0	11/03/09 01:22		
147	CCB				1.0	11/03/09 01:25		
148	RLCV				1.0	11/03/09 01:27		
149	LNA4JB	D9J270000	9300170	46	1.0	11/03/09 01:30		
150	LNA4JC	D9J270000	9300170	46	1.0	11/03/09 01:33		
151	LNAQ8	D9J260181-1	9300170	46	1.0	11/03/09 01:36		
152	LNAQ8P5	D9J260181	9300170		5.0	11/03/09 01:39		
153	LNAQ8Z	D9J260181-1	9300170		1.0	11/03/09 01:41		
154	LNAQ8S	D9J260181-1	9300170	46	1.0	11/03/09 01:44		
155	LNAQ8D	D9J260181-1	9300170	46	1.0	11/03/09 01:47		
156	LNAQ9	D9J260181-2	9300170	46	1.0	11/03/09 01:49		
157	LNARA	D9J260181-3	9300170	46	1.0	11/03/09 01:52		
158	CCV				1.0	11/03/09 01:55		
159	CCB				1.0	11/03/09 01:58		
160	RLCV				1.0	11/03/09 02:01		
161	LNARC	D9J260181-4	9300170	46	1.0	11/03/09 02:03		
162	LNARD	D9J260181-5	9300170	46	1.0	11/03/09 02:06		
163	LNARE	D9J260181-6	9300170	46	1.0	11/03/09 02:09		
164	LNARF	D9J260181-7	9300170	46	1.0	11/03/09 02:12		
165	LNARG	D9J260181-8	9300170	46	1.0	11/03/09 02:14		
166	LNARH	D9J260181-9	9300170	46	1.0	11/03/09 02:17		
167	LNARJ	D9J260181-10	9300170	46	1.0	11/03/09 02:20		
168	LNARK	D9J260181-11	9300170	46	1.0	11/03/09 02:23		
169	CCV				1.0	11/03/09 02:25		
170	CCB				1.0	11/03/09 02:28		
171	RLCV				1.0	11/03/09 02:31		
172	LNARL	D9J260181-12	9300170	46	1.0	11/03/09 02:34		
173	LNARM	D9J260181-13	9300170	46	1.0	11/03/09 02:36		
174	LNARN	D9J260181-14	9300170	46	1.0	11/03/09 02:39		
175	LNARP	D9J260181-15	9300170	46	1.0	11/03/09 02:42		
176	LNARQ	D9J260181-16	9300170	46	1.0	11/03/09 02:45		
177	LNARR	D9J260181-17	9300170	46	1.0	11/03/09 02:47		
178	LNART	D9J260181-18	9300170	46	1.0	11/03/09 02:50		
179	LNARV	D9J260181-19	9300170	46	1.0	11/03/09 02:53		
180	CCV				1.0	11/03/09 02:56		
181	CCB				1.0	11/03/09 02:59		
182	RLCV				1.0	11/03/09 03:01		
183	~~LNJPXB~~	~~D9J300000~~	~~9303190~~	~~MS~~	1.0	~~11/03/09 03:04~~		
184	LNJPXC	D9J300000	9303190	MS	1.0	11/03/09 03:07		
185	LNDTN	D9J280118-1	9303190	MS	1.0	11/03/09 03:10		
186	~~LNDTNP5~~	D9J280118	9303190		5.0	~~11/03/09 03:12~~	KT 11/3/09 Did not use.	

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/03/09 10:14:32

File ID: AG110209 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
187	~~LNDTNZ~~	~~D9J280118-1~~	~~9303190~~		~~1.0~~	~~11/03/09 03:15~~		☐
188	LNDTNS	D9J280118-1	9303190	MS	1.0	11/03/09 03:18		☐
189	LNDTND	D9J280118-1	9303190	MS	1.0	11/03/09 03:21		☐
190	LNDTP	D9J280118-2	9303190	MS	1.0	11/03/09 03:24		☐
191	LNDTQ	D9J280118-3	9303190	MS	1.0	11/03/09 03:26		☐
192	CCV				1.0	11/03/09 03:29		☐
193	CCB				1.0	11/03/09 03:32		☐
194	RLCV				1.0	11/03/09 03:35		☐
195	RINSE				1.0	11/03/09 03:37		☐
196	RINSE				1.0	11/03/09 03:40		☐
197	~~Cal Blank~~				~~1.0~~	~~11/03/09 03:43~~	N.L. 11/3/09 Did not use.	☐
198	Cal Blank				1.0	11/03/09 03:46		☐
199	100 ppb				1.0	11/03/09 03:48		☐
200	CCV				1.0	11/03/09 03:51		☐
201	CCB				1.0	11/03/09 03:54		☐
202	RLCV				1.0	11/03/09 03:57		☐
203	LM97PBF	D9J260000	9299338	MD	1.0	11/03/09 03:59		☐
204	LM97PCF	D9J260000	9299338	MD	1.0	11/03/09 04:02		☐
205	LM800F	D9J240149-1	9299338	MD	1.0	11/03/09 04:05		☐
206	LM806F	D9J240149-3	9299338	MD	1.0	11/03/09 04:08		☐
207	LM81DF	D9J240149-5	9299338	MD	1.0	11/03/09 04:11		☐
208	LM81GF	D9J240149-7	9299338	MD	1.0	11/03/09 04:13		☐
209	CCV				1.0	11/03/09 04:16		☐
210	CCB				1.0	11/03/09 04:19		☐
211	RLCV				1.0	11/03/09 04:22		☐
212	LM81GP5F	D9J240149	9299338		5.0	11/03/09 04:24		☐
213	LM81GZF	D9J240149-7	9299338		1.0	11/03/09 04:27		☐
214	LM81GSF	D9J240149-7	9299338	MD	1.0	11/03/09 04:30		☐
215	LM81GDF	D9J240149-7	9299338	MD	1.0	11/03/09 04:33		☐
216	LM81HF	D9J240149-8	9299338	MD	1.0	11/03/09 04:35		☐
217	LM81KF	D9J240149-10	9299338	MD	1.0	11/03/09 04:38		☐
218	CCV				1.0	11/03/09 04:41		☐
219	CCB				1.0	11/03/09 04:44		☐
220	RLCV				1.0	11/03/09 04:46		☐
221	LM5RNB	D9J230000	9296069	MS	1.0	11/03/09 04:49		☐
222	LM5RNC	D9J230000	9296069	MS	1.0	11/03/09 04:52		☐
223	LM5RNL	D9J230000	9296069	MS	1.0	11/03/09 04:55		☐
224	LM2J8	D9J210355-12	9296069	MS	1.0	11/03/09 04:57		☐
225	LM2KD	D9J210355-13	9296069	MS	1.0	11/03/09 05:00		☐
226	LM2KH	D9J210355-14	9296069	MS	1.0	11/03/09 05:03		☐
227	LM2KHP5	D9J210355	9296069		5.0	11/03/09 05:06		☐
228	LM2KHZ	D9J210355-14	9296069		1.0	11/03/09 05:08		☐
229	LM2KHS	D9J210355-14	9296069	MS	1.0	11/03/09 05:11		☐
230	CCV				1.0	11/03/09 05:14		☐
231	CCB				1.0	11/03/09 05:17		☐
232	RLCV				1.0	11/03/09 05:19		☐

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/03/09 10:14:32

File ID: AG110209 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
233	LM2KHD	D9J210355-14	9296069	MS	1.0	11/03/09 05:22		☐
234	LM2KK 2X	D9J210355-15	9296069	MS	2.0	11/03/09 05:25		☐
235	LM2KP 2X	D9J210355-16	9296069	MS	2.0	11/03/09 05:28		☐
236	LM2KQ	D9J210355-17	9296069	MS	1.0	11/03/09 05:30		☐
237	LM2KT	D9J210355-18	9296069	MS	1.0	11/03/09 05:33		☐
238	LM2KV	D9J210355-19	9296069	MS	1.0	11/03/09 05:36		☐
239	LM2KW	D9J210355-20	9296069	MS	1.0	11/03/09 05:39		☐
240	LM2KX	D9J210355-21	9296069	MS	1.0	11/03/09 05:42		☐
241	CCV				1.0	11/03/09 05:44		☐
242	CCB				1.0	11/03/09 05:47		☐
243	RLCV				1.0	11/03/09 05:50		☐
244	~~LM5RKB~~	~~D9J230000~~	9296068	MS	1.0	~~11/03/09 05:53~~		☐
245	LM5RKC	D9J230000	9296068	MS	1.0	11/03/09 05:55		☐
246	LM5RKL	D9J230000	9296068	MS	1.0	11/03/09 05:58		☐
247	LM2JJ	D9J210355-1	9296068	MS	1.0	11/03/09 06:01		☐
248	LM2JN	D9J210355-2	9296068	MS	1.0	11/03/09 06:04		☐
249	LM2JW 2X	D9J210355-3	9296068	MS	2.0	11/03/09 06:07		☐
250	LM2JWP10	D9J210355	9296068		10.0	11/03/09 06:09		☐
251	LM2JWZ	D9J210355-3	9296068		1.0	11/03/09 06:12		☐
252	LM2JWS 2X	D9J210355-3	9296068	MS	2.0	11/03/09 06:15		☐
253	CCV				1.0	11/03/09 06:17		☐
254	CCB				1.0	11/03/09 06:20		☐
255	RLCV				1.0	11/03/09 06:23		☐
256	LM2JWD 2X	D9J210355-3	9296068	MS	2.0	11/03/09 06:26		☐
257	LM2JX	D9J210355-4	9296068	MS	1.0	11/03/09 06:28		☐
258	LM2J0	D9J210355-5	9296068	MS	1.0	11/03/09 06:31		☐
259	LM2J1	D9J210355-6	9296068	MS	1.0	11/03/09 06:34		☐
260	LM2J2	D9J210355-7	9296068	MS	1.0	11/03/09 06:37		☐
261	LM2J3	D9J210355-8	9296068	MS	1.0	11/03/09 06:39		☐
262	LM2J4	D9J210355-9	9296068	MS	1.0	11/03/09 06:42		☐
263	LM2J5	D9J210355-10	9296068	MS	1.0	11/03/09 06:45		☐
264	LM2J7	D9J210355-11	9296068	MS	1.0	11/03/09 06:48		☐
265	CCV				1.0	11/03/09 06:51		☐
266	CCB				1.0	11/03/09 06:53		☐
267	RLCV				1.0	11/03/09 06:56		☐
268	RINSE				1.0	11/03/09 06:59		☐
269	RINSE				1.0	11/03/09 07:01		☐
270	~~Cal Blank~~				~~1.0~~	~~11/03/09 07:04~~	KT 11/3/09 Did not use.	☐
271	Cal Blank				1.0	11/03/09 07:07		☐
272	100 ppb				1.0	11/03/09 07:10		☐
273	CCV				1.0	11/03/09 07:12		☐
274	CCB				1.0	11/03/09 07:15		☐
275	RLCV				1.0	11/03/09 07:18		☐
276	LM93QB	D9J260000	9299274	04	1.0	11/03/09 07:21		☐
277	LM93QC	D9J260000	9299274	04	1.0	11/03/09 07:23		☐
278	LM7VQ	D9J230314-1	9299274	04	1.0	11/03/09 07:26		☐

Denver

RUN SUMMARY

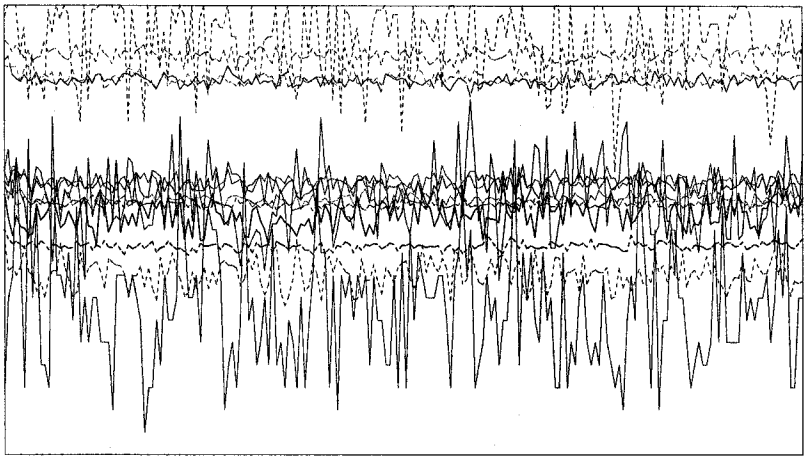
Method: 6020 (ICP/MS) | ICPMS_024 (024) | Reported: 11/03/09 10:14:32

File ID: AG110209 **Analyst:** TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
279	~~LM7W1 2000~~	~~D9J230319-1~~	~~9299274~~	~~04~~	~~2000~~	~~11/03/09 07:29~~		☐
280	LM7W1P100(	D9J230319	9299274		10000	11/03/09 07:32		☐
281	~~LM7W1Z~~	~~D9J230319-1~~	~~9299274~~		~~1.0~~	~~11/03/09 07:35~~	VE 11/3/09 Did not use.	☐
282	CCV				1.0	11/03/09 07:37		☐
283	CCB				1.0	11/03/09 07:40		☐
284	RLCV				1.0	11/03/09 07:43		☐
285	~~LM7W1S 200~~	~~D9J230319-1~~	~~9299274~~	~~04~~	~~2000~~	~~11/03/09 07:45~~		☐
286	~~LM7W1D 200~~	D9J230319-1	9299274	04	2000	~~11/03/09 07:48~~	VE 11/3/09 Did not use.	☐
287	LM7XN 10X	D9J230319-2	9299274	04	10.0	11/03/09 07:51		☐
288	LM7XV	D9J230319-3	9299274	04	1.0	11/03/09 07:54		☐
289	LM8XL 2X	D9J240141-1	9299274	04	2.0	11/03/09 07:57		☐
290	CCV				1.0	11/03/09 07:59		☐
291	CCB				1.0	11/03/09 08:02		☐
292	RLCV				1.0	11/03/09 08:05		☐
293	LM9TCB	D9J260000	9299123	MS	1.0	11/03/09 08:08		☐
294	LM9TCC	D9J260000	9299123	MS	1.0	11/03/09 08:11		☐
295	LM9F9	D9J240192-1	9299123	MS	1.0	11/03/09 08:13		☐
296	LM9F9P5	D9J240192	9299123		5.0	11/03/09 08:16		☐
297	LM9F9Z	D9J240192-1	9299123		1.0	11/03/09 08:19		☐
298	LM9F9S	D9J240192-1	9299123	MS	1.0	11/03/09 08:22		☐
299	LM9F9D	D9J240192-1	9299123	MS	1.0	11/03/09 08:24		☐
300	LM9GC	D9J240192-2	9299123	MS	1.0	11/03/09 08:27		☐
301	LM9GE	D9J240192-3	9299123	MS	1.0	11/03/09 08:30		☐
302	CCV				1.0	11/03/09 08:33		☐
303	CCB				1.0	11/03/09 08:35		☐
304	RLCV				1.0	11/03/09 08:38		☐
305	RINSE				1.0	11/03/09 08:41		☐

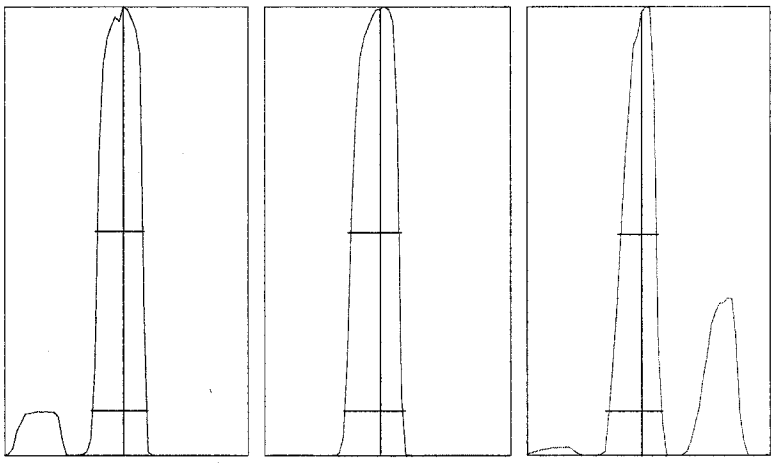
Tune Report

Tune File : NORM.U
Comment :



Integration Time: 0.1000 sec
Sampling Period: 1.5300 sec
n: 200
Oxide: 156/140 1.612%
Doubly Charged: 70/140 1.230%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2826.0	3012.5	2.92	0.80
7	50,000	30125.0	30337.9	2.59	0.60
59	50,000	28064.0	28421.7	1.98	0.90
63	100	67.0	57.1	13.21	0.50
70	1,000	573.0	535.7	5.93	0.50
75	20	7.0	6.6	41.18	0.70
78	500	194.0	201.7	7.57	1.00
89	50,000	45135.0	44509.2	1.60	1.30
115	50,000	42283.0	41852.9	1.49	1.40
118	100	92.0	93.2	11.16	1.20
137	10,000	4808.0	4648.0	1.83	1.50
205	50,000	27892.0	27872.8	1.45	3.00
238	50,000	41544.0	41600.2	1.43	2.00
156/140	5	1.515%	1.641%	5.36	
70/140	2	1.354%	1.282%	5.99	



m/z:	7	89	205
Height:	31,153	44,748	28,157
Axis:	7.00	88.95	204.95
W-50%:	0.60	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 : Nov 02, 2009 18:09:32
Printed : Nov 02, 2009 18:09:35

Tune Report

Tune File : NORM.U
Comment :

Tuning Parameters

===Plasma Condition===			===Ion Lenses===			===Q-Pole Parameters===		
RF Power	:	1600 W	Extract 1	:	0 V	AMU Gain	:	134
RF Matching	:	1.7 V	Extract 2	:	-170 V	AMU Offset	:	124
Smpl Depth	:	8 mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0006
Torch-H	:	-0.8 mm	Omega Lens-ce	:	1.4 V	Axis Offset	:	-0.03
Torch-V	:	-0.3 mm	Cell Entrance	:	-30 V	QP Bias	:	-3 V
Carrier Gas	:	0.81 L/min	QP Focus	:	7 V			
Makeup Gas	:	0.23 L/min	Cell Exit	:	-30 V	===Detector Parameters===		
Optional Gas	:	--- %				Discriminator	:	8 mV
Nebulizer Pump	:	0.1 rps	===Octopole Parameters===			Analog HV	:	1770 V
Sample Pump	:	--- rps	OctP RF	:	180 V	Pulse HV	:	1480 V
S/C Temp	:	2 degC	OctP Bias	:	-18 V			

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

Generated : Nov 02, 2009 18:09:32
Printed : Nov 02, 2009 18:09:38

P/A Factor Tuning Report

Acquired:Nov 2 2009 06:16 pm

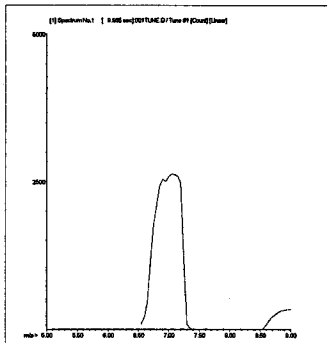
Mass[amu]	Element	P/A Factor
6	Li	0.053376
7	(Li)	Sensitivity too low
9	Be	0.058963
23	Na	0.064612
24	Mg	0.066005
27	Al	0.067300
39	K	0.067148
43	Ca	Sensitivity too low
45	Sc	0.067979
51	V	0.069070
52	Cr	0.070132
53	(Cr)	Sensitivity too low
55	Mn	0.071059
57	Fe	Sensitivity too low
59	Co	0.072647
60	Ni	0.072939
63	Cu	0.073889
66	Zn	0.073806
72	Ge	0.073639
75	As	0.073299
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	0.074945
98	(Mo)	0.074338
99	(Mo)	0.074447
105	Pd	0.075660
106	(Cd)	0.075645
107	Ag	Sensitivity too low
108	(Cd)	0.076152
111	Cd	0.075724
115	In	0.075092
118	Sn	0.075105
121	Sb	0.075200
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.078534
206	(Pb)	0.077261
207	(Pb)	0.077366
208	Pb	0.076457
232	Th	0.076084
238	U	0.076294

===Detector Parameters===
Discriminator: 8.0 mV
Analog HV: 1770 V
Pulse HV: 1480 V

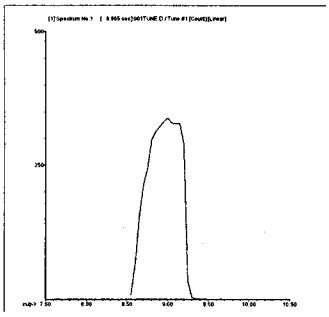
200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\001TUNE.D
Date Acquired: Nov 2 2009 06:39 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	27406	27656	27218	27631	26943	27581	1.15	5.00	
9 Be	3604	3606	3717	3575	3589	3535	1.89	5.00	
24 Mg	18954	19258	18960	18575	19108	18870	1.36	5.00	
59 Co	79323	81363	78741	79052	79188	78273	1.50	5.00	
115 In	1304460	1296234	1301571	1294244	1315165	1315083	0.77	5.00	
208 Pb	86095	86836	86923	85905	86113	84701	1.04	5.00	
238 U	173715	175898	176772	171957	172619	171328	1.41	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: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:

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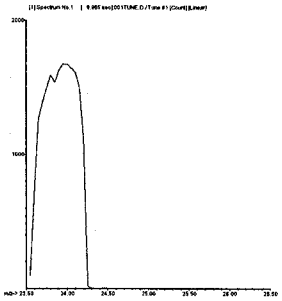
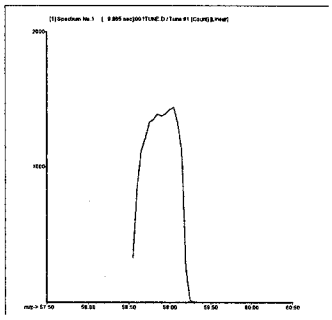
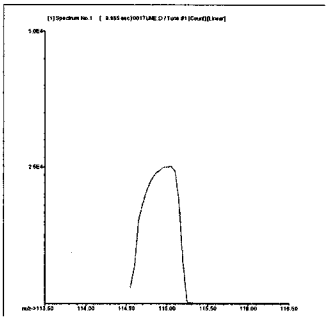


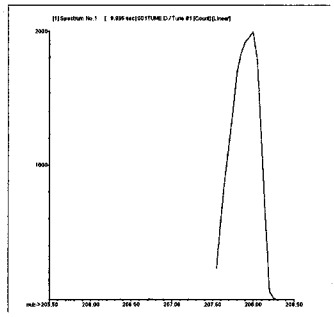
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90 - 24.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



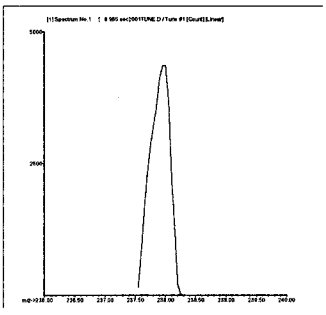
59 Co
Mass Calib.
Actual: 58.95
Required: 58.90 - 59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width
Actual: 0.60
Required: 0.90
Flag:



208 Pb
Mass Calib.
Actual: 207.95
Required: 207.90 - 208.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:



238 U
Mass Calib.
Actual: 237.95
Required: 237.90 - 238.10
Flag:
Peak Width
Actual: 0.55
Required: 0.90
Flag:

Tune Result: Pass

Calibration Blank QC Report

Data File:	C:\ICPCHEM\1\DATA\AG110209.B\002CALB.D\002CALB.D#
Date Acquired:	Nov 2 2009 06:42 pm
Acq. Method:	NormISIS.M
Operator:	TEL
Sample Name:	Cal Blank
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update:	Nov 02 2009 06:43 pm
Sample Type:	CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	347	20.47
52	Cr	72	1	4838	5.69
55	Mn	72	1	397	9.54
59	Co	72	1	40	90.14
60	Ni	72	1	97	21.53
63	Cu	72	1	327	16.86
66	Zn	72	1	555	4.54
75	As	72	1	46	11.50
78	Se	72	1	240	23.20
95	Mo	72	1	83	30.20
107	Ag	115	1	13	43.30
111	Cd	115	1	2	897.34
118	Sn	115	1	473	3.23
121	Sb	115	1	20	28.87
137	Ba	115	1	24	20.83
205	Tl	165	1	143	4.03
208	Pb	165	1	302	4.46
232	Th	165	1	417	20.41
238	U	165	1	199	24.25

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	541704	2.48
45	Sc	1	1681026	0.40
72	Ge	1	761076	0.52
115	In	1	2321525	0.99
165	Ho	1	4240360	1.55

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\AG110209.B\003CALB.D\003CALB.D#
Date Acquired: Nov 2 2009 06:45 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: Cal Blank
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:43 pm
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	423	23.78
52	Cr	72	1	4864	4.52
55	Mn	72	1	657	3.17
59	Co	72	1	33	34.64
60	Ni	72	1	157	36.30
63	Cu	72	1	430	6.15
66	Zn	72	1	995	3.23
75	As	72	1	62	11.63
78	Se	72	1	230	8.70
95	Mo	72	1	83	42.14
107	Ag	115	1	10	100.00
111	Cd	115	1	-13	187.50
118	Sn	115	1	1820	9.05
121	Sb	115	1	27	37.50
137	Ba	115	1	56	49.96
205	Tl	165	1	118	23.74
208	Pb	165	1	347	6.31
232	Th	165	1	437	8.67
238	U	165	1	73	25.31

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	546752	1.82
45	Sc	1	1679879	0.85
72	Ge	1	771122	0.73
115	In	1	2325180	0.50
165	Ho	1	4161189	1.22

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\AG110209.B\004ICAL.D\004ICAL.D#
Date Acquired: Nov 2 2009 06:48 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: 100 ppb
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:46 pm
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	63793	0.53
51	V	72	1	993239	1.76
52	Cr	72	1	993012	0.37
55	Mn	72	1	1154877	1.77
59	Co	72	1	1233377	1.54
60	Ni	72	1	275423	1.76
63	Cu	72	1	650941	1.07
66	Zn	72	1	148095	0.57
75	As	72	1	128821	0.84
78	Se	72	1	27772	1.65
95	Mo	72	1	344682	0.47
107	Ag	115	1	1022283	0.61
111	Cd	115	1	202978	1.29
118	Sn	115	1	564503	1.28
121	Sb	115	1	637320	0.76
137	Ba	115	1	274012	1.39
205	Tl	165	1	2335177	0.67
208	Pb	165	1	3224727	0.60
232	Th	165	1	3145627	2.54
238	U	165	1	3549579	1.68

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	535026	4.10	546752	97.9	30 - 120	
45	Sc	1	1645293	0.93	1679879	97.9	30 - 120	
72	Ge	1	757814	1.52	771122	98.3	30 - 120	
115	In	1	2282183	1.14	2325180	98.2	30 - 120	
165	Ho	1	4114992	0.04	4161189	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\AG110209.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\AG110209.B\005 ICV.D\005 ICV.D#
Date Acquired: Nov 2 2009 06:50 pm
Operator: TEL
Sample Name: ICV
Misc Info:
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 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	38.53	ppb	4.43	40	96.3	90 - 110	
51 V	72	1	40.29	ppb	2.12	40	100.7	90 - 110	
52 Cr	72	1	41.68	ppb	2.03	40	104.2	90 - 110	
55 Mn	72	1	41.62	ppb	2.08	40	104.1	90 - 110	
59 Co	72	1	41.10	ppb	2.00	40	102.8	90 - 110	
60 Ni	72	1	40.84	ppb	2.42	40	102.1	90 - 110	
63 Cu	72	1	40.38	ppb	2.17	40	101.0	90 - 110	
66 Zn	72	1	40.11	ppb	2.39	40	100.3	90 - 110	
75 As	72	1	40.50	ppb	2.56	40	101.3	90 - 110	
78 Se	72	1	41.22	ppb	2.95	40	103.1	90 - 110	
95 Mo	72	1	40.65	ppb	1.08	40	101.6	90 - 110	
107 Ag	115	1	39.76	ppb	0.74	40	99.4	90 - 110	
111 Cd	115	1	39.89	ppb	0.58	40	99.7	90 - 110	
118 Sn	115	1	39.90	ppb	1.36	40	99.8	90 - 110	
121 Sb	115	1	40.07	ppb	1.07	40	100.2	90 - 110	
137 Ba	115	1	39.63	ppb	1.54	40	99.1	90 - 110	
205 Tl	165	1	39.78	ppb	0.96	40	99.5	90 - 110	
208 Pb	165	1	41.49	ppb	1.32	40	103.7	90 - 110	
232 Th	165	1	43.06	ppb	1.25	40	107.7	90 - 110	
238 U	165	1	40.96	ppb	1.49	40	102.4	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	537667	1.44	546752	98.3	30 - 120	
45 Sc	1	1639207	1.17	1679879	97.6	30 - 120	
72 Ge	1	734155	1.69	771122	95.2	30 - 120	
115 In	1	2271283	0.74	2325180	97.7	30 - 120	
165 Ho	1	4091654	0.66	4161189	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\AG110209.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\AG110209.B\006WASH.D\006WASH.D#
Date Acquired: Nov 2 2009 06:53 pm
Operator: TEL
Sample Name: RLIV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 pm
Sample Type: WASH
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	7.40	1.30	
51 V	72	1	5.185 ppb	2.09	6.50	
52 Cr	72	1	2.100 ppb	2.88	2.60	
55 Mn	72	1	1.077 ppb	4.65	1.30	
59 Co	72	1	1.080 ppb	3.26	1.30	
60 Ni	72	1	2.124 ppb	3.37	2.60	
63 Cu	72	1	2.106 ppb	5.86	2.60	
66 Zn	72	1	10.070 ppb	0.95	13.00	
75 As	72	1	5.357 ppb	0.45	6.50	
78 Se	72	1	5.373 ppb	4.06	6.50	
95 Mo	72	1	2.115 ppb	3.48	2.60	
107 Ag	115	1	5.278 ppb	0.96	6.50	
111 Cd	115	1	1.047 ppb	4.51	1.30	
118 Sn	115	1	10.120 ppb	0.86	13.00	
121 Sb	115	1	2.311 ppb	1.38	2.60	
137 Ba	115	1	1.041 ppb	2.79	1.30	
205 Tl	165	1	1.421 ppb	1.04	1.30	
208 Pb	165	1	1.069 ppb	1.12	1.30	
232 Th	165	1	3.165 ppb	4.43	2.60	
238 U	165	1	1.123 ppb	1.18	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	528808	0.75	546752	96.7	30 - 120	
45 Sc	1	1632462	0.72	1679879	97.2	30 - 120	
72 Ge	1	727088	1.38	771122	94.3	30 - 120	
115 In	1	2266913	1.27	2325180	97.5	30 - 120	
165 Ho	1	4104754	0.23	4161189	98.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.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\AG110209.B\007 ICB.D\007 ICB.D#
Date Acquired: Nov 2 2009 06:56 pm
Operator: TEL
Sample Name: ICB
Misc Info:
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 pm
Sample Type: ICB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	-0.01	ppb	26.32	1.00	
52 Cr	72	1	0.00	ppb	5690.10	1.00	
55 Mn	72	1	0.00	ppb	46.27	1.00	
59 Co	72	1	0.00	ppb	57.74	1.00	
60 Ni	72	1	0.00	ppb	1950.90	1.00	
63 Cu	72	1	0.00	ppb	290.93	1.00	
66 Zn	72	1	-0.36	ppb	0.98	1.00	
75 As	72	1	0.00	ppb	389.45	1.00	
78 Se	72	1	0.18	ppb	175.34	1.00	
95 Mo	72	1	0.01	ppb	85.89	1.00	
107 Ag	115	1	0.02	ppb	21.33	1.00	
111 Cd	115	1	0.00	ppb	73.33	1.00	
118 Sn	115	1	-0.10	ppb	23.92	1.00	
121 Sb	115	1	0.12	ppb	6.52	1.00	
137 Ba	115	1	-0.01	ppb	23.52	1.00	
205 Tl	165	1	0.16	ppb	4.00	1.00	
208 Pb	165	1	0.00	ppb	52.97	1.00	
232 Th	165	1	0.38	ppb	10.44	1.00	
238 U	165	1	0.00	ppb	43.22	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	539373	2.70	546752	98.7	30 - 120	
45 Sc	1	1637666	1.35	1679879	97.5	30 - 120	
72 Ge	1	743108	2.03	771122	96.4	30 - 120	
115 In	1	2270976	0.45	2325180	97.7	30 - 120	
165 Ho	1	4071179	0.77	4161189	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\AG110209.B\003CALB.D\003CALB.D#

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

RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\008RLST.D\008RLST.D#
Date Acquired: Nov 2 2009 06:58 pm
Operator: TEL
Sample Name: RL STD
Misc Info:
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 pm
Sample Type: RLSTD
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1.05	ppb	5.75	1	105.2	50 - 150	
51 V	72	1	1.04	ppb	5.59	1	103.9	50 - 150	
52 Cr	72	1	1.08	ppb	6.51	1	107.8	50 - 150	
55 Mn	72	1	1.04	ppb	0.83	1	103.8	50 - 150	
59 Co	72	1	1.04	ppb	3.41	1	103.8	50 - 150	
60 Ni	72	1	0.93	ppb	8.13	1	93.2	50 - 150	
63 Cu	72	1	1.01	ppb	3.14	1	101.3	50 - 150	
66 Zn	72	1	9.67	ppb	1.04	10	96.7	50 - 150	
75 As	72	1	1.02	ppb	6.56	1	102.2	50 - 150	
78 Se	72	1	1.44	ppb	49.12	1	143.7	50 - 150	
95 Mo	72	1	1.05	ppb	8.54	1	105.4	50 - 150	
107 Ag	115	1	0.99	ppb	6.82	1	98.8	50 - 150	
111 Cd	115	1	0.99	ppb	2.82	1	98.8	50 - 150	
118 Sn	115	1	9.80	ppb	1.96	10	98.0	50 - 150	
121 Sb	115	1	1.03	ppb	4.05	1	103.0	50 - 150	
137 Ba	115	1	1.02	ppb	1.66	1	101.7	50 - 150	
205 Tl	165	1	1.13	ppb	1.40	1	113.4	50 - 150	
208 Pb	165	1	1.06	ppb	1.44	1	105.6	50 - 150	
232 Th	165	1	1.20	ppb	1.89	1	119.6	50 - 150	
238 U	165	1	1.09	ppb	2.13	1	108.7	50 - 150	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	530780	1.23	546752	97.1	30 - 120	
45 Sc	1	1654978	0.57	1679879	98.5	30 - 120	
72 Ge	1	730198	2.58	771122	94.7	30 - 120	
115 In	1	2278924	1.26	2325180	98.0	30 - 120	
165 Ho	1	4069187	0.58	4161189	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\AG110209.B\003CALB.D\003CALB.D#

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

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\009AFCE.D\009AFCE.D#
Date Acquired: Nov 2 2009 07:01 pm
Operator: TEL
Sample Name: AFCEE RL
Misc Info:
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 pm
Sample Type: AFCEERL
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.16	ppb	50.28	0	76.9	80 - 120	
51 V	72	1	0.21	ppb	1.06	0	99.3	80 - 120	
52 Cr	72	1	0.18	ppb	22.22	0	82.1	80 - 120	
55 Mn	72	1	0.19	ppb	6.31	0	91.2	80 - 120	
59 Co	72	1	0.20	ppb	1.72	0	97.6	80 - 120	
60 Ni	72	1	0.19	ppb	13.04	0	103.9	80 - 120	
63 Cu	72	1	0.20	ppb	10.66	0	99.5	80 - 120	
66 Zn	72	1	1.52	ppb	4.26	2	78.3	80 - 120	
75 As	72	1	0.19	ppb	12.53	0	93.9	80 - 120	
78 Se	72	1	0.40	ppb	34.69	0	138.9	80 - 120	
95 Mo	72	1	0.21	ppb	9.84	0	98.2	80 - 120	
107 Ag	115	1	0.19	ppb	3.44	0	97.0	80 - 120	
111 Cd	115	1	0.21	ppb	14.80	0	104.3	80 - 120	
118 Sn	115	1	1.84	ppb	4.57	2	93.7	80 - 120	
121 Sb	115	1	0.24	ppb	4.05	0	114.3	80 - 120	
137 Ba	115	1	0.19	ppb	3.37	0	95.4	80 - 120	
205 Tl	165	1	0.26	ppb	3.46	0	112.6	80 - 120	
208 Pb	165	1	0.20	ppb	1.45	0	96.1	80 - 120	
232 Th	165	1	0.28	ppb	0.55	0	118.7	80 - 120	
238 U	165	1	0.22	ppb	1.50	0	99.2	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	536123	0.61	546752	98.1	30 - 120	
45 Sc	1	1643277	1.53	1679879	97.8	30 - 120	
72 Ge	1	743257	1.77	771122	96.4	30 - 120	
115 In	1	2237417	0.87	2325180	96.2	30 - 120	
165 Ho	1	4155025	0.64	4161189	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\AG110209.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\AG110209.B\010SMPL.D\010SMPL.D#
Date Acquired: Nov 2 2009 07:04 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ALTSe
Misc Info: 2 ppb
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 pm
Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	0.01	0.01	ppb	86.88	3600	
52 Cr	72	1	0.05	0.05	ppb	27.37	3600	
55 Mn	72	1	-0.01	-0.01	ppb	18.71	3600	
59 Co	72	1	0.00	0.00	ppb	149.54	3600	
60 Ni	72	1	-0.02	-0.02	ppb	76.26	3600	
63 Cu	72	1	-0.02	-0.02	ppb	23.03	3600	
66 Zn	72	1	-0.41	-0.41	ppb	0.86	3600	
75 As	72	1	0.01	0.01	ppb	160.81	3600	
78 Se	72	1	2.42	2.42	ppb	5.30	3600	
95 Mo	72	1	0.00	0.00	ppb	1310.30	3600	
107 Ag	115	1	0.01	0.01	ppb	22.22	3600	
111 Cd	115	1	0.01	0.01	ppb	97.33	3600	
118 Sn	115	1	-0.24	-0.24	ppb	4.79	3600	
121 Sb	115	1	0.03	0.03	ppb	25.34	3600	
137 Ba	115	1	-0.01	-0.01	ppb	21.49	3600	
205 Tl	165	1	0.03	0.03	ppb	5.20	3600	
208 Pb	165	1	0.00	0.00	ppb	19.63	3600	
232 Th	165	1	0.05	0.05	ppb	11.14	1000	
238 U	165	1	0.00	0.00	ppb	722.51	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	523876	1.91	546752	95.8	30 - 120	
45 Sc	1	1639160	0.94	1679879	97.6	30 - 120	
72 Ge	1	712892	0.82	771122	92.4	30 - 120	
115 In	1	2274505	0.46	2325180	97.8	30 - 120	
165 Ho	1	4058932	1.15	4161189	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\AG110209.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\AG110209.B\011ICSA.D\011ICSA.D#
Date Acquired: Nov 2 2009 07:07 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSA
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 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	0.02 ppb	173.26	1.00	
51 V	72	1	1.30 ppb	19.83	1.00	
52 Cr	72	1	1.80 ppb	1.81	1.00	
55 Mn	72	1	2.97 ppb	3.49	1.00	
59 Co	72	1	0.10 ppb	13.29	1.00	
60 Ni	72	1	0.83 ppb	5.53	1.00	
63 Cu	72	1	0.46 ppb	5.95	1.00	
66 Zn	72	1	3.11 ppb	3.01	10.00	
75 As	72	1	0.22 ppb	8.01	1.00	
78 Se	72	1	-0.04 ppb	434.56	1.00	
95 Mo	72	1	2039.00 ppb	1.67	2000.00	
107 Ag	115	1	0.03 ppb	33.86	1.00	
111 Cd	115	1	0.27 ppb	66.57	1.00	
118 Sn	115	1	-0.08 ppb	16.75	10.00	
121 Sb	115	1	0.93 ppb	5.18	1.00	
137 Ba	115	1	0.01 ppb	40.83	1.00	
205 Tl	165	1	0.05 ppb	29.04	1.00	
208 Pb	165	1	0.99 ppb	0.59	1.00	
232 Th	165	1	0.12 ppb	12.59	1.00	
238 U	165	1	0.00 ppb	20.25	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	323175	3.31	546752	59.1	30 - 120	
45 Sc	1	1139310	1.94	1679879	67.8	30 - 120	
72 Ge	1	550084	0.83	771122	71.3	30 - 120	
115 In	1	1713141	1.04	2325180	73.7	30 - 120	
165 Ho	1	3273817	0.82	4161189	78.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.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\AG110209.B\012ICSB.D\012ICSB.D#
Date Acquired: Nov 2 2009 07:09 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSAB
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 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	113.00	1.10	100	113.0	80 - 120	
51 V	72	1	94.48	1.33	100	94.5	80 - 120	
52 Cr	72	1	94.64	0.58	100	94.6	80 - 120	
55 Mn	72	1	97.81	0.79	100	97.8	80 - 120	
59 Co	72	1	91.89	2.76	100	91.9	80 - 120	
60 Ni	72	1	86.36	1.21	100	86.4	80 - 120	
63 Cu	72	1	84.82	0.95	100	84.8	80 - 120	
66 Zn	72	1	103.60	0.80	100	103.6	80 - 120	
75 As	72	1	100.70	0.93	100	100.7	80 - 120	
78 Se	72	1	103.60	2.10	100	103.6	80 - 120	
95 Mo	72	1	2206.00	1.19	2100	105.0	80 - 120	
107 Ag	115	1	84.77	1.66	100	84.8	80 - 120	
111 Cd	115	1	96.78	0.44	100	96.8	80 - 120	
118 Sn	115	1	100.60	0.58	100	100.6	80 - 120	
121 Sb	115	1	105.00	0.57	100	105.0	80 - 120	
137 Ba	115	1	100.50	0.85	100	100.5	80 - 120	
205 Tl	165	1	95.61	0.32	100	95.6	80 - 120	
208 Pb	165	1	95.18	0.74	100	95.2	80 - 120	
232 Th	165	1	107.00	1.56	100	107.0	80 - 120	
238 U	165	1	102.40	0.88	100	102.4	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	291983	2.08	546752	53.4	30 - 120	
45 Sc	1	1088487	1.49	1679879	64.8	30 - 120	
72 Ge	1	527070	1.66	771122	68.4	30 - 120	
115 In	1	1695850	1.06	2325180	72.9	30 - 120	
165 Ho	1	3344395	0.43	4161189	80.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.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\AG110209.B\013SMPL.D\013SMPL.D#
Date Acquired: Nov 2 2009 07:12 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 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	173.29	3600	
51 V	72	1	0.03	0.03	ppb	34.88	3600	
52 Cr	72	1	-0.05	-0.05	ppb	37.75	3600	
55 Mn	72	1	0.00	0.00	ppb	152.59	3600	
59 Co	72	1	0.01	0.01	ppb	35.55	3600	
60 Ni	72	1	0.00	0.00	ppb	9528.60	3600	
63 Cu	72	1	-0.01	-0.01	ppb	96.31	3600	
66 Zn	72	1	-0.29	-0.29	ppb	11.90	3600	
75 As	72	1	0.00	0.00	ppb	51.62	3600	
78 Se	72	1	0.20	0.20	ppb	150.43	3600	
95 Mo	72	1	1.68	1.68	ppb	4.97	3600	
107 Ag	115	1	0.03	0.03	ppb	40.84	3600	
111 Cd	115	1	0.01	0.01	ppb	76.01	3600	
118 Sn	115	1	-0.16	-0.16	ppb	24.59	3600	
121 Sb	115	1	0.27	0.27	ppb	2.79	3600	
137 Ba	115	1	0.00	0.00	ppb	1157.70	3600	
205 Tl	165	1	0.01	0.01	ppb	16.23	3600	
208 Pb	165	1	0.01	0.01	ppb	40.44	3600	
232 Th	165	1	0.84	0.84	ppb	15.69	1000	
238 U	165	1	0.03	0.03	ppb	6.35	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	470399	0.43	546752	86.0	30 - 120	
45 Sc	1	1513845	0.68	1679879	90.1	30 - 120	
72 Ge	1	721587	0.54	771122	93.6	30 - 120	
115 In	1	2238361	0.65	2325180	96.3	30 - 120	
165 Ho	1	4179556	0.73	4161189	100.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.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\AG110209.B\014 LR.D\014 LR.D#
Date Acquired: Nov 2 2009 07:15 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LR1
Misc Info:
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 pm
Sample Type: LR
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1008.00 ppb	3.88	1000	100.8	90 - 110	
51 V	72	1	932.30 ppb	0.58	1000	93.2	90 - 110	
52 Cr	72	1	939.80 ppb	1.01	1000	94.0	90 - 110	
55 Mn	72	1	946.40 ppb	1.83	1000	94.6	90 - 110	
59 Co	72	1	943.50 ppb	1.94	1000	94.4	90 - 110	
60 Ni	72	1	966.20 ppb	1.08	1000	96.6	90 - 110	
63 Cu	72	1	950.30 ppb	1.09	1000	95.0	90 - 110	
66 Zn	72	1	978.50 ppb	2.26	1000	97.9	90 - 110	
75 As	72	1	1007.00 ppb	1.86	1000	100.7	90 - 110	
78 Se	72	1	1008.00 ppb	0.98	1000	100.8	90 - 110	
95 Mo	72	1	996.20 ppb	1.50	1000	99.6	90 - 110	
107 Ag	115	1	951.90 ppb	0.54	1000	95.2	90 - 110	
111 Cd	115	1	982.10 ppb	0.65	1000	98.2	90 - 110	
118 Sn	115	1	966.00 ppb	0.75	1000	96.6	90 - 110	
121 Sb	115	1	980.60 ppb	0.88	1000	98.1	90 - 110	
137 Ba	115	1	966.70 ppb	1.76	1000	96.7	90 - 110	
205 Tl	165	1	972.30 ppb	0.49	1000	97.2	90 - 110	
208 Pb	165	1	946.00 ppb	0.98	1000	94.6	90 - 110	
232 Th	165	1	1042.00 ppb	1.40	1000	104.2	90 - 110	
238 U	165	1	983.20 ppb	0.86	1000	98.3	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	465618	2.49	546752	85.2	30 - 120	
45 Sc	1	1493111	1.86	1679879	88.9	30 - 120	
72 Ge	1	696327	1.48	771122	90.3	30 - 120	
115 In	1	2152328	0.81	2325180	92.6	30 - 120	
165 Ho	1	4093548	0.88	4161189	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\AG110209.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\AG110209.B\015SMPL.D\015SMPL.D#
Date Acquired: Nov 2 2009 07:17 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 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	0.12	0.12	ppb	15.90	3600	
51 V	72	1	0.12	0.12	ppb	25.86	3600	
52 Cr	72	1	0.07	0.07	ppb	76.54	3600	
55 Mn	72	1	0.11	0.11	ppb	26.36	3600	
59 Co	72	1	0.12	0.12	ppb	26.73	3600	
60 Ni	72	1	0.10	0.10	ppb	23.13	3600	
63 Cu	72	1	0.13	0.13	ppb	36.86	3600	
66 Zn	72	1	-0.19	-0.19	ppb	11.72	3600	
75 As	72	1	0.13	0.13	ppb	15.75	3600	
78 Se	72	1	0.42	0.42	ppb	63.55	3600	
95 Mo	72	1	0.99	0.99	ppb	7.01	3600	
107 Ag	115	1	0.12	0.12	ppb	26.60	3600	
111 Cd	115	1	0.14	0.14	ppb	31.12	3600	
118 Sn	115	1	1.36	1.36	ppb	17.04	3600	
121 Sb	115	1	2.03	2.03	ppb	5.57	3600	
137 Ba	115	1	0.11	0.11	ppb	32.38	3600	
205 Tl	165	1	0.32	0.32	ppb	18.56	3600	
208 Pb	165	1	0.12	0.12	ppb	21.15	3600	
232 Th	165	1	4.07	4.07	ppb	17.89	1000	
238 U	165	1	0.28	0.28	ppb	1.32	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	490095	2.49	546752	89.6	30 - 120	
45 Sc	1	1548970	0.90	1679879	92.2	30 - 120	
72 Ge	1	725324	0.13	771122	94.1	30 - 120	
115 In	1	2206487	0.67	2325180	94.9	30 - 120	
165 Ho	1	4105074	0.35	4161189	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\AG110209.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\AG110209.B\016 LR.D\016 LR.D#
Date Acquired: Nov 2 2009 07:20 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LR2
Misc Info:
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 pm
Sample Type: LR
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Fail

DNV LRD 11/02/2009

Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.03 ppb	50.56	1000	0.0	90 - 110	Fail
51 V	72	1	-0.01 ppb	287.10	1000	0.0	90 - 110	Fail
52 Cr	72	1	-0.34 ppb	2.48	1000	0.0	90 - 110	Fail
55 Mn	72	1	-0.01 ppb	168.31	1000	0.0	90 - 110	Fail
59 Co	72	1	0.02 ppb	103.15	1000	0.0	90 - 110	Fail
60 Ni	72	1	-0.02 ppb	46.78	1000	0.0	90 - 110	Fail
63 Cu	72	1	-0.01 ppb	198.73	1000	0.0	90 - 110	Fail
66 Zn	72	1	-0.58 ppb	3.78	1000	-0.1	90 - 110	Fail
75 As	72	1	0.00 ppb	######	1000	0.0	90 - 110	Fail
78 Se	72	1	-0.26 ppb	62.06	1000	0.0	90 - 110	Fail
95 Mo	72	1	0.31 ppb	33.77	1000	0.0	90 - 110	Fail
107 Ag	115	1	0.04 ppb	21.94	1000	0.0	90 - 110	Fail
111 Cd	115	1	0.03 ppb	83.85	1000	0.0	90 - 110	Fail
118 Sn	115	1	0.27 ppb	28.61	1000	0.0	90 - 110	Fail
121 Sb	115	1	0.40 ppb	9.29	1000	0.0	90 - 110	Fail
137 Ba	115	1	0.01 ppb	218.47	1000	0.0	90 - 110	Fail
205 Tl	165	1	0.05 ppb	69.01	1000	0.0	90 - 110	Fail
208 Pb	165	1	0.03 ppb	86.80	1000	0.0	90 - 110	Fail
232 Th	165	1	1.78 ppb	8.67	1000	0.2	90 - 110	Fail
238 U	165	1	0.08 ppb	51.97	1000	0.0	90 - 110	Fail

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	1326591	12.56	546752	242.6	30 - 120	IS Fail
45 Sc	1	3566484	15.85	1679879	212.3	30 - 120	IS Fail
72 Ge	1	1837926	15.72	771122	238.3	30 - 120	IS Fail
115 In	1	5804071	15.09	2325180	249.6	30 - 120	IS Fail
165 Ho	1	12082744	14.40	4161189	290.4	30 - 120	IS Fail

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\017SMPL.D\017SMPL.D#
Date Acquired: Nov 2 2009 07:23 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 pm
Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

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11/02/09

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	87.73	3600	
51 V	72	1	0.01	0.01	ppb	206.83	3600	
52 Cr	72	1	0.02	0.02	ppb	570.73	3600	
55 Mn	72	1	-0.01	-0.01	ppb	164.78	3600	
59 Co	72	1	0.01	0.01	ppb	32.98	3600	
60 Ni	72	1	-0.01	-0.01	ppb	107.59	3600	
63 Cu	72	1	0.00	0.00	ppb	25665.00	3600	
66 Zn	72	1	-0.26	-0.26	ppb	33.73	3600	
75 As	72	1	0.01	0.01	ppb	106.54	3600	
78 Se	72	1	0.44	0.44	ppb	79.10	3600	
95 Mo	72	1	0.12	0.12	ppb	15.54	3600	
107 Ag	115	1	0.02	0.02	ppb	26.87	3600	
111 Cd	115	1	0.02	0.02	ppb	34.72	3600	
118 Sn	115	1	0.04	0.04	ppb	325.37	3600	
121 Sb	115	1	0.33	0.33	ppb	29.19	3600	
137 Ba	115	1	-0.01	-0.01	ppb	130.47	3600	
205 Tl	165	1	0.02	0.02	ppb	20.04	3600	
208 Pb	165	1	0.01	0.01	ppb	52.57	3600	
232 Th	165	1	0.30	0.30	ppb	10.99	1000	
238 U	165	1	0.02	0.02	ppb	34.65	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	498109	20.16	546752	91.1	30 - 120	
45 Sc	1	1560868	23.21	1679879	92.9	30 - 120	
72 Ge	1	732510	18.12	771122	95.0	30 - 120	
115 In	1	2229770	23.84	2325180	95.9	30 - 120	
165 Ho	1	4091575	23.63	4161189	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\AG110209.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\AG110209.B\018 CCV.D\018 CCV.D#
Date Acquired: Nov 2 2009 07:26 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 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	50.66	ppb	1.34	50	101.3	90 - 110	
51 V	72	1	49.35	ppb	1.44	50	98.7	90 - 110	
52 Cr	72	1	50.48	ppb	1.42	50	101.0	90 - 110	
55 Mn	72	1	50.26	ppb	0.72	50	100.5	90 - 110	
59 Co	72	1	50.15	ppb	0.56	50	100.3	90 - 110	
60 Ni	72	1	50.41	ppb	0.39	50	100.8	90 - 110	
63 Cu	72	1	49.76	ppb	1.16	50	99.5	90 - 110	
66 Zn	72	1	49.19	ppb	1.39	50	98.4	90 - 110	
75 As	72	1	50.29	ppb	1.40	50	100.6	90 - 110	
78 Se	72	1	50.10	ppb	1.36	50	100.2	90 - 110	
95 Mo	72	1	50.26	ppb	1.35	50	100.5	90 - 110	
107 Ag	115	1	49.85	ppb	2.34	50	99.7	90 - 110	
111 Cd	115	1	50.00	ppb	1.38	50	100.0	90 - 110	
118 Sn	115	1	49.47	ppb	1.94	50	98.9	90 - 110	
121 Sb	115	1	49.95	ppb	1.22	50	99.9	90 - 110	
137 Ba	115	1	49.37	ppb	1.31	50	98.7	90 - 110	
205 Tl	165	1	51.59	ppb	1.15	50	103.2	90 - 110	
208 Pb	165	1	50.26	ppb	1.06	50	100.5	90 - 110	
232 Th	165	1	50.79	ppb	1.97	50	101.6	90 - 110	
238 U	165	1	50.94	ppb	0.81	50	101.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	498520	0.38	546752	91.2	30 - 120	
45 Sc	1	1599014	1.22	1679879	95.2	30 - 120	
72 Ge	1	726889	1.21	771122	94.3	30 - 120	
115 In	1	2246028	0.81	2325180	96.6	30 - 120	
165 Ho	1	4140067	0.78	4161189	99.5	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.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\AG110209.B\019 CCB.D\019 CCB.D#
Date Acquired: Nov 2 2009 07:28 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 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	0.005	ppb	173.21	1.00	
51 V	72	1	-0.002	ppb	372.46	1.00	
52 Cr	72	1	-0.004	ppb	558.86	1.00	
55 Mn	72	1	-0.008	ppb	53.24	1.00	
59 Co	72	1	0.006	ppb	66.93	1.00	
60 Ni	72	1	-0.022	ppb	70.40	1.00	
63 Cu	72	1	-0.016	ppb	14.96	1.00	
66 Zn	72	1	-0.480	ppb	1.86	1.00	
75 As	72	1	0.007	ppb	116.10	1.00	
78 Se	72	1	0.287	ppb	47.89	1.00	
95 Mo	72	1	0.077	ppb	29.43	1.00	
107 Ag	115	1	0.018	ppb	25.98	1.00	
111 Cd	115	1	-0.004	ppb	345.57	1.00	
118 Sn	115	1	-0.027	ppb	117.42	1.00	
121 Sb	115	1	0.335	ppb	10.94	1.00	
137 Ba	115	1	-0.001	ppb	158.51	1.00	
205 Tl	165	1	0.023	ppb	4.51	1.00	
208 Pb	165	1	0.004	ppb	61.39	1.00	
232 Th	165	1	1.073	ppb	16.51	1.00	Fail
238 U	165	1	0.020	ppb	7.96	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	512449	1.70	546752	93.7	30 - 120	
45 Sc	1	1596181	0.35	1679879	95.0	30 - 120	
72 Ge	1	745474	0.45	771122	96.7	30 - 120	
115 In	1	2253651	1.46	2325180	96.9	30 - 120	
165 Ho	1	4114059	1.19	4161189	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\AG110209.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\AG110209.B\020WASH.D\020WASH.D#
Date Acquired: Nov 2 2009 07:31 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 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	0.926 ppb	12.62	1.30	
51 V	72	1	4.909 ppb	3.12	6.50	
52 Cr	72	1	2.087 ppb	3.32	2.60	
55 Mn	72	1	1.015 ppb	3.15	1.30	
59 Co	72	1	1.018 ppb	1.27	1.30	
60 Ni	72	1	1.975 ppb	0.66	2.60	
63 Cu	72	1	2.028 ppb	2.14	2.60	
66 Zn	72	1	9.738 ppb	1.12	13.00	
75 As	72	1	5.175 ppb	1.97	6.50	
78 Se	72	1	5.095 ppb	3.70	6.50	
95 Mo	72	1	2.097 ppb	7.73	2.60	
107 Ag	115	1	5.228 ppb	1.29	6.50	
111 Cd	115	1	1.071 ppb	13.31	1.30	
118 Sn	115	1	10.290 ppb	0.64	13.00	
121 Sb	115	1	2.172 ppb	3.25	2.60	
137 Ba	115	1	1.019 ppb	2.90	1.30	
205 Tl	165	1	1.084 ppb	1.71	1.30	
208 Pb	165	1	1.063 ppb	1.07	1.30	
232 Th	165	1	2.388 ppb	1.63	2.60	
238 U	165	1	1.121 ppb	0.39	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	519538	1.94	546752	95.0	30 - 120	
45 Sc	1	1577090	0.31	1679879	93.9	30 - 120	
72 Ge	1	737816	0.38	771122	95.7	30 - 120	
115 In	1	2232990	0.64	2325180	96.0	30 - 120	
165 Ho	1	4070879	0.31	4161189	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\AG110209.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\AG110209.B\058 CCV.D\058 CCV.D#
Date Acquired: Nov 2 2009 09:17 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	49.91	ppb	0.29	50	99.8	90 - 110	
51 V	72	1	49.44	ppb	0.61	50	98.9	90 - 110	
52 Cr	72	1	50.28	ppb	0.59	50	100.6	90 - 110	
55 Mn	72	1	49.46	ppb	0.43	50	98.9	90 - 110	
59 Co	72	1	50.28	ppb	0.97	50	100.6	90 - 110	
60 Ni	72	1	50.46	ppb	1.26	50	100.9	90 - 110	
63 Cu	72	1	50.11	ppb	0.68	50	100.2	90 - 110	
66 Zn	72	1	48.43	ppb	0.76	50	96.9	90 - 110	
75 As	72	1	50.87	ppb	0.57	50	101.7	90 - 110	
78 Se	72	1	50.66	ppb	3.44	50	101.3	90 - 110	
95 Mo	72	1	50.96	ppb	0.73	50	101.9	90 - 110	
107 Ag	115	1	49.35	ppb	2.44	50	98.7	90 - 110	
111 Cd	115	1	49.41	ppb	1.48	50	98.8	90 - 110	
118 Sn	115	1	49.67	ppb	1.83	50	99.3	90 - 110	
121 Sb	115	1	49.82	ppb	1.50	50	99.6	90 - 110	
137 Ba	115	1	50.06	ppb	1.22	50	100.1	90 - 110	
205 Tl	165	1	52.87	ppb	0.41	50	105.7	90 - 110	
208 Pb	165	1	52.60	ppb	1.91	50	105.2	90 - 110	
232 Th	165	1	54.02	ppb	0.19	50	108.0	90 - 110	
238 U	165	1	52.77	ppb	1.00	50	105.5	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	421511	0.53	546752	77.1	30 - 120	
45 Sc	1	1290942	0.55	1679879	76.8	30 - 120	
72 Ge	1	588460	0.43	771122	76.3	30 - 120	
115 In	1	1852278	1.59	2325180	79.7	30 - 120	
165 Ho	1	3520513	1.28	4161189	84.6	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\AG110209.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\AG110209.B\059 CCB.D\059 CCB.D#
Date Acquired: Nov 2 2009 09:19 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 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	0.006	ppb	173.24	1.00	
51 V	72	1	0.131	ppb	8.31	1.00	
52 Cr	72	1	0.031	ppb	105.27	1.00	
55 Mn	72	1	0.014	ppb	59.22	1.00	
59 Co	72	1	0.010	ppb	37.90	1.00	
60 Ni	72	1	-0.006	ppb	65.34	1.00	
63 Cu	72	1	-0.010	ppb	137.89	1.00	
66 Zn	72	1	-0.458	ppb	0.51	1.00	
75 As	72	1	0.014	ppb	35.04	1.00	
78 Se	72	1	0.111	ppb	88.78	1.00	
95 Mo	72	1	0.051	ppb	46.34	1.00	
107 Ag	115	1	0.015	ppb	36.36	1.00	
111 Cd	115	1	0.017	ppb	60.84	1.00	
118 Sn	115	1	-0.163	ppb	4.25	1.00	
121 Sb	115	1	0.239	ppb	6.14	1.00	
137 Ba	115	1	-0.004	ppb	163.53	1.00	
205 Tl	165	1	0.022	ppb	18.17	1.00	
208 Pb	165	1	0.011	ppb	5.09	1.00	
232 Th	165	1	1.211	ppb	13.85	1.00	Fail
238 U	165	1	0.023	ppb	10.07	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	431223	0.80	546752	78.9	30 - 120	
45 Sc	1	1293731	0.95	1679879	77.0	30 - 120	
72 Ge	1	610823	0.61	771122	79.2	30 - 120	
115 In	1	1889351	0.49	2325180	81.3	30 - 120	
165 Ho	1	3549380	0.80	4161189	85.3	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\AG110209.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\AG110209.B\060WASH.D\060WASH.D#
Date Acquired: Nov 2 2009 09:22 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 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	0.903 ppb	7.19	1.30	
51 V	72	1	5.078 ppb	0.93	6.50	
52 Cr	72	1	2.076 ppb	3.31	2.60	
55 Mn	72	1	1.005 ppb	4.17	1.30	
59 Co	72	1	1.026 ppb	1.66	1.30	
60 Ni	72	1	2.027 ppb	4.87	2.60	
63 Cu	72	1	2.083 ppb	3.02	2.60	
66 Zn	72	1	9.659 ppb	1.44	13.00	
75 As	72	1	5.122 ppb	2.96	6.50	
78 Se	72	1	5.341 ppb	3.15	6.50	
95 Mo	72	1	2.094 ppb	1.20	2.60	
107 Ag	115	1	5.242 ppb	1.38	6.50	
111 Cd	115	1	1.062 ppb	2.50	1.30	
118 Sn	115	1	9.932 ppb	1.01	13.00	
121 Sb	115	1	2.059 ppb	1.45	2.60	
137 Ba	115	1	1.038 ppb	7.27	1.30	
205 Tl	165	1	1.091 ppb	0.93	1.30	
208 Pb	165	1	1.076 ppb	1.20	1.30	
232 Th	165	1	2.494 ppb	1.43	2.60	
238 U	165	1	1.147 ppb	0.41	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429917	0.67	546752	78.6	30 - 120	
45 Sc	1	1309521	0.64	1679879	78.0	30 - 120	
72 Ge	1	613131	0.57	771122	79.5	30 - 120	
115 In	1	1901487	0.82	2325180	81.8	30 - 120	
165 Ho	1	3584350	0.37	4161189	86.1	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\AG110209.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\AG110209.B\061ICSA.D\061ICSA.D#
Date Acquired: Nov 2 2009 09:25 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSA
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 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	0.00 ppb	0.00	1.00	
51 V	72	1	2.94 ppb	5.12	1.00	
52 Cr	72	1	1.83 ppb	5.73	1.00	
55 Mn	72	1	3.11 ppb	1.21	1.00	
59 Co	72	1	0.13 ppb	5.18	1.00	
60 Ni	72	1	1.08 ppb	1.13	1.00	
63 Cu	72	1	0.51 ppb	0.43	1.00	
66 Zn	72	1	3.18 ppb	3.37	10.00	
75 As	72	1	0.36 ppb	7.97	1.00	
78 Se	72	1	0.60 ppb	34.57	1.00	
95 Mo	72	1	2007.00 ppb	1.06	2000.00	
107 Ag	115	1	0.04 ppb	16.25	1.00	
111 Cd	115	1	0.27 ppb	19.73	1.00	
118 Sn	115	1	-0.06 ppb	55.68	10.00	
121 Sb	115	1	1.02 ppb	5.19	1.00	
137 Ba	115	1	0.02 ppb	45.65	1.00	
205 Tl	165	1	0.02 ppb	41.73	1.00	
208 Pb	165	1	1.00 ppb	0.70	1.00	
232 Th	165	1	0.43 ppb	22.27	1.00	
238 U	165	1	0.01 ppb	5.05	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	332603	1.14	546752	60.8	30 - 120	
45 Sc	1	1090821	0.09	1679879	64.9	30 - 120	
72 Ge	1	514874	0.68	771122	66.8	30 - 120	
115 In	1	1536655	1.47	2325180	66.1	30 - 120	
165 Ho	1	2983222	0.90	4161189	71.7	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\AG110209.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\AG110209.B\062ICSB.D\062ICSB.D#
Date Acquired: Nov 2 2009 09:29 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSAB
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 06:48 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	106.10	0.93	100	106.1	80 - 120	
51 V	72	1	100.10	2.34	100	100.1	80 - 120	
52 Cr	72	1	98.17	0.86	100	98.2	80 - 120	
55 Mn	72	1	99.36	1.13	100	99.4	80 - 120	
59 Co	72	1	95.89	0.28	100	95.9	80 - 120	
60 Ni	72	1	90.03	0.37	100	90.0	80 - 120	
63 Cu	72	1	87.37	0.84	100	87.4	80 - 120	
66 Zn	72	1	97.65	0.49	100	97.7	80 - 120	
75 As	72	1	102.50	0.58	100	102.5	80 - 120	
78 Se	72	1	106.00	1.34	100	106.0	80 - 120	
95 Mo	72	1	2153.00	0.83	2100	102.5	80 - 120	
107 Ag	115	1	85.61	2.33	100	85.6	80 - 120	
111 Cd	115	1	96.57	1.95	100	96.6	80 - 120	
118 Sn	115	1	101.70	0.62	100	101.7	80 - 120	
121 Sb	115	1	106.70	1.18	100	106.7	80 - 120	
137 Ba	115	1	102.20	1.25	100	102.2	80 - 120	
205 Tl	165	1	96.92	0.82	100	96.9	80 - 120	
208 Pb	165	1	95.12	0.50	100	95.1	80 - 120	
232 Th	165	1	107.50	1.04	100	107.5	80 - 120	
238 U	165	1	101.90	0.69	100	101.9	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	334985	0.37	546752	61.3	30 - 120	
45 Sc	1	1130824	0.51	1679879	67.3	30 - 120	
72 Ge	1	515795	0.13	771122	66.9	30 - 120	
115 In	1	1584175	0.75	2325180	68.1	30 - 120	
165 Ho	1	3067994	0.44	4161189	73.7	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\AG110209.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\AG110209.B\063WASH.D\063WASH.D#
Date Acquired: Nov 2 2009 09:31 pm
Operator: TEL
Sample Name: WASH
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 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	0.013 ppb	86.59	1.30	
51 V	72	1	0.090 ppb	22.52	6.50	
52 Cr	72	1	0.022 ppb	87.22	2.60	
55 Mn	72	1	0.003 ppb	194.93	1.30	
59 Co	72	1	0.012 ppb	60.49	1.30	
60 Ni	72	1	-0.004 ppb	520.14	2.60	
63 Cu	72	1	0.005 ppb	277.05	2.60	
66 Zn	72	1	-0.317 ppb	9.07	13.00	
75 As	72	1	0.008 ppb	166.56	6.50	
78 Se	72	1	0.241 ppb	109.66	6.50	
95 Mo	72	1	1.511 ppb	1.66	2.60	
107 Ag	115	1	0.020 ppb	41.74	6.50	
111 Cd	115	1	0.022 ppb	42.16	1.30	
118 Sn	115	1	-0.151 ppb	18.95	13.00	
121 Sb	115	1	0.096 ppb	9.36	2.60	
137 Ba	115	1	-0.002 ppb	458.31	1.30	
205 Tl	165	1	0.012 ppb	15.48	1.30	
208 Pb	165	1	0.009 ppb	14.66	1.30	
232 Th	165	1	0.852 ppb	16.51	2.60	
238 U	165	1	0.032 ppb	10.52	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	435621	0.15	546752	79.7	30 - 120	
45 Sc	1	1362610	1.12	1679879	81.1	30 - 120	
72 Ge	1	639344	0.31	771122	82.9	30 - 120	
115 In	1	1956469	0.87	2325180	84.1	30 - 120	
165 Ho	1	3619717	0.79	4161189	87.0	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\AG110209.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\AG110209.B\064 CCV.D\064 CCV.D#
Date Acquired: Nov 2 2009 09:34 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	49.40	ppb	1.02	50	98.8	90 - 110	
51 V	72	1	49.81	ppb	0.60	50	99.6	90 - 110	
52 Cr	72	1	50.05	ppb	0.36	50	100.1	90 - 110	
55 Mn	72	1	49.26	ppb	0.68	50	98.5	90 - 110	
59 Co	72	1	50.65	ppb	0.13	50	101.3	90 - 110	
60 Ni	72	1	50.49	ppb	0.61	50	101.0	90 - 110	
63 Cu	72	1	50.42	ppb	0.05	50	100.8	90 - 110	
66 Zn	72	1	47.74	ppb	0.54	50	95.5	90 - 110	
75 As	72	1	51.09	ppb	0.49	50	102.2	90 - 110	
78 Se	72	1	49.69	ppb	3.13	50	99.4	90 - 110	
95 Mo	72	1	50.64	ppb	0.81	50	101.3	90 - 110	
107 Ag	115	1	49.52	ppb	2.36	50	99.0	90 - 110	
111 Cd	115	1	48.78	ppb	2.34	50	97.6	90 - 110	
118 Sn	115	1	48.30	ppb	2.55	50	96.6	90 - 110	
121 Sb	115	1	48.89	ppb	2.17	50	97.8	90 - 110	
137 Ba	115	1	49.35	ppb	2.81	50	98.7	90 - 110	
205 Tl	165	1	51.63	ppb	0.58	50	103.3	90 - 110	
208 Pb	165	1	51.50	ppb	1.21	50	103.0	90 - 110	
232 Th	165	1	51.95	ppb	2.06	50	103.9	90 - 110	
238 U	165	1	51.54	ppb	1.05	50	103.1	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	440149	0.91	546752	80.5	30 - 120	
45 Sc	1	1386600	0.58	1679879	82.5	30 - 120	
72 Ge	1	633987	1.03	771122	82.2	30 - 120	
115 In	1	1972881	1.42	2325180	84.8	30 - 120	
165 Ho	1	3627353	0.42	4161189	87.2	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\AG110209.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\AG110209.B\065 CCB.D\065 CCB.D#
Date Acquired: Nov 2 2009 09:37 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.006	ppb	173.22	1.00	
51 V	72	1	0.040	ppb	3.21	1.00	
52 Cr	72	1	0.000	ppb	24861.00	1.00	
55 Mn	72	1	-0.004	ppb	174.89	1.00	
59 Co	72	1	0.012	ppb	37.31	1.00	
60 Ni	72	1	-0.011	ppb	152.41	1.00	
63 Cu	72	1	-0.002	ppb	730.66	1.00	
66 Zn	72	1	-0.316	ppb	12.09	1.00	
75 As	72	1	0.008	ppb	137.61	1.00	
78 Se	72	1	0.448	ppb	94.42	1.00	
95 Mo	72	1	0.218	ppb	15.42	1.00	
107 Ag	115	1	0.014	ppb	23.45	1.00	
111 Cd	115	1	0.010	ppb	49.27	1.00	
118 Sn	115	1	-0.121	ppb	18.05	1.00	
121 Sb	115	1	0.189	ppb	9.44	1.00	
137 Ba	115	1	-0.003	ppb	277.81	1.00	
205 Tl	165	1	0.023	ppb	23.48	1.00	
208 Pb	165	1	0.008	ppb	17.89	1.00	
232 Th	165	1	0.882	ppb	14.11	1.00	
238 U	165	1	0.017	ppb	8.30	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	446877	0.32	546752	81.7	30 - 120	
45 Sc	1	1413567	0.75	1679879	84.1	30 - 120	
72 Ge	1	658242	0.38	771122	85.4	30 - 120	
115 In	1	2001685	0.55	2325180	86.1	30 - 120	
165 Ho	1	3639982	0.63	4161189	87.5	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.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\AG110209.B\066WASH.D\066WASH.D#
Date Acquired: Nov 2 2009 09:40 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 06:48 pm
Sample Type: WASH
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.027 ppb	10.97	1.30	
51 V	72	1	5.087 ppb	1.19	6.50	
52 Cr	72	1	2.045 ppb	3.32	2.60	
55 Mn	72	1	0.986 ppb	2.27	1.30	
59 Co	72	1	1.041 ppb	4.20	1.30	
60 Ni	72	1	2.098 ppb	5.31	2.60	
63 Cu	72	1	2.031 ppb	4.18	2.60	
66 Zn	72	1	9.640 ppb	1.27	13.00	
75 As	72	1	5.162 ppb	1.75	6.50	
78 Se	72	1	4.988 ppb	16.89	6.50	
95 Mo	72	1	2.205 ppb	3.08	2.60	
107 Ag	115	1	5.199 ppb	1.33	6.50	
111 Cd	115	1	1.062 ppb	8.32	1.30	
118 Sn	115	1	9.896 ppb	0.49	13.00	
121 Sb	115	1	2.028 ppb	1.36	2.60	
137 Ba	115	1	1.020 ppb	4.85	1.30	
205 Tl	165	1	1.080 ppb	2.51	1.30	
208 Pb	165	1	1.084 ppb	1.53	1.30	
232 Th	165	1	2.428 ppb	3.15	2.60	
238 U	165	1	1.126 ppb	1.61	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	445860	0.34	546752	81.5	30 - 120	
45 Sc	1	1395650	0.60	1679879	83.1	30 - 120	
72 Ge	1	655124	0.57	771122	85.0	30 - 120	
115 In	1	2001982	1.01	2325180	86.1	30 - 120	
165 Ho	1	3622649	1.70	4161189	87.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\003CALB.D\003CALB.D#

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

Calibration Blank QC Report

Data File:	C:\ICPCHEM\1\DATA\AG110209.B\067CALB.D\067CALB.D#
Date Acquired:	Nov 2 2009 09:43 pm
Acq. Method:	NormISIS.M
Operator:	TEL
Sample Name:	Cal Blank
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update:	Nov 02 2009 06:48 pm
Sample Type:	CalBlk

DNW LRD 11/02/2009

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	3	173.18
51	V	72	1	593	8.16
52	Cr	72	1	4361	1.52
55	Mn	72	1	443	13.38
59	Co	72	1	63	24.39
60	Ni	72	1	117	42.99
63	Cu	72	1	287	13.04
66	Zn	72	1	444	4.44
75	As	72	1	57	5.38
78	Se	72	1	230	22.71
95	Mo	72	1	313	9.84
107	Ag	115	1	123	12.09
111	Cd	115	1	23	39.36
118	Sn	115	1	750	6.08
121	Sb	115	1	383	3.84
137	Ba	115	1	36	19.31
205	Tl	165	1	273	11.87
208	Pb	165	1	479	6.68
232	Th	165	1	5145	4.60
238	U	165	1	276	12.31

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	451623	0.45
45	Sc	1	1424375	1.07
72	Ge	1	660671	0.27
115	In	1	1991130	0.33
165	Ho	1	3629998	0.67

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst: LRD

Date: 11/02/2009

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.D#
Date Acquired: Nov 2 2009 09:45 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: Cal Blank
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 09:43 pm
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	3	173.22
51	V	72	1	573	14.77
52	Cr	72	1	4217	4.46
55	Mn	72	1	577	5.67
59	Co	72	1	40	50.31
60	Ni	72	1	157	13.17
63	Cu	72	1	387	15.52
66	Zn	72	1	767	2.60
75	As	72	1	45	34.12
78	Se	72	1	267	7.87
95	Mo	72	1	193	34.39
107	Ag	115	1	57	44.96
111	Cd	115	1	10	34.04
118	Sn	115	1	1260	7.31
121	Sb	115	1	202	19.97
137	Ba	115	1	37	15.46
205	Tl	165	1	123	23.34
208	Pb	165	1	327	13.09
232	Th	165	1	2710	10.61
238	U	165	1	91	11.70

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	445441	0.20
45	Sc	1	1408507	1.35
72	Ge	1	654254	0.43
115	In	1	1978346	0.74
165	Ho	1	3602641	0.73

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\AG110209.B\069ICAL.D\069ICAL.D#
Date Acquired: Nov 2 2009 09:48 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: 100 ppb
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 09:46 pm
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	52398	0.44
51	V	72	1	831718	2.85
52	Cr	72	1	842277	0.37
55	Mn	72	1	965285	0.47
59	Co	72	1	1050650	1.59
60	Ni	72	1	229830	1.19
63	Cu	72	1	549805	0.90
66	Zn	72	1	119934	0.83
75	As	72	1	110154	0.87
78	Se	72	1	22990	2.56
95	Mo	72	1	286176	0.56
107	Ag	115	1	875455	0.54
111	Cd	115	1	170269	1.08
118	Sn	115	1	474051	1.19
121	Sb	115	1	536038	0.34
137	Ba	115	1	233716	0.88
205	Tl	165	1	2089280	0.54
208	Pb	165	1	2854343	1.24
232	Th	165	1	2832377	1.54
238	U	165	1	3131897	0.60

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	435512	0.38	445441	97.8	30 - 120	
45	Sc	1	1366886	1.14	1408507	97.0	30 - 120	
72	Ge	1	624487	0.90	654254	95.5	30 - 120	
115	In	1	1935221	0.21	1978346	97.8	30 - 120	
165	Ho	1	3574064	0.58	3602641	99.2	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.D#

0 :Element Failures 0
0 :ISTD Failures 0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\070 CCV.D\070 CCV.D#
Date Acquired: Nov 2 2009 09:51 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 09:49 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	49.64	ppb	2.01	50	99.3	90 - 110	
51 V	72	1	49.77	ppb	0.40	50	99.5	90 - 110	
52 Cr	72	1	49.58	ppb	0.10	50	99.2	90 - 110	
55 Mn	72	1	49.36	ppb	0.30	50	98.7	90 - 110	
59 Co	72	1	49.47	ppb	0.19	50	98.9	90 - 110	
60 Ni	72	1	50.57	ppb	1.29	50	101.1	90 - 110	
63 Cu	72	1	50.13	ppb	0.83	50	100.3	90 - 110	
66 Zn	72	1	49.13	ppb	1.04	50	98.3	90 - 110	
75 As	72	1	49.64	ppb	1.68	50	99.3	90 - 110	
78 Se	72	1	50.57	ppb	3.73	50	101.1	90 - 110	
95 Mo	72	1	50.58	ppb	0.42	50	101.2	90 - 110	
107 Ag	115	1	48.67	ppb	0.54	50	97.3	90 - 110	
111 Cd	115	1	49.00	ppb	0.22	50	98.0	90 - 110	
118 Sn	115	1	49.36	ppb	1.17	50	98.7	90 - 110	
121 Sb	115	1	49.75	ppb	0.91	50	99.5	90 - 110	
137 Ba	115	1	49.52	ppb	1.43	50	99.0	90 - 110	
205 Tl	165	1	50.52	ppb	0.42	50	101.0	90 - 110	
208 Pb	165	1	50.38	ppb	1.58	50	100.8	90 - 110	
232 Th	165	1	51.58	ppb	1.06	50	103.2	90 - 110	
238 U	165	1	50.51	ppb	0.72	50	101.0	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	434853	0.66	445441	97.6	30 - 120	
45 Sc	1	1343263	1.25	1408507	95.4	30 - 120	
72 Ge	1	616171	0.80	654254	94.2	30 - 120	
115 In	1	1931100	0.99	1978346	97.6	30 - 120	
165 Ho	1	3567455	1.04	3602641	99.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.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\AG110209.B\071 CCB.D\071 CCB.D#
Date Acquired: Nov 2 2009 09:54 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 09:49 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	10952.00	1.00	
51 V	72	1	-0.002	ppb	295.28	1.00	
52 Cr	72	1	0.021	ppb	101.17	1.00	
55 Mn	72	1	-0.008	ppb	53.95	1.00	
59 Co	72	1	0.005	ppb	83.43	1.00	
60 Ni	72	1	-0.011	ppb	39.82	1.00	
63 Cu	72	1	-0.014	ppb	109.68	1.00	
66 Zn	72	1	-0.404	ppb	4.26	1.00	
75 As	72	1	0.018	ppb	118.92	1.00	
78 Se	72	1	0.163	ppb	59.18	1.00	
95 Mo	72	1	0.057	ppb	40.73	1.00	
107 Ag	115	1	0.020	ppb	31.36	1.00	
111 Cd	115	1	0.007	ppb	171.74	1.00	
118 Sn	115	1	-0.014	ppb	170.22	1.00	
121 Sb	115	1	0.269	ppb	5.50	1.00	
137 Ba	115	1	0.002	ppb	400.60	1.00	
205 Tl	165	1	0.036	ppb	12.84	1.00	
208 Pb	165	1	0.007	ppb	15.49	1.00	
232 Th	165	1	1.140	ppb	13.62	1.00	Fail
238 U	165	1	0.022	ppb	0.84	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	440641	0.33	445441	98.9	30 - 120	
45 Sc	1	1376446	1.53	1408507	97.7	30 - 120	
72 Ge	1	635332	1.06	654254	97.1	30 - 120	
115 In	1	1925731	0.37	1978346	97.3	30 - 120	
165 Ho	1	3548764	0.99	3602641	98.5	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.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\AG110209.B\072WASH.D\072WASH.D#
Date Acquired: Nov 2 2009 09:56 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 09:49 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	0.991 ppb	9.74	1.30	
51 V	72	1	4.994 ppb	1.11	6.50	
52 Cr	72	1	1.966 ppb	2.04	2.60	
55 Mn	72	1	1.002 ppb	1.42	1.30	
59 Co	72	1	1.004 ppb	2.47	1.30	
60 Ni	72	1	2.082 ppb	8.42	2.60	
63 Cu	72	1	2.026 ppb	2.67	2.60	
66 Zn	72	1	10.010 ppb	0.95	13.00	
75 As	72	1	5.034 ppb	1.40	6.50	
78 Se	72	1	5.182 ppb	6.48	6.50	
95 Mo	72	1	2.019 ppb	1.58	2.60	
107 Ag	115	1	5.211 ppb	2.30	6.50	
111 Cd	115	1	1.067 ppb	7.07	1.30	
118 Sn	115	1	10.170 ppb	1.92	13.00	
121 Sb	115	1	2.069 ppb	3.14	2.60	
137 Ba	115	1	0.979 ppb	0.84	1.30	
205 Tl	165	1	1.056 ppb	2.53	1.30	
208 Pb	165	1	1.055 ppb	2.40	1.30	
232 Th	165	1	2.299 ppb	1.52	2.60	
238 U	165	1	1.091 ppb	1.21	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	441704	0.30	445441	99.2	30 - 120	
45 Sc	1	1370797	1.38	1408507	97.3	30 - 120	
72 Ge	1	632021	0.51	654254	96.6	30 - 120	
115 In	1	1944590	0.10	1978346	98.3	30 - 120	
165 Ho	1	3604415	1.01	3602641	100.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.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\AG110209.B\073ICSA.D\073ICSA.D#
Date Acquired: Nov 2 2009 09:59 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSA
Misc Info:
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 09:49 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	142.03	1.00	
51 V	72	1	2.28 ppb	10.58	1.00	
52 Cr	72	1	1.74 ppb	6.10	1.00	
55 Mn	72	1	3.02 ppb	2.60	1.00	
59 Co	72	1	0.12 ppb	12.31	1.00	
60 Ni	72	1	1.16 ppb	11.47	1.00	
63 Cu	72	1	0.56 ppb	2.72	1.00	
66 Zn	72	1	3.42 ppb	2.63	10.00	
75 As	72	1	0.35 ppb	1.02	1.00	
78 Se	72	1	-0.05 ppb	833.01	1.00	
95 Mo	72	1	1983.00 ppb	1.42	2000.00	
107 Ag	115	1	0.04 ppb	4.77	1.00	
111 Cd	115	1	0.31 ppb	56.03	1.00	
118 Sn	115	1	0.03 ppb	80.31	10.00	
121 Sb	115	1	0.98 ppb	1.24	1.00	
137 Ba	115	1	0.03 ppb	30.67	1.00	
205 Tl	165	1	0.04 ppb	39.04	1.00	
208 Pb	165	1	0.96 ppb	0.85	1.00	
232 Th	165	1	0.36 ppb	29.81	1.00	
238 U	165	1	0.01 ppb	9.20	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	349617	0.74	445441	78.5	30 - 120	
45 Sc	1	1130339	1.35	1408507	80.3	30 - 120	
72 Ge	1	531510	0.09	654254	81.2	30 - 120	
115 In	1	1578569	0.72	1978346	79.8	30 - 120	
165 Ho	1	3025819	1.34	3602641	84.0	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\AG110209.B\068CALB.D\068CALB.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\AG110209.B\074ICSB.D\074ICSB.D#
Date Acquired: Nov 2 2009 10:02 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: ICSAB
Misc Info:
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 02 2009 09:49 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	104.40	2.15	100	104.4	80 - 120	
51 V	72	1	100.90	1.20	100	100.9	80 - 120	
52 Cr	72	1	94.93	1.86	100	94.9	80 - 120	
55 Mn	72	1	99.21	2.29	100	99.2	80 - 120	
59 Co	72	1	92.02	2.25	100	92.0	80 - 120	
60 Ni	72	1	90.14	1.58	100	90.1	80 - 120	
63 Cu	72	1	85.73	1.03	100	85.7	80 - 120	
66 Zn	72	1	99.25	0.98	100	99.3	80 - 120	
75 As	72	1	98.93	0.78	100	98.9	80 - 120	
78 Se	72	1	104.50	2.13	100	104.5	80 - 120	
95 Mo	72	1	2147.00	1.46	2100	102.2	80 - 120	
107 Ag	115	1	84.18	2.90	100	84.2	80 - 120	
111 Cd	115	1	96.18	1.80	100	96.2	80 - 120	
118 Sn	115	1	101.20	0.97	100	101.2	80 - 120	
121 Sb	115	1	105.50	1.00	100	105.5	80 - 120	
137 Ba	115	1	101.00	1.32	100	101.0	80 - 120	
205 Tl	165	1	94.23	0.57	100	94.2	80 - 120	
208 Pb	165	1	92.95	0.42	100	93.0	80 - 120	
232 Th	165	1	103.00	0.89	100	103.0	80 - 120	
238 U	165	1	98.61	0.10	100	98.6	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	342967	1.69	445441	77.0	30 - 120	
45 Sc	1	1159122	0.66	1408507	82.3	30 - 120	
72 Ge	1	525980	0.64	654254	80.4	30 - 120	
115 In	1	1625252	0.76	1978346	82.2	30 - 120	
165 Ho	1	3087682	0.66	3602641	85.7	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\AG110209.B\068CALB.D\068CALB.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\AG110209.B\075WASH.D\075WASH.D#
Date Acquired: Nov 2 2009 10:05 pm
Operator: TEL
Sample Name: WASH
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 09:49 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	0.013 ppb	148.91	1.30	
51 V	72	1	0.069 ppb	3.99	6.50	
52 Cr	72	1	0.020 ppb	34.53	2.60	
55 Mn	72	1	-0.005 ppb	121.82	1.30	
59 Co	72	1	0.015 ppb	27.60	1.30	
60 Ni	72	1	-0.010 ppb	391.80	2.60	
63 Cu	72	1	0.011 ppb	138.82	2.60	
66 Zn	72	1	-0.243 ppb	13.58	13.00	
75 As	72	1	0.035 ppb	41.32	6.50	
78 Se	72	1	-0.014 ppb	1934.40	6.50	
95 Mo	72	1	1.610 ppb	3.68	2.60	
107 Ag	115	1	0.017 ppb	15.62	6.50	
111 Cd	115	1	0.015 ppb	91.63	1.30	
118 Sn	115	1	-0.082 ppb	10.98	13.00	
121 Sb	115	1	0.080 ppb	10.69	2.60	
137 Ba	115	1	0.003 ppb	74.31	1.30	
205 Tl	165	1	0.014 ppb	25.95	1.30	
208 Pb	165	1	0.014 ppb	19.75	1.30	
232 Th	165	1	0.793 ppb	14.32	2.60	
238 U	165	1	0.035 ppb	10.51	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	437444	0.41	445441	98.2	30 - 120	
45 Sc	1	1352127	0.53	1408507	96.0	30 - 120	
72 Ge	1	637838	0.25	654254	97.5	30 - 120	
115 In	1	1953950	1.46	1978346	98.8	30 - 120	
165 Ho	1	3570497	0.63	3602641	99.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.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\AG110209.B\076 CCV.D\076 CCV.D#
Date Acquired: Nov 2 2009 10:07 pm
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 09:49 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	49.09	ppb	3.87	50	98.2	90 - 110	
51 V	72	1	49.31	ppb	0.46	50	98.6	90 - 110	
52 Cr	72	1	49.35	ppb	0.38	50	98.7	90 - 110	
55 Mn	72	1	48.92	ppb	0.42	50	97.8	90 - 110	
59 Co	72	1	49.55	ppb	0.29	50	99.1	90 - 110	
60 Ni	72	1	50.63	ppb	0.79	50	101.3	90 - 110	
63 Cu	72	1	50.09	ppb	0.82	50	100.2	90 - 110	
66 Zn	72	1	48.69	ppb	0.41	50	97.4	90 - 110	
75 As	72	1	49.76	ppb	0.48	50	99.5	90 - 110	
78 Se	72	1	50.70	ppb	2.32	50	101.4	90 - 110	
95 Mo	72	1	50.70	ppb	1.63	50	101.4	90 - 110	
107 Ag	115	1	48.98	ppb	1.70	50	98.0	90 - 110	
111 Cd	115	1	49.28	ppb	1.24	50	98.6	90 - 110	
118 Sn	115	1	49.24	ppb	1.32	50	98.5	90 - 110	
121 Sb	115	1	49.41	ppb	1.23	50	98.8	90 - 110	
137 Ba	115	1	49.71	ppb	2.08	50	99.4	90 - 110	
205 Tl	165	1	50.96	ppb	0.51	50	101.9	90 - 110	
208 Pb	165	1	50.79	ppb	1.88	50	101.6	90 - 110	
232 Th	165	1	50.62	ppb	2.63	50	101.2	90 - 110	
238 U	165	1	50.56	ppb	0.93	50	101.1	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	438173	0.62	445441	98.4	30 - 120	
45 Sc	1	1400528	0.58	1408507	99.4	30 - 120	
72 Ge	1	636989	0.59	654254	97.4	30 - 120	
115 In	1	1997889	0.91	1978346	101.0	30 - 120	
165 Ho	1	3617994	1.13	3602641	100.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.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\AG110209.B\077 CCB.D\077 CCB.D#
Date Acquired: Nov 2 2009 10:10 pm
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 09:49 pm
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.006	ppb	347.89	1.00	
51 V	72	1	0.011	ppb	23.86	1.00	
52 Cr	72	1	0.016	ppb	182.81	1.00	
55 Mn	72	1	0.001	ppb	1096.60	1.00	
59 Co	72	1	0.009	ppb	70.79	1.00	
60 Ni	72	1	-0.024	ppb	44.45	1.00	
63 Cu	72	1	-0.007	ppb	113.32	1.00	
66 Zn	72	1	-0.267	ppb	0.64	1.00	
75 As	72	1	0.021	ppb	55.61	1.00	
78 Se	72	1	0.058	ppb	156.42	1.00	
95 Mo	72	1	0.227	ppb	9.12	1.00	
107 Ag	115	1	0.021	ppb	17.85	1.00	
111 Cd	115	1	-0.002	ppb	716.68	1.00	
118 Sn	115	1	-0.006	ppb	375.12	1.00	
121 Sb	115	1	0.220	ppb	6.79	1.00	
137 Ba	115	1	0.006	ppb	19.88	1.00	
205 Tl	165	1	0.029	ppb	11.56	1.00	
208 Pb	165	1	0.010	ppb	5.19	1.00	
232 Th	165	1	0.887	ppb	15.83	1.00	
238 U	165	1	0.021	ppb	1.51	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448341	0.54	445441	100.7	30 - 120	
45 Sc	1	1434421	1.51	1408507	101.8	30 - 120	
72 Ge	1	669027	0.41	654254	102.3	30 - 120	
115 In	1	2027747	0.47	1978346	102.5	30 - 120	
165 Ho	1	3690307	0.40	3602641	102.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.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\AG110209.B\078WASH.D\078WASH.D#
Date Acquired: Nov 2 2009 10:14 pm
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 02 2009 09:49 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	1.043 ppb	14.97	1.30	
51 V	72	1	5.046 ppb	2.68	6.50	
52 Cr	72	1	2.031 ppb	0.86	2.60	
55 Mn	72	1	1.009 ppb	0.74	1.30	
59 Co	72	1	1.014 ppb	1.82	1.30	
60 Ni	72	1	2.036 ppb	2.11	2.60	
63 Cu	72	1	2.005 ppb	3.22	2.60	
66 Zn	72	1	9.861 ppb	1.13	13.00	
75 As	72	1	5.064 ppb	1.24	6.50	
78 Se	72	1	5.324 ppb	6.70	6.50	
95 Mo	72	1	2.080 ppb	0.26	2.60	
107 Ag	115	1	5.269 ppb	0.49	6.50	
111 Cd	115	1	1.028 ppb	7.63	1.30	
118 Sn	115	1	10.260 ppb	1.64	13.00	
121 Sb	115	1	2.051 ppb	2.57	2.60	
137 Ba	115	1	1.052 ppb	0.98	1.30	
205 Tl	165	1	1.057 ppb	0.90	1.30	
208 Pb	165	1	1.056 ppb	0.51	1.30	
232 Th	165	1	2.232 ppb	0.63	2.60	
238 U	165	1	1.107 ppb	1.11	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	454631	1.08	445441	102.1	30 - 120	
45 Sc	1	1434819	1.33	1408507	101.9	30 - 120	
72 Ge	1	667868	0.99	654254	102.1	30 - 120	
115 In	1	2015094	1.14	1978346	101.9	30 - 120	
165 Ho	1	3640580	0.32	3602641	101.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\068CALB.D\068CALB.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: _____

Date: 11/3/09

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\144CALB.D\144CALB.D#
Date Acquired: Nov 3 2009 01:16 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: Cal Blank
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 01:14 am
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	2394	12.32
52	Cr	72	1	5628	3.57
55	Mn	72	1	657	6.67
59	Co	72	1	20	0.31
60	Ni	72	1	130	7.58
63	Cu	72	1	667	5.07
66	Zn	72	1	896	8.17
75	As	72	1	69	16.76
78	Se	72	1	443	16.61
95	Mo	72	1	400	11.62
107	Ag	115	1	27	21.07
111	Cd	115	1	1	140.16
118	Sn	115	1	1323	6.77
121	Sb	115	1	236	11.96
137	Ba	115	1	31	27.78
205	Tl	165	1	70	9.17
208	Pb	165	1	261	10.92
232	Th	165	1	1143	23.18
238	U	165	1	80	4.84

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	429986	0.89
45	Sc	1	1580816	1.28
72	Ge	1	732377	0.31
115	In	1	2185990	0.87
165	Ho	1	3750898	1.05

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\AG110209.B\145ICAL.D\145ICAL.D#
Date Acquired: Nov 3 2009 01:19 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: 100 ppb
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 01:17 am
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	51598	1.80
51	V	72	1	937255	1.70
52	Cr	72	1	944194	0.80
55	Mn	72	1	1099638	1.17
59	Co	72	1	1171997	0.91
60	Ni	72	1	254962	0.72
63	Cu	72	1	607948	0.52
66	Zn	72	1	135256	0.98
75	As	72	1	126221	0.87
78	Se	72	1	26309	1.34
95	Mo	72	1	328884	0.45
107	Ag	115	1	983498	0.42
111	Cd	115	1	190603	1.24
118	Sn	115	1	535796	1.39
121	Sb	115	1	605269	1.59
137	Ba	115	1	266940	1.78
205	Tl	165	1	2129908	0.67
208	Pb	165	1	2865197	0.84
232	Th	165	1	2808360	2.19
238	U	165	1	3040351	1.46

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	425336	0.21	429986	98.9	30 - 120	
45	Sc	1	1552496	0.34	1580816	98.2	30 - 120	
72	Ge	1	708265	0.48	732377	96.7	30 - 120	
115	In	1	2170234	0.76	2185990	99.3	30 - 120	
165	Ho	1	3753911	0.56	3750898	100.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\144CALB.D\144CALB.D#

0 :Element Failures 0
0 :ISTD Failures 0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\146 CCV.D\146 CCV.D#
Date Acquired: Nov 3 2009 01:22 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 01:20 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	49.78	ppb	0.51	50	99.6	90 - 110	
51 V	72	1	49.27	ppb	0.18	50	98.5	90 - 110	
52 Cr	72	1	49.02	ppb	0.69	50	98.0	90 - 110	
55 Mn	72	1	49.10	ppb	0.66	50	98.2	90 - 110	
59 Co	72	1	48.90	ppb	0.15	50	97.8	90 - 110	
60 Ni	72	1	49.41	ppb	0.59	50	98.8	90 - 110	
63 Cu	72	1	49.19	ppb	0.07	50	98.4	90 - 110	
66 Zn	72	1	48.61	ppb	0.26	50	97.2	90 - 110	
75 As	72	1	49.28	ppb	0.53	50	98.6	90 - 110	
78 Se	72	1	50.71	ppb	2.86	50	101.4	90 - 110	
95 Mo	72	1	49.33	ppb	0.93	50	98.7	90 - 110	
107 Ag	115	1	48.52	ppb	1.09	50	97.0	90 - 110	
111 Cd	115	1	49.58	ppb	0.59	50	99.2	90 - 110	
118 Sn	115	1	49.67	ppb	1.48	50	99.3	90 - 110	
121 Sb	115	1	49.64	ppb	0.73	50	99.3	90 - 110	
137 Ba	115	1	49.20	ppb	1.52	50	98.4	90 - 110	
205 Tl	165	1	50.11	ppb	0.38	50	100.2	90 - 110	
208 Pb	165	1	50.34	ppb	1.07	50	100.7	90 - 110	
232 Th	165	1	51.46	ppb	1.01	50	102.9	90 - 110	
238 U	165	1	50.50	ppb	0.95	50	101.0	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	420996	0.56	429986	97.9	30 - 120	
45 Sc	1	1552124	0.94	1580816	98.2	30 - 120	
72 Ge	1	704426	0.85	732377	96.2	30 - 120	
115 In	1	2167575	0.41	2185990	99.2	30 - 120	
165 Ho	1	3771480	0.06	3750898	100.5	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\AG110209.B\144CALB.D\144CALB.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\AG110209.B\147 CCB.D\147 CCB.D#
Date Acquired: Nov 3 2009 01:25 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 01:20 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	
51 V	72	1	-0.061	ppb	24.96	1.00	
52 Cr	72	1	-0.008	ppb	183.84	1.00	
55 Mn	72	1	0.003	ppb	234.46	1.00	
59 Co	72	1	0.014	ppb	19.87	1.00	
60 Ni	72	1	0.001	ppb	458.96	1.00	
63 Cu	72	1	0.006	ppb	447.12	1.00	
66 Zn	72	1	-0.339	ppb	11.51	1.00	
75 As	72	1	0.009	ppb	8.49	1.00	
78 Se	72	1	-0.024	ppb	902.98	1.00	
95 Mo	72	1	-0.011	ppb	156.72	1.00	
107 Ag	115	1	0.019	ppb	15.11	1.00	
111 Cd	115	1	0.010	ppb	113.12	1.00	
118 Sn	115	1	0.016	ppb	286.64	1.00	
121 Sb	115	1	0.272	ppb	6.52	1.00	
137 Ba	115	1	0.004	ppb	109.43	1.00	
205 Tl	165	1	0.038	ppb	15.09	1.00	
208 Pb	165	1	0.011	ppb	24.44	1.00	
232 Th	165	1	1.083	ppb	15.73	1.00	Fail
238 U	165	1	0.025	ppb	13.42	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	427470	0.91	429986	99.4	30 - 120	
45 Sc	1	1558405	0.36	1580816	98.6	30 - 120	
72 Ge	1	720592	0.39	732377	98.4	30 - 120	
115 In	1	2176542	0.96	2185990	99.6	30 - 120	
165 Ho	1	3744863	0.40	3750898	99.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\144CALB.D\144CALB.D#

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\148WASH.D\148WASH.D#
Date Acquired: Nov 3 2009 01:27 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 01:20 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	2.66	1.30	
51 V	72	1	4.897 ppb	1.10	6.50	
52 Cr	72	1	2.010 ppb	4.11	2.60	
55 Mn	72	1	1.037 ppb	3.42	1.30	
59 Co	72	1	0.992 ppb	2.23	1.30	
60 Ni	72	1	1.974 ppb	5.09	2.60	
63 Cu	72	1	2.047 ppb	2.94	2.60	
66 Zn	72	1	9.973 ppb	1.40	13.00	
75 As	72	1	4.966 ppb	0.61	6.50	
78 Se	72	1	4.968 ppb	22.02	6.50	
95 Mo	72	1	1.969 ppb	1.01	2.60	
107 Ag	115	1	5.254 ppb	3.11	6.50	
111 Cd	115	1	1.008 ppb	9.19	1.30	
118 Sn	115	1	10.000 ppb	2.02	13.00	
121 Sb	115	1	2.046 ppb	1.59	2.60	
137 Ba	115	1	1.051 ppb	6.64	1.30	
205 Tl	165	1	1.042 ppb	1.79	1.30	
208 Pb	165	1	1.044 ppb	1.04	1.30	
232 Th	165	1	2.298 ppb	0.99	2.60	
238 U	165	1	1.101 ppb	1.02	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	425370	0.53	429986	98.9	30 - 120	
45 Sc	1	1546040	0.73	1580816	97.8	30 - 120	
72 Ge	1	716698	0.66	732377	97.9	30 - 120	
115 In	1	2175883	0.18	2185990	99.5	30 - 120	
165 Ho	1	3758631	0.35	3750898	100.2	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\144CALB.D\144CALB.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: _____

Date: 11/7/09

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\198CALB.D\198CALB.D#
Date Acquired: Nov 3 2009 03:46 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: Cal Blank
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 03:44 am
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	677	15.09
52	Cr	72	1	5308	1.01
55	Mn	72	1	577	25.90
59	Co	72	1	17	91.93
60	Ni	72	1	113	18.47
63	Cu	72	1	707	21.91
66	Zn	72	1	896	1.45
75	As	72	1	52	37.07
78	Se	72	1	410	7.91
95	Mo	72	1	430	8.09
107	Ag	115	1	33	15.51
111	Cd	115	1	7	141.76
118	Sn	115	1	1107	8.09
121	Sb	115	1	226	4.20
137	Ba	115	1	28	20.40
205	Tl	165	1	50	17.12
208	Pb	165	1	310	13.99
232	Th	165	1	390	23.71
238	U	165	1	84	39.00

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	398099	0.56
45	Sc	1	1448404	0.77
72	Ge	1	670540	0.57
115	In	1	2020361	2.04
165	Ho	1	3446016	1.21

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\199ICAL.D\199ICAL.D#
Date Acquired: Nov 3 2009 03:48 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: 100 ppb
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 03:46 am
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	46518	1.33
51	V	72	1	872164	1.71
52	Cr	72	1	865707	1.77
55	Mn	72	1	1003972	0.55
59	Co	72	1	1062245	0.95
60	Ni	72	1	230140	1.34
63	Cu	72	1	548746	0.76
66	Zn	72	1	121556	0.64
75	As	72	1	116365	1.02
78	Se	72	1	24739	2.39
95	Mo	72	1	296020	1.20
107	Ag	115	1	891170	1.53
111	Cd	115	1	172927	2.13
118	Sn	115	1	484445	2.39
121	Sb	115	1	544093	0.99
137	Ba	115	1	242341	1.33
205	Tl	165	1	1948536	1.13
208	Pb	165	1	2624719	0.74
232	Th	165	1	2631938	1.13
238	U	165	1	2767725	0.35

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	390013	0.59	398099	98.0	30 - 120	
45	Sc	1	1430145	0.77	1448404	98.7	30 - 120	
72	Ge	1	641500	0.50	670540	95.7	30 - 120	
115	In	1	1979779	1.33	2020361	98.0	30 - 120	
165	Ho	1	3400984	0.43	3446016	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\AG110209.B\198CALB.D\198CALB.D#

0 :Element Failures 0
0 :ISTD Failures 0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\200 CCV.D\200 CCV.D#
Date Acquired: Nov 3 2009 03:51 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 03:49 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	50.48	ppb	1.93	50	101.0	90 - 110	
51 V	72	1	47.66	ppb	1.01	50	95.3	90 - 110	
52 Cr	72	1	48.29	ppb	0.59	50	96.6	90 - 110	
55 Mn	72	1	48.87	ppb	0.36	50	97.7	90 - 110	
59 Co	72	1	48.51	ppb	1.11	50	97.0	90 - 110	
60 Ni	72	1	50.08	ppb	0.34	50	100.2	90 - 110	
63 Cu	72	1	49.56	ppb	1.51	50	99.1	90 - 110	
66 Zn	72	1	48.96	ppb	0.97	50	97.9	90 - 110	
75 As	72	1	49.52	ppb	0.58	50	99.0	90 - 110	
78 Se	72	1	48.43	ppb	4.39	50	96.9	90 - 110	
95 Mo	72	1	49.54	ppb	1.50	50	99.1	90 - 110	
107 Ag	115	1	48.48	ppb	0.68	50	97.0	90 - 110	
111 Cd	115	1	49.29	ppb	0.91	50	98.6	90 - 110	
118 Sn	115	1	50.03	ppb	0.54	50	100.1	90 - 110	
121 Sb	115	1	49.62	ppb	0.24	50	99.2	90 - 110	
137 Ba	115	1	49.60	ppb	0.80	50	99.2	90 - 110	
205 Tl	165	1	50.13	ppb	1.37	50	100.3	90 - 110	
208 Pb	165	1	49.89	ppb	1.80	50	99.8	90 - 110	
232 Th	165	1	50.59	ppb	0.88	50	101.2	90 - 110	
238 U	165	1	50.32	ppb	0.51	50	100.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	389643	1.19	398099	97.9	30 - 120	
45 Sc	1	1417757	1.27	1448404	97.9	30 - 120	
72 Ge	1	640216	0.19	670540	95.5	30 - 120	
115 In	1	1978434	0.36	2020361	97.9	30 - 120	
165 Ho	1	3420985	0.90	3446016	99.3	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\198CALB.D\198CALB.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\AG110209.B\201 CCB.D\201 CCB.D#
Date Acquired: Nov 3 2009 03:54 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 03:49 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.026	ppb	34.50	1.00	
52 Cr	72	1	0.030	ppb	54.34	1.00	
55 Mn	72	1	0.012	ppb	17.20	1.00	
59 Co	72	1	0.014	ppb	38.88	1.00	
60 Ni	72	1	0.009	ppb	100.78	1.00	
63 Cu	72	1	0.001	ppb	534.42	1.00	
66 Zn	72	1	-0.452	ppb	2.81	1.00	
75 As	72	1	0.009	ppb	148.73	1.00	
78 Se	72	1	0.297	ppb	105.12	1.00	
95 Mo	72	1	-0.034	ppb	94.14	1.00	
107 Ag	115	1	0.023	ppb	24.80	1.00	
111 Cd	115	1	0.005	ppb	69.84	1.00	
118 Sn	115	1	0.047	ppb	88.28	1.00	
121 Sb	115	1	0.277	ppb	6.46	1.00	
137 Ba	115	1	0.021	ppb	17.62	1.00	
205 Tl	165	1	0.041	ppb	14.91	1.00	
208 Pb	165	1	0.015	ppb	18.20	1.00	
232 Th	165	1	0.508	ppb	19.92	1.00	
238 U	165	1	0.028	ppb	5.43	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	394080	0.47	398099	99.0	30 - 120	
45 Sc	1	1423596	0.79	1448404	98.3	30 - 120	
72 Ge	1	649457	0.55	670540	96.9	30 - 120	
115 In	1	1971255	0.71	2020361	97.6	30 - 120	
165 Ho	1	3388432	0.24	3446016	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\AG110209.B\198CALB.D\198CALB.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\AG110209.B\202WASH.D\202WASH.D#
Date Acquired: Nov 3 2009 03:57 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 03:49 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	0.929 ppb	12.97	1.30	
51 V	72	1	4.798 ppb	1.69	6.50	
52 Cr	72	1	1.869 ppb	0.62	2.60	
55 Mn	72	1	1.010 ppb	4.04	1.30	
59 Co	72	1	0.988 ppb	3.08	1.30	
60 Ni	72	1	2.011 ppb	2.64	2.60	
63 Cu	72	1	1.985 ppb	5.02	2.60	
66 Zn	72	1	9.730 ppb	0.63	13.00	
75 As	72	1	4.893 ppb	1.48	6.50	
78 Se	72	1	5.341 ppb	20.82	6.50	
95 Mo	72	1	1.949 ppb	3.38	2.60	
107 Ag	115	1	5.252 ppb	2.96	6.50	
111 Cd	115	1	1.074 ppb	9.48	1.30	
118 Sn	115	1	10.390 ppb	1.82	13.00	
121 Sb	115	1	2.096 ppb	1.78	2.60	
137 Ba	115	1	1.052 ppb	4.06	1.30	
205 Tl	165	1	1.055 ppb	1.57	1.30	
208 Pb	165	1	1.049 ppb	1.41	1.30	
232 Th	165	1	2.203 ppb	0.54	2.60	
238 U	165	1	1.110 ppb	0.78	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	391074	0.53	398099	98.2	30 - 120	
45 Sc	1	1417682	0.76	1448404	97.9	30 - 120	
72 Ge	1	657176	0.21	670540	98.0	30 - 120	
115 In	1	1969598	0.49	2020361	97.5	30 - 120	
165 Ho	1	3405996	0.55	3446016	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\AG110209.B\198CALB.D\198CALB.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: _____

Date: 11/3/09

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\271CALB.D\271CALB.D#
Date Acquired: Nov 3 2009 07:07 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: Cal Blank
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:05 am
Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	647	17.15
52	Cr	72	1	3974	10.81
55	Mn	72	1	620	5.15
59	Co	72	1	27	43.04
60	Ni	72	1	107	4.47
63	Cu	72	1	413	26.55
66	Zn	72	1	611	4.63
75	As	72	1	45	13.54
78	Se	72	1	373	20.56
95	Mo	72	1	310	30.94
107	Ag	115	1	23	88.68
111	Cd	115	1	-8	195.57
118	Sn	115	1	667	16.50
121	Sb	115	1	166	9.77
137	Ba	115	1	32	30.26
205	Tl	165	1	49	31.74
208	Pb	165	1	217	3.61
232	Th	165	1	310	19.93
238	U	165	1	58	29.03

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	292236	0.94
45	Sc	1	1039247	1.03
72	Ge	1	489054	1.02
115	In	1	1483965	1.73
165	Ho	1	2560350	0.55

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\AG110209.B\272ICAL.D\272ICAL.D#
Date Acquired: Nov 3 2009 07:10 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: 100 ppb
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:08 am
Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	32734	5.03
51	V	72	1	587351	0.20
52	Cr	72	1	585195	0.43
55	Mn	72	1	671217	0.69
59	Co	72	1	734680	2.64
60	Ni	72	1	162429	0.93
63	Cu	72	1	386101	0.29
66	Zn	72	1	82964	0.33
75	As	72	1	82215	1.14
78	Se	72	1	17405	0.93
95	Mo	72	1	205918	1.39
107	Ag	115	1	610910	1.35
111	Cd	115	1	118345	1.28
118	Sn	115	1	336677	1.90
121	Sb	115	1	385576	0.79
137	Ba	115	1	174835	0.56
205	Tl	165	1	1405290	1.34
208	Pb	165	1	1906634	0.45
232	Th	165	1	1920434	2.38
238	U	165	1	2048100	2.32

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	278874	1.04	292236	95.4	30 - 120	
45	Sc	1	1021872	1.51	1039247	98.3	30 - 120	
72	Ge	1	460236	1.20	489054	94.1	30 - 120	
115	In	1	1432488	0.78	1483965	96.5	30 - 120	
165	Ho	1	2500122	0.54	2560350	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\AG110209.B\271CALB.D\271CALB.D#

0 :Element Failures 0
0 :ISTD Failures 0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\273 CCV.D\273 CCV.D#
Date Acquired: Nov 3 2009 07:12 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 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	50.90	ppb	1.87	50	101.8	90 - 110	
51 V	72	1	51.07	ppb	0.53	50	102.1	90 - 110	
52 Cr	72	1	51.15	ppb	0.95	50	102.3	90 - 110	
55 Mn	72	1	51.37	ppb	0.51	50	102.7	90 - 110	
59 Co	72	1	50.43	ppb	0.54	50	100.9	90 - 110	
60 Ni	72	1	50.93	ppb	0.20	50	101.9	90 - 110	
63 Cu	72	1	51.53	ppb	0.62	50	103.1	90 - 110	
66 Zn	72	1	50.83	ppb	1.51	50	101.7	90 - 110	
75 As	72	1	51.42	ppb	0.38	50	102.8	90 - 110	
78 Se	72	1	53.03	ppb	2.76	50	106.1	90 - 110	
95 Mo	72	1	51.18	ppb	0.86	50	102.4	90 - 110	
107 Ag	115	1	50.97	ppb	0.74	50	101.9	90 - 110	
111 Cd	115	1	51.11	ppb	1.62	50	102.2	90 - 110	
118 Sn	115	1	51.01	ppb	0.82	50	102.0	90 - 110	
121 Sb	115	1	51.16	ppb	0.74	50	102.3	90 - 110	
137 Ba	115	1	50.80	ppb	0.41	50	101.6	90 - 110	
205 Tl	165	1	51.39	ppb	2.14	50	102.8	90 - 110	
208 Pb	165	1	51.79	ppb	1.81	50	103.6	90 - 110	
232 Th	165	1	52.34	ppb	1.56	50	104.7	90 - 110	
238 U	165	1	51.79	ppb	0.72	50	103.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	279055	0.71	292236	95.5	30 - 120	
45 Sc	1	1000130	1.34	1039247	96.2	30 - 120	
72 Ge	1	454008	0.96	489054	92.8	30 - 120	
115 In	1	1422688	0.39	1483965	95.9	30 - 120	
165 Ho	1	2483601	0.90	2560350	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\274 CCB.D\274 CCB.D#
Date Acquired: Nov 3 2009 07:15 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.020	ppb	173.22	1.00	
51 V	72	1	-0.026	ppb	56.26	1.00	
52 Cr	72	1	0.012	ppb	257.74	1.00	
55 Mn	72	1	0.020	ppb	101.53	1.00	
59 Co	72	1	0.012	ppb	23.14	1.00	
60 Ni	72	1	-0.020	ppb	62.88	1.00	
63 Cu	72	1	-0.002	ppb	298.24	1.00	
66 Zn	72	1	-0.363	ppb	7.67	1.00	
75 As	72	1	0.005	ppb	228.02	1.00	
78 Se	72	1	0.046	ppb	509.36	1.00	
95 Mo	72	1	-0.029	ppb	110.57	1.00	
107 Ag	115	1	0.015	ppb	69.03	1.00	
111 Cd	115	1	0.018	ppb	29.40	1.00	
118 Sn	115	1	0.135	ppb	32.08	1.00	
121 Sb	115	1	0.292	ppb	11.25	1.00	
137 Ba	115	1	0.019	ppb	37.88	1.00	
205 Tl	165	1	0.044	ppb	10.19	1.00	
208 Pb	165	1	0.010	ppb	24.91	1.00	
232 Th	165	1	0.639	ppb	23.47	1.00	
238 U	165	1	0.026	ppb	7.33	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	276041	0.78	292236	94.5	30 - 120	
45 Sc	1	984794	2.06	1039247	94.8	30 - 120	
72 Ge	1	456345	0.37	489054	93.3	30 - 120	
115 In	1	1416813	1.02	1483965	95.5	30 - 120	
165 Ho	1	2475763	0.18	2560350	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\275WASH.D\275WASH.D#
Date Acquired: Nov 3 2009 07:18 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 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	0.953 ppb	11.57	1.30	
51 V	72	1	4.955 ppb	1.29	6.50	
52 Cr	72	1	2.013 ppb	3.36	2.60	
55 Mn	72	1	1.031 ppb	3.81	1.30	
59 Co	72	1	0.980 ppb	5.96	1.30	
60 Ni	72	1	1.874 ppb	3.95	2.60	
63 Cu	72	1	2.010 ppb	4.88	2.60	
66 Zn	72	1	10.320 ppb	0.92	13.00	
75 As	72	1	5.000 ppb	4.64	6.50	
78 Se	72	1	4.465 ppb	11.61	6.50	
95 Mo	72	1	1.948 ppb	4.13	2.60	
107 Ag	115	1	5.268 ppb	2.94	6.50	
111 Cd	115	1	1.055 ppb	7.84	1.30	
118 Sn	115	1	10.360 ppb	0.57	13.00	
121 Sb	115	1	2.094 ppb	0.58	2.60	
137 Ba	115	1	1.048 ppb	3.98	1.30	
205 Tl	165	1	1.068 ppb	1.07	1.30	
208 Pb	165	1	1.030 ppb	0.74	1.30	
232 Th	165	1	2.156 ppb	2.20	2.60	
238 U	165	1	1.095 ppb	0.15	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	277077	0.71	292236	94.8	30 - 120	
45 Sc	1	994521	2.66	1039247	95.7	30 - 120	
72 Ge	1	460476	0.93	489054	94.2	30 - 120	
115 In	1	1418169	1.26	1483965	95.6	30 - 120	
165 Ho	1	2470723	0.31	2560350	96.5	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\290 CCV.D\290 CCV.D#
Date Acquired: Nov 3 2009 07:59 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 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	48.49	ppb	0.87	50	97.0	90 - 110	
51 V	72	1	48.59	ppb	0.63	50	97.2	90 - 110	
52 Cr	72	1	47.69	ppb	1.32	50	95.4	90 - 110	
55 Mn	72	1	48.63	ppb	0.42	50	97.3	90 - 110	
59 Co	72	1	47.85	ppb	0.34	50	95.7	90 - 110	
60 Ni	72	1	48.55	ppb	0.11	50	97.1	90 - 110	
63 Cu	72	1	48.80	ppb	0.63	50	97.6	90 - 110	
66 Zn	72	1	48.80	ppb	0.83	50	97.6	90 - 110	
75 As	72	1	49.29	ppb	1.10	50	98.6	90 - 110	
78 Se	72	1	49.32	ppb	1.16	50	98.6	90 - 110	
95 Mo	72	1	49.08	ppb	1.52	50	98.2	90 - 110	
107 Ag	115	1	47.86	ppb	1.89	50	95.7	90 - 110	
111 Cd	115	1	48.65	ppb	2.52	50	97.3	90 - 110	
118 Sn	115	1	48.48	ppb	2.80	50	97.0	90 - 110	
121 Sb	115	1	48.30	ppb	1.66	50	96.6	90 - 110	
137 Ba	115	1	48.49	ppb	2.37	50	97.0	90 - 110	
205 Tl	165	1	49.23	ppb	1.69	50	98.5	90 - 110	
208 Pb	165	1	49.68	ppb	1.86	50	99.4	90 - 110	
232 Th	165	1	49.19	ppb	2.34	50	98.4	90 - 110	
238 U	165	1	49.70	ppb	1.56	50	99.4	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	263704	0.69	292236	90.2	30 - 120	
45 Sc	1	998340	0.93	1039247	96.1	30 - 120	
72 Ge	1	455195	0.53	489054	93.1	30 - 120	
115 In	1	1434898	1.50	1483965	96.7	30 - 120	
165 Ho	1	2483075	0.75	2560350	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\291 CCB.D\291 CCB.D#
Date Acquired: Nov 3 2009 08:02 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.021	ppb	86.62	1.00	
51 V	72	1	0.149	ppb	8.87	1.00	
52 Cr	72	1	-0.028	ppb	156.69	1.00	
55 Mn	72	1	0.049	ppb	36.41	1.00	
59 Co	72	1	0.010	ppb	35.17	1.00	
60 Ni	72	1	-0.001	ppb	1490.10	1.00	
63 Cu	72	1	0.100	ppb	42.64	1.00	
66 Zn	72	1	-0.090	ppb	81.13	1.00	
75 As	72	1	0.015	ppb	76.76	1.00	
78 Se	72	1	0.224	ppb	110.75	1.00	
95 Mo	72	1	-0.086	ppb	27.92	1.00	
107 Ag	115	1	0.020	ppb	48.29	1.00	
111 Cd	115	1	0.010	ppb	95.96	1.00	
118 Sn	115	1	0.076	ppb	43.39	1.00	
121 Sb	115	1	0.187	ppb	3.43	1.00	
137 Ba	115	1	0.019	ppb	50.57	1.00	
205 Tl	165	1	0.036	ppb	11.85	1.00	
208 Pb	165	1	0.013	ppb	13.42	1.00	
232 Th	165	1	0.652	ppb	22.79	1.00	
238 U	165	1	0.021	ppb	10.83	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	266732	1.05	292236	91.3	30 - 120	
45 Sc	1	997171	1.12	1039247	96.0	30 - 120	
72 Ge	1	468354	0.97	489054	95.8	30 - 120	
115 In	1	1434899	0.70	1483965	96.7	30 - 120	
165 Ho	1	2507383	0.61	2560350	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\292WASH.D\292WASH.D#
Date Acquired: Nov 3 2009 08:05 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 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	0.910 ppb	11.71	1.30	
51 V	72	1	4.867 ppb	0.28	6.50	
52 Cr	72	1	1.820 ppb	3.79	2.60	
55 Mn	72	1	1.013 ppb	6.92	1.30	
59 Co	72	1	0.934 ppb	0.59	1.30	
60 Ni	72	1	1.825 ppb	4.56	2.60	
63 Cu	72	1	1.932 ppb	1.19	2.60	
66 Zn	72	1	10.350 ppb	0.99	13.00	
75 As	72	1	4.909 ppb	1.73	6.50	
78 Se	72	1	5.140 ppb	20.66	6.50	
95 Mo	72	1	1.889 ppb	2.95	2.60	
107 Ag	115	1	4.947 ppb	2.98	6.50	
111 Cd	115	1	1.009 ppb	11.68	1.30	
118 Sn	115	1	9.848 ppb	0.69	13.00	
121 Sb	115	1	1.968 ppb	2.78	2.60	
137 Ba	115	1	1.015 ppb	4.50	1.30	
205 Tl	165	1	1.021 ppb	1.56	1.30	
208 Pb	165	1	1.013 ppb	1.50	1.30	
232 Th	165	1	2.041 ppb	3.22	2.60	
238 U	165	1	1.048 ppb	1.38	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	268488	1.03	292236	91.9	30 - 120	
45 Sc	1	1007789	0.56	1039247	97.0	30 - 120	
72 Ge	1	473504	0.27	489054	96.8	30 - 120	
115 In	1	1461573	0.58	1483965	98.5	30 - 120	
165 Ho	1	2547503	0.80	2560350	99.5	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\271CALB.D\271CALB.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\AG110209.B\293 BLK.D\293 BLK.D#
Date Acquired: Nov 3 2009 08:08 am
Operator: TEL
Sample Name: LM9TCB
Misc Info: BLANK 9299123 6020
Vial Number: 4407
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 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	0.011 ppb	173.10	2.00	
51 V	72	1	0.071 ppb	28.03	2.00	
52 Cr	72	1	0.006 ppb	950.45	2.00	
55 Mn	72	1	0.009 ppb	139.80	2.00	
59 Co	72	1	-0.001 ppb	127.39	2.00	
60 Ni	72	1	-0.002 ppb	984.95	2.00	
63 Cu	72	1	0.080 ppb	27.16	2.00	
66 Zn	72	1	0.249 ppb	12.93	2.00	
75 As	72	1	-0.004 ppb	177.55	2.00	
78 Se	72	1	0.302 ppb	105.56	2.00	
95 Mo	72	1	-0.112 ppb	13.60	2.00	
107 Ag	115	1	0.010 ppb	40.03	2.00	
111 Cd	115	1	0.008 ppb	53.36	2.00	
118 Sn	115	1	-0.054 ppb	12.43	2.00	
121 Sb	115	1	0.025 ppb	18.74	2.00	
137 Ba	115	1	0.009 ppb	74.22	2.00	
205 Tl	165	1	0.014 ppb	20.51	2.00	
208 Pb	165	1	0.005 ppb	20.78	2.00	
232 Th	165	1	0.084 ppb	16.92	2.00	
238 U	165	1	0.000 ppb	187.88	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	269549	0.38	292236	92.2	30 - 120	
45 Sc	1	1018537	1.06	1039247	98.0	30 - 120	
72 Ge	1	471757	0.62	489054	96.5	30 - 120	
115 In	1	1439829	1.69	1483965	97.0	30 - 120	
165 Ho	1	2523503	0.85	2560350	98.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\271CALB.D\271CALB.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\AG110209.B\294 LCS.D\294 LCS.D#
Date Acquired: Nov 3 2009 08:11 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LM9TCC
Misc Info: LCS
Vial Number: 4408
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:10 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	39.52	5.03	40	98.8	80 - 120	
51 V	72	1	40.76	0.14	40	101.9	80 - 120	
52 Cr	72	1	40.41	0.12	40	101.0	80 - 120	
55 Mn	72	1	40.97	0.35	40	102.4	80 - 120	
59 Co	72	1	40.02	0.60	40	100.1	80 - 120	
60 Ni	72	1	40.65	0.99	40	101.6	80 - 120	
63 Cu	72	1	41.27	2.06	40	103.2	80 - 120	
66 Zn	72	1	40.77	0.82	40	101.9	80 - 120	
75 As	72	1	40.22	0.79	40	100.6	80 - 120	
78 Se	72	1	40.03	1.37	40	100.1	80 - 120	
95 Mo	72	1	41.64	1.23	40	104.1	80 - 120	
107 Ag	115	1	40.22	0.85	40	100.6	80 - 120	
111 Cd	115	1	40.34	1.50	40	100.9	80 - 120	
118 Sn	115	1	-0.01	140.96	40	0.0	80 - 120	
121 Sb	115	1	41.89	2.05	40	104.7	80 - 120	
137 Ba	115	1	40.50	2.16	40	101.3	80 - 120	
205 Tl	165	1	40.83	2.13	40	102.1	80 - 120	
208 Pb	165	1	41.06	1.76	40	102.7	80 - 120	
232 Th	165	1	41.71	1.85	40	104.3	80 - 120	
238 U	165	1	41.33	1.98	40	103.3	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	262073	0.52	292236	89.7	30 - 120	
45 Sc	1	979461	1.06	1039247	94.2	30 - 120	
72 Ge	1	449248	0.66	489054	91.9	30 - 120	
115 In	1	1412393	0.53	1483965	95.2	30 - 120	
165 Ho	1	2497201	1.05	2560350	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\295AREF.D\295AREF.D#
Date Acquired: Nov 3 2009 08:13 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LM9F9
Misc Info: D9J240192
Vial Number: 4409
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:10 am
Sample Type: AllRef
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.24	0.24	ppb	86.63	3600	
51 V	72	1	39.95	39.95	ppb	2.01	3600	
52 Cr	72	1	11,770.00	11770.00	ppb	1.15	3600	>LDR
55 Mn	72	1	1,989.00	1989.00	ppb	1.19	3600	
59 Co	72	1	2.61	2.61	ppb	1.13	3600	
60 Ni	72	1	9.64	9.64	ppb	5.60	3600	
63 Cu	72	1	1.29	1.29	ppb	5.64	3600	
66 Zn	72	1	18.28	18.28	ppb	2.99	3600	
75 As	72	1	90.95	90.95	ppb	1.33	3600	
78 Se	72	1	7.62	7.62	ppb	17.62	3600	
95 Mo	72	1	17.77	17.77	ppb	1.99	3600	
107 Ag	115	1	0.07	0.07	ppb	2.46	3600	
111 Cd	115	1	0.06	0.06	ppb	121.35	3600	
118 Sn	115	1	0.03	0.03	ppb	118.88	3600	
121 Sb	115	1	0.09	0.09	ppb	11.00	3600	
137 Ba	115	1	22.23	22.23	ppb	1.39	3600	
205 Tl	165	1	0.12	0.12	ppb	4.02	3600	
208 Pb	165	1	0.06	0.06	ppb	5.28	3600	
232 Th	165	1	0.33	0.33	ppb	44.56	1000	
238 U	165	1	145.20	145.20	ppb	1.47	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	186993	0.49	292236	64.0	30 - 120	
45 Sc	1	890879	1.92	1039247	85.7	30 - 120	
72 Ge	1	353440	1.55	489054	72.3	30 - 120	
115 In	1	1060972	0.54	1483965	71.5	30 - 120	
165 Ho	1	1847137	0.49	2560350	72.1	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\296SDIL.D\296SDIL.D#
Date Acquired: Nov 3 2009 08:16 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LM9F9P5
Misc Info: SERIAL DILUTION
Vial Number: 4410
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:10 am
Sample Type: SDIL
Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110209.B\295AREF.D\295AREF.D#

QC elements

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9 Be	6	1	0.06	ppb	68.28	0.05	114.0	90 - 110	
51 V	72	1	7.23	ppb	1.49	7.99	90.4	90 - 110	
52 Cr	72	1	2176.00	ppb	2.17	2354.00	92.4	90 - 110	
55 Mn	72	1	373.50	ppb	1.31	397.80	93.9	90 - 110	
59 Co	72	1	0.52	ppb	2.86	0.52	98.9	90 - 110	
60 Ni	72	1	1.96	ppb	6.38	1.93	101.5	90 - 110	
63 Cu	72	1	0.78	ppb	2.59	0.26	302.9	90 - 110	
66 Zn	72	1	3.41	ppb	2.18	3.66	93.3	90 - 110	
75 As	72	1	16.90	ppb	1.14	18.19	92.9	90 - 110	
78 Se	72	1	2.39	ppb	16.73	1.52	156.7	90 - 110	
95 Mo	72	1	3.20	ppb	3.41	3.55	90.2	90 - 110	
107 Ag	115	1	0.01	ppb	21.73	0.01	69.0	90 - 110	
111 Cd	115	1	0.03	ppb	52.12	0.01	214.3	90 - 110	
118 Sn	115	1	-0.08	ppb	11.72	0.01	-1598.0	90 - 110	
121 Sb	115	1	0.00	ppb	287.76	0.02	-11.8	90 - 110	
137 Ba	115	1	4.38	ppb	1.61	4.45	98.5	90 - 110	
205 Tl	165	1	0.03	ppb	5.80	0.02	101.9	90 - 110	
208 Pb	165	1	0.01	ppb	1.88	0.01	87.6	90 - 110	
232 Th	165	1	0.01	ppb	16.11	0.07	19.8	90 - 110	
238 U	165	1	31.67	ppb	1.18	29.04	109.1	90 - 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	255062	0.99	292236	87.3	30 - 120	
45 Sc	1	1054398	1.63	1039247	101.5	30 - 120	
72 Ge	1	467091	0.69	489054	95.5	30 - 120	
115 In	1	1378982	1.19	1483965	92.9	30 - 120	
165 Ho	1	2392469	0.75	2560350	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\AG110209.B\271CALB.D\271CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) | ICPMS_024 | Reported: 11/03/09 10:16:15

Department: 090 (Metals) | Source: Spreadsheet

Sample: **LM9F9P5** | Serial Dilution: **5.00** | Sample Dilution: **1.00**

Instrument: **Agilent7500** | Channel 272
File: AG110209 # 296 | Method 6020_
Acquired: 11/03/2009 08:16:00 | ICPMS_024 | Matrix: AQUEOUS
Calibrated: 11/03/2009 07:07:00 | Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	17	0.27710	0.24300	14.0		*	
7440-62-2	Vanadium	51	43641	36.125	39.950	9.57		*	
7440-47-3	Chromium	52	12842300	10880	11770	7.56		*	
7439-96-5	Manganese	55	2542800	1867.5	1989.0	6.11		*	
7440-48-4	Cobalt	59	3877	2.5825	2.6100	1.05		*	
7440-02-0	Nickel	60	3324	9.7800	9.6390	1.46		*	
7440-50-8	Copper	63	3457	3.9110	1.2910	203		*	
7440-66-6	Zinc	66	3434	17.050	18.280	6.73		*	
7440-38-2	Arsenic	75	14139	84.500	90.950	7.09	0.21	7.1	☑
7782-49-2	Selenium	78	770	11.940	7.6210	56.7	0.70	NC	☑
7439-98-7	Molybdenum	95	6982	16.020	17.770	9.85		*	
7440-22-4	Silver	107	77	0.04675	0.06777	31.0		*	
7440-43-9	Cadmium	111	23	0.13700	0.06392	114		*	
7440-31-5	Tin	118	357	-0.40620	0.02542	1700		*	
7440-36-0	Antimony	121	146	-0.01078	0.09128	112		*	
7440-39-3	Barium	137	7402	21.905	22.230	1.46		*	
7440-28-0	Thallium	205	382	0.12510	0.12280	1.87		*	
7439-92-1	Lead	208	399	0.05385	0.06148	12.4		*	
7440-61-1	Uranium	238	620727	158.35	145.20	9.06		*	
7440-29-1	Thorium	232	530	0.06545	0.33060	80.2		*	
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: 11/3/09

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\297PDS.D\297PDS.D#
Date Acquired: Nov 3 2009 08:19 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LM9F9Z
Misc Info: POST DIGESTION SPIKE
Vial Number: 4411
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:10 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	203.00	0.24	ppb	0.96	200	101.4	75 - 125	
51 V	72	1	248.70	39.95	ppb	2.08	200	103.6	75 - 125	
52 Cr	72	1	11240.00	11770.00	ppb	0.16	200	93.9	75 - 125	
55 Mn	72	1	2059.00	1989.00	ppb	0.85	200	94.1	75 - 125	
59 Co	72	1	184.80	2.61	ppb	0.46	200	91.2	75 - 125	
60 Ni	72	1	176.80	9.64	ppb	0.57	200	84.3	75 - 125	
63 Cu	72	1	164.10	1.29	ppb	1.08	200	81.5	75 - 125	
66 Zn	72	1	192.20	18.28	ppb	1.53	200	88.1	75 - 125	
75 As	72	1	291.30	90.95	ppb	1.21	200	100.1	75 - 125	
78 Se	72	1	235.60	7.62	ppb	2.02	200	113.5	75 - 125	
95 Mo	72	1	224.80	17.77	ppb	1.54	200	103.2	75 - 125	
107 Ag	115	1	38.63	0.07	ppb	3.70	50	77.2	75 - 125	
111 Cd	115	1	169.10	0.06	ppb	3.33	200	84.5	75 - 125	
118 Sn	115	1	169.50	0.03	ppb	3.61	200	84.7	75 - 125	
121 Sb	115	1	192.30	0.09	ppb	3.99	200	96.1	75 - 125	
137 Ba	115	1	205.40	22.23	ppb	3.92	200	92.4	75 - 125	
205 Tl	165	1	158.70	0.12	ppb	3.15	200	79.3	75 - 125	
208 Pb	165	1	151.60	0.06	ppb	3.44	200	75.8	75 - 125	
232 Th	165	1	0.06	0.33	ppb	13.40	200	0.0	75 - 125	
238 U	165	1	293.20	145.20	ppb	2.79	200	84.9	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	183251	0.83	292236	62.7	30 - 120	
45 Sc	1	932560	3.26	1039247	89.7	30 - 120	
72 Ge	1	367930	1.66	489054	75.2	30 - 120	
115 In	1	1117826	3.44	1483965	75.3	30 - 120	
165 Ho	1	1905054	3.16	2560350	74.4	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\AG110209.B\271CALB.D\271CALB.D#

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

Denver SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS_024 Reported: 11/03/09 10:16:20

Department: 090 (Metals) Source: Spreadsheet

Sample: **LM9F9Z** Spike Dilution: **1.00** Sample Dilution: **1.00**

Instrument: **Agilent7500** Channel 272
File: AG110209 # 297 Method 6020_
Acquired: 11/03/2009 08:19:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 11/03/2009 07:07:00 Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	43669	203.00	0.24300	101	200		☑
7440-62-2	Vanadium	51	1167020	248.70	39.950	104	200		☑
7440-47-3	Chromium	52	52237500	11240	11770	0.00	200	*	☐
7439-96-5	Manganese	55	11036700	2059.0	1989.0	35.0	200	*	☐
7440-48-4	Cobalt	59	1085720	184.80	2.6100	91.1	200		☑
7440-02-0	Nickel	60	229453	176.80	9.6390	83.6	200		☐
7440-50-8	Copper	63	506174	164.10	1.2910	81.4	200		☐
7440-66-6	Zinc	66	127023	192.20	18.280	87.0	200		☑
7440-38-2	Arsenic	75	191388	291.30	90.950	100	200		☑
7782-49-2	Selenium	78	32385	235.60	7.6210	114	200		☑
7439-98-7	Molybdenum	95	369689	224.80	17.770	104	200		☑
7440-22-4	Silver	107	184031	38.630	0.06777	77.1	50.0		☑
7440-43-9	Cadmium	111	156058	169.10	0.06392	84.5	200		☑
7440-31-5	Tin	118	444739	169.50	0.02542	84.7	200		☐
7440-36-0	Antimony	121	577871	192.30	0.09128	96.1	200		☑
7440-39-3	Barium	137	279990	205.40	22.230	91.6	200		☑
7440-28-0	Thallium	205	1698180	158.70	0.12280	79.3	200		☑
7439-92-1	Lead	208	2201530	151.60	0.06148	75.8	200		☐
7440-61-1	Uranium	238	4574030	293.20	145.20	74.0	200		☐
7440-29-1	Thorium	232	1097	0.05935	0.33060				
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: 11/3/09

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110209.B\298_MS.D\298_MS.D#
Date Acquired: Nov 3 2009 08:22 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LM9F9S
Misc Info: MATRIX SPIKE
Vial Number: 4412
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:10 am
Sample Type: MS
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	45.83	0.24	ppb	3.33	40	113.9	50 - 150	
51 V	72	1	87.76	39.95	ppb	2.01	40	109.8	50 - 150	
52 Cr	72	1	12360.00	11770.00	ppb	2.16	40	104.7	50 - 150	
55 Mn	72	1	2094.00	1989.00	ppb	1.86	40	103.2	50 - 150	
59 Co	72	1	43.16	2.61	ppb	2.31	40	101.3	50 - 150	
60 Ni	72	1	49.67	9.64	ppb	3.18	40	100.1	50 - 150	
63 Cu	72	1	39.33	1.29	ppb	1.39	40	95.3	50 - 150	
66 Zn	72	1	61.74	18.28	ppb	1.57	40	105.9	50 - 150	
75 As	72	1	140.90	90.95	ppb	2.25	40	107.6	50 - 150	
78 Se	72	1	56.97	7.62	ppb	4.02	40	119.6	50 - 150	
95 Mo	72	1	66.34	17.77	ppb	1.23	40	114.8	50 - 150	
107 Ag	115	1	35.97	0.07	ppb	1.97	40	89.8	50 - 150	
111 Cd	115	1	38.70	0.06	ppb	1.61	40	96.6	50 - 150	
118 Sn	115	1	0.34	0.03	ppb	12.24	40	0.8	50 - 150	
121 Sb	115	1	45.59	0.09	ppb	0.64	40	113.7	50 - 150	
137 Ba	115	1	64.99	22.23	ppb	1.49	40	104.4	50 - 150	
205 Tl	165	1	36.16	0.12	ppb	0.49	40	90.1	50 - 150	
208 Pb	165	1	35.07	0.06	ppb	0.75	40	87.5	50 - 150	
232 Th	165	1	42.27	0.33	ppb	0.22	40	104.8	50 - 150	
238 U	165	1	182.80	145.20	ppb	0.59	40	98.7	50 - 150	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	172843	1.45	292236	59.1	30 - 120	
45 Sc	1	918833	1.62	1039247	88.4	30 - 120	
72 Ge	1	361059	1.02	489054	73.8	30 - 120	
115 In	1	1070394	0.89	1483965	72.1	30 - 120	
165 Ho	1	1815901	0.39	2560350	70.9	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\299 MSD.D\299 MSD.D#
Date Acquired: Nov 3 2009 08:24 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LM9F9D
Misc Info: MATRIX SPIKE DUPLICATE
Vial Number: 4501
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:10 am
Sample Type: MSD
Dilution Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110209.B\298 MS.D\298 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	48.62	ppb	4.25	45.83	5.91	20	
51 V	72	1	85.36	ppb	1.41	87.76	2.77	20	
52 Cr	72	1	11960.00	ppb	0.57	12360.00	3.29	20	
55 Mn	72	1	2009.00	ppb	0.77	2094.00	4.14	20	
59 Co	72	1	42.22	ppb	1.43	43.16	2.20	20	
60 Ni	72	1	48.08	ppb	0.87	49.67	3.25	20	
63 Cu	72	1	38.71	ppb	0.89	39.33	1.59	20	
66 Zn	72	1	57.18	ppb	0.87	61.74	7.67	20	
75 As	72	1	139.30	ppb	0.58	140.90	1.14	20	
78 Se	72	1	55.97	ppb	1.36	56.97	1.77	20	
95 Mo	72	1	63.64	ppb	0.91	66.34	4.15	20	
107 Ag	115	1	35.15	ppb	1.30	35.97	2.31	20	
111 Cd	115	1	37.16	ppb	2.96	38.70	4.06	20	
118 Sn	115	1	0.38	ppb	12.51	0.34	12.24	20	
121 Sb	115	1	44.29	ppb	1.92	45.59	2.89	20	
137 Ba	115	1	62.99	ppb	2.70	64.99	3.13	20	
205 Tl	165	1	35.12	ppb	2.63	36.16	2.92	20	
208 Pb	165	1	34.42	ppb	2.70	35.07	1.87	20	
232 Th	165	1	41.11	ppb	2.61	42.27	2.78	20	
238 U	165	1	176.80	ppb	2.28	182.80	3.34	20	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	167514	0.01	292236	57.3	30 - 120	
45 Sc	1	932300	1.87	1039247	89.7	30 - 120	
72 Ge	1	372362	0.64	489054	76.1	30 - 120	
115 In	1	1090304	1.77	1483965	73.5	30 - 120	
165 Ho	1	1818176	1.48	2560350	71.0	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\300SMPL.D\300SMPL.D#
Date Acquired: Nov 3 2009 08:27 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LM9GC
Misc Info: D9J240192
Vial Number: 4502
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:10 am
Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Fail
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.24	0.24	ppb	48.18	3600	
51 V	72	1	38.48	38.48	ppb	10.73	3600	
52 Cr	72	1	11,740.00	11740.00	ppb	10.97	3600	>LDR
55 Mn	72	1	1,960.00	1960.00	ppb	10.84	3600	
59 Co	72	1	2.70	2.70	ppb	10.19	3600	
60 Ni	72	1	11.57	11.57	ppb	10.34	3600	
63 Cu	72	1	1.60	1.60	ppb	13.34	3600	
66 Zn	72	1	20.82	20.82	ppb	11.30	3600	
75 As	72	1	92.17	92.17	ppb	10.24	3600	
78 Se	72	1	7.58	7.58	ppb	23.85	3600	
95 Mo	72	1	17.72	17.72	ppb	9.27	3600	
107 Ag	115	1	0.07	0.07	ppb	14.46	3600	
111 Cd	115	1	0.09	0.09	ppb	79.87	3600	
118 Sn	115	1	-0.01	-0.01	ppb	397.93	3600	
121 Sb	115	1	0.10	0.10	ppb	28.08	3600	
137 Ba	115	1	21.38	21.38	ppb	11.90	3600	
205 Tl	165	1	0.13	0.13	ppb	29.89	3600	
208 Pb	165	1	0.06	0.06	ppb	15.55	3600	
232 Th	165	1	0.24	0.24	ppb	48.98	1000	
238 U	165	1	134.40	134.40	ppb	12.91	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	171385	9.10	292236	58.6	30 - 120	
45 Sc	1	962300	11.96	1039247	92.6	30 - 120	
72 Ge	1	386165	9.98	489054	79.0	30 - 120	
115 In	1	1122389	12.32	1483965	75.6	30 - 120	
165 Ho	1	1854977	12.59	2560350	72.5	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\301SMPL.D\301SMPL.D#
Date Acquired: Nov 3 2009 08:30 am
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: LM9GE
Misc Info: D9J240192
Vial Number: 4503
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 03 2009 07:10 am
Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	0.13	0.13	ppb	24.62	3600	
52 Cr	72	1	2.64	2.64	ppb	2.38	3600	
55 Mn	72	1	1.47	1.47	ppb	5.27	3600	
59 Co	72	1	0.02	0.02	ppb	35.68	3600	
60 Ni	72	1	0.04	0.04	ppb	83.73	3600	
63 Cu	72	1	0.38	0.38	ppb	6.69	3600	
66 Zn	72	1	0.32	0.32	ppb	2.48	3600	
75 As	72	1	0.12	0.12	ppb	10.18	3600	
78 Se	72	1	1.05	1.05	ppb	28.34	3600	
95 Mo	72	1	0.05	0.05	ppb	47.72	3600	
107 Ag	115	1	0.00	0.00	ppb	1.77	3600	
111 Cd	115	1	0.01	0.01	ppb	68.09	3600	
118 Sn	115	1	-0.07	-0.07	ppb	18.59	3600	
121 Sb	115	1	-0.01	-0.01	ppb	52.33	3600	
137 Ba	115	1	0.36	0.36	ppb	11.58	3600	
205 Tl	165	1	0.00	0.00	ppb	43.60	3600	
208 Pb	165	1	0.01	0.01	ppb	13.28	3600	
232 Th	165	1	0.01	0.01	ppb	34.74	1000	
238 U	165	1	0.06	0.06	ppb	6.47	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	226806	1.22	292236	77.6	30 - 120	
45 Sc	1	952752	2.30	1039247	91.7	30 - 120	
72 Ge	1	456139	0.42	489054	93.3	30 - 120	
115 In	1	1353658	0.82	1483965	91.2	30 - 120	
165 Ho	1	2234739	1.11	2560350	87.3	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\302 CCV.D\302 CCV.D#
Date Acquired: Nov 3 2009 08:33 am
Operator: TEL
Sample Name: CCV
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 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	54.06	ppb	1.86	50	108.1	90 - 110	
51 V	72	1	50.35	ppb	0.59	50	100.7	90 - 110	
52 Cr	72	1	50.76	ppb	0.86	50	101.5	90 - 110	
55 Mn	72	1	49.64	ppb	0.51	50	99.3	90 - 110	
59 Co	72	1	50.09	ppb	0.27	50	100.2	90 - 110	
60 Ni	72	1	50.88	ppb	0.97	50	101.8	90 - 110	
63 Cu	72	1	51.75	ppb	1.96	50	103.5	90 - 110	
66 Zn	72	1	50.05	ppb	0.79	50	100.1	90 - 110	
75 As	72	1	52.42	ppb	0.70	50	104.8	90 - 110	
78 Se	72	1	50.18	ppb	3.52	50	100.4	90 - 110	
95 Mo	72	1	51.03	ppb	1.54	50	102.1	90 - 110	
107 Ag	115	1	51.73	ppb	1.57	50	103.5	90 - 110	
111 Cd	115	1	51.90	ppb	1.52	50	103.8	90 - 110	
118 Sn	115	1	51.57	ppb	1.29	50	103.1	90 - 110	
121 Sb	115	1	51.87	ppb	0.64	50	103.7	90 - 110	
137 Ba	115	1	51.43	ppb	0.80	50	102.9	90 - 110	
205 Tl	165	1	50.03	ppb	1.78	50	100.1	90 - 110	
208 Pb	165	1	50.81	ppb	1.86	50	101.6	90 - 110	
232 Th	165	1	49.41	ppb	2.23	50	98.8	90 - 110	
238 U	165	1	49.77	ppb	1.48	50	99.5	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	226075	1.02	292236	77.4	30 - 120	
45 Sc	1	954421	0.95	1039247	91.8	30 - 120	
72 Ge	1	452407	0.42	489054	92.5	30 - 120	
115 In	1	1361739	0.29	1483965	91.8	30 - 120	
165 Ho	1	2280117	0.75	2560350	89.1	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\AG110209.B\271CALB.D\271CALB.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\AG110209.B\303 CCB.D\303 CCB.D#
Date Acquired: Nov 3 2009 08:35 am
Operator: TEL
Sample Name: CCB
Misc Info:
Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 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	
51 V	72	1	0.003	ppb	63.76	1.00	
52 Cr	72	1	0.303	ppb	3.97	1.00	
55 Mn	72	1	0.009	ppb	93.08	1.00	
59 Co	72	1	0.005	ppb	38.72	1.00	
60 Ni	72	1	-0.001	ppb	1911.40	1.00	
63 Cu	72	1	0.440	ppb	19.36	1.00	
66 Zn	72	1	-0.380	ppb	5.78	1.00	
75 As	72	1	0.001	ppb	1087.80	1.00	
78 Se	72	1	1.571	ppb	28.14	1.00	Fail
95 Mo	72	1	-0.069	ppb	18.60	1.00	
107 Ag	115	1	0.019	ppb	81.47	1.00	
111 Cd	115	1	0.022	ppb	25.68	1.00	
118 Sn	115	1	0.004	ppb	407.40	1.00	
121 Sb	115	1	0.205	ppb	0.56	1.00	
137 Ba	115	1	0.004	ppb	109.23	1.00	
205 Tl	165	1	0.020	ppb	6.56	1.00	
208 Pb	165	1	0.006	ppb	58.30	1.00	
232 Th	165	1	0.708	ppb	12.17	1.00	
238 U	165	1	0.021	ppb	23.13	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	221499	0.22	292236	75.8	30 - 120	
45 Sc	1	929452	0.65	1039247	89.4	30 - 120	
72 Ge	1	448045	0.37	489054	91.6	30 - 120	
115 In	1	1338200	0.85	1483965	90.2	30 - 120	
165 Ho	1	2251715	0.28	2560350	87.9	30 - 120	

ok

AS se only

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110209.B\271CALB.D\271CALB.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\AG110209.B\304WASH.D\304WASH.D#
Date Acquired: Nov 3 2009 08:38 am
Operator: TEL
Sample Name: RLCV
Misc Info:
Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 03 2009 07:10 am
Sample Type: WASH
Total Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.143 ppb	21.33	1.30	
51 V	72	1	5.056 ppb	0.52	6.50	
52 Cr	72	1	2.304 ppb	2.58	2.60	
55 Mn	72	1	1.034 ppb	3.46	1.30	
59 Co	72	1	1.036 ppb	5.87	1.30	
60 Ni	72	1	2.119 ppb	4.50	2.60	
63 Cu	72	1	2.611 ppb	1.08	2.60	
66 Zn	72	1	10.240 ppb	1.50	13.00	
75 As	72	1	5.327 ppb	1.05	6.50	
78 Se	72	1	6.255 ppb	10.18	6.50	
95 Mo	72	1	1.888 ppb	1.29	2.60	
107 Ag	115	1	5.520 ppb	4.86	6.50	
111 Cd	115	1	1.064 ppb	7.34	1.30	
118 Sn	115	1	10.740 ppb	2.41	13.00	
121 Sb	115	1	2.073 ppb	4.20	2.60	
137 Ba	115	1	1.096 ppb	7.72	1.30	
205 Tl	165	1	1.056 ppb	1.99	1.30	
208 Pb	165	1	1.056 ppb	0.94	1.30	
232 Th	165	1	2.288 ppb	2.78	2.60	
238 U	165	1	1.098 ppb	1.28	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	218439	1.39	292236	74.7	30 - 120	
45 Sc	1	894940	2.54	1039247	86.1	30 - 120	
72 Ge	1	434835	1.36	489054	88.9	30 - 120	
115 In	1	1305554	0.66	1483965	88.0	30 - 120	
165 Ho	1	2203121	1.43	2560350	86.0	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\AG110209.B\271CALB.D\271CALB.D#

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