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Total Number of Pages in this Package	987



TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Tronox LLC, Henderson

SDG: 8304641 Lots #: D9J270261, D9J270263, D9J280280, D9J280283, D9J290310, D9J300353, D9J300356, and D9J310138

Frank Hagar

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

TestAmerica Laboratories, Inc.

Michael P. Phillips

michael B. Whilly

Project Manager

November 12, 2009

Case Narrative SDG 8304641

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

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

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

Sample Receiving

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

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

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

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

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

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

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

Quality Control Definitions of Terms

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.
В	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
T20	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
10	on the client target analyte list.
IC	Diluted due to high inorganic chloride.

8304641 : D9J270261

	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
M-139B	10/26/09 12:55 001				
	Arsenic	190	25	ug/L	SW846 6020
	(Conting	ued on next	page)		

8304641 : D9J270263

:	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
M-145B	10/26/09 10:15 001				
	Arsenic	69	25	ug/L	SW846 6020
1	Selenium	4.0 B	25	ug/L	SW846 6020
	(Continu	od on novt	nage)		

(Continued on next page)

8304641 : D9J280280

PARAMETER		RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
M-146B 10/27/09 09:30 0	01				
Arsenic Selenium		280 9.0 B	25 25	ug/L ug/L	SW846 6020 SW846 6020
	(Continu	led on next	page)		

8304641 : D9J280283

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

(Continued on next page)

8304641 : D9J290310

	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
M-138E	3 10/28/09 11:15 001				
	Arsenic	350	25	ug/L	SW846 6020
M-1380	009B 10/28/09 11:15 002				
	Arsenic	340	25	ug/L	SW846 6020
M-138BDISS 10/28/09 11:15 003					
	Arsenic - DISSOLVED Selenium - DISSOLVED	340 2.4 B	10 10	ug/L ug/L	SW846 6020 SW846 6020
M-138009BDISS 10/28/09 11:15 004					
	Arsenic - DISSOLVED Selenium - DISSOLVED	330 2.4 B	10 10	ug/L ug/L	SW846 6020 SW846 6020

(Continued on next page)

8304641 : D9J300353

	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
M-137B	3 10/29/09 13:30 001				
	Arsenic Selenium	200 3.2 B	10 10	ug/L ug/L	SW846 6020 SW846 6020
M-137BDISS 10/29/09 13:30 002					
	Arsenic - DISSOLVED Selenium - DISSOLVED	190 2.2 B	5.0 5.0	ug/L ug/L	SW846 6020 SW846 6020

(Continued on next page)

8304641 : D9J300356

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

D9J310138

PARAMETER RESULT LIMIT UNITS METHOD METHOD

NO DETECTABLE PARAMETERS

METHODS SUMMARY

8304641

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
ICP-MS (6020) ICP-MS (6020)	SW846 6020 SW846 6020	SW846 3005A SW846 3020A

References:

SW846

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

METHOD / ANALYST SUMMARY

8304641

ANALYTICAL METHOD	ANALYST	ANALYST ID
SW846 6020	Luis Diaz	004729
SW846 6020	Luis Diaz	4729
SW846 6020	Thomas Lill	006929

References:

SW846

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

8304641 : D9J270261

 WO #
 SAMPLE#
 CLIENT SAMPLE ID
 SAMPLED DATE
 TIME

 LNC7F
 001
 M-139B
 10/26/09
 12:55

NOTE(S):

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

(Continued on next page)

8304641 : D9J270263

 WO #
 SAMPLE#
 CLIENT SAMPLE ID
 SAMPLED DATE
 TIME

 LNC7L
 001
 M-145B
 10/26/09
 10:15

NOTE(S):

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(Continued on next page)

8304641 : D9J280280

 WO #
 SAMPLE#
 CLIENT SAMPLE ID
 SAMPLED DATE
 TIME

 LNFGD
 001
 M-146B
 10/27/09
 09:30

NOTE(S):

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- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
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- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

8304641 : D9J280283

 WO #
 SAMPLE#
 CLIENT SAMPLE ID
 SAMPLED DATE
 TIME

 LNFG2
 001
 M-144B
 10/27/09
 12:25

NOTE(S):

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

(Continued on next page)

8304641 : D9J290310

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

NOTE(S):

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

(Continued on next page)

8304641 : D9J300353

WO # 2	SAMPLE:	CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME
LNLN9 LNLPF	001 002	M-137B M-137BDISS	10/29/09 13:30 10/29/09 13:30

NOTE(S):

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

(Continued on next page)

8304641 : D9J300356

 WO #
 SAMPLE#
 CLIENT SAMPLE ID
 SAMP DATE
 TIME

 LNLR4
 001
 M-148B
 10/29/09
 09:10

NOTE(S):

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

(Continued on next page)

8304641 : D9J310138

 WO #
 SAMPLE#
 CLIENT SAMPLE ID
 SAMPLED DATE
 SAMPLED TIME

 LNME4
 001
 EB103009-GWA4
 10/30/09
 11:10

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
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- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

D9J270261

Sample Preparation and Analysis Control Numbers

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

D9J270263

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	₩G	SW846 6020		9303185	9303114

D9J280280

Sample Preparation and Analysis Control Numbers

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

D9J280283

Sample Preparation and Analysis Control Numbers

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

D9J290310

Sample Preparation and Analysis Control Numbers

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

D9J300353

Sample Preparation and Analysis Control Numbers

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

D9J300356

Sample Preparation and Analysis Control Numbers

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

D9J310138

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WO	SW846 6020		9306276	9306166

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: <u>D9J270261</u>

Client: Northgate/Tronox

Method: <u>SW846 6020/Collision Cell</u>

Associated Samples: <u>001</u>

Total Metals Analysis COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

	COVER PAGE - INORO	GANIC ANAL	YSIS DATA PACKAGE		
Contract: N	orthgate Environmental Manageme	ent, Inc.		SDG No.:	D9J270261
Lab Code:	Case No.:		;	SAS No.:	
SOW No.:					
	Sample ID.	Lab	Sample No.		
	M-139B	D90	7270261-001	_	
	M-139B MS	D90	7270261-001S	_	
	M-139B MSD	<u>D93</u>	7270261-001SD	_	
Were ICP inte	relement corrections applied?			Yes/No	YES
Warra TOD hash				Vos /No	YES
	ground corrections applied? were raw data generated before			Yes/No	1111
	tion of background corrections?			Yes/No	NO
Comments:					
COMMICTION .					
***************************************	****				
	t this data package is in compliand				
	h technically and for completeness, se of the data contained in this ha				
submitted on	floppy diskette has been authorized				
verified by t	he following signature.				
	1 . ///				
Signature:	and toller	Name:	Janice Collins		
Date:	1/10/09	Title:	Metals Analyst		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-139B

Lot/SDG Number:

D9J270261

Lab Sample ID:

D9J270261-001

Matrix:

Unit:

WATER

Lab WorkOrder:

LNC7F

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/26/09 12:55

Basis:

Wet

Date/Time Received:

10/27/09 09:30

Analysis Method:

6020

Date Leached:

Instrument ID:

ug/L

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303185 <u>50 mL</u>

Date/Time Analyzed:

11/08/09 02:44 024

Sample Aliquot: **Dilution Factor:**

<u>5</u>

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

Total Metals Analysis -2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental N	Management,	Inc.			
Lab Code:	Case	No.:		SAS No.:	Patron	SDG NO.:	D9J270261
Initial Cal	libration Source:	High Purity					
Continuing Calibration Source:			Inorganic Ventures				

Concentration Units: ug/L

	Initial Ca	alibration		Contin					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.9	101.8	М
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.0	102.0	М

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Manage	ement, Inc.	
Lab Code: Case No.:	SAS No.:	SDG NO.: D9J270261
Initial Calibration Source: High Purity		
Continuing Calibration Source: Inorgan	ic Ventures	

Concentration Units: ug/L

	Initial	Calibration		Contin	uing Calib	ration			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic				50.0	51.0	102.0	50.	2 100.4	М
Selenium				50.0	49.4	98.8	52.	9 105.8	M

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	nenta	Management, Inc	·		
Lab Code:	Case	No.:	SAS	No.:	SDG NO.:	D9J270261
Initial Cal	ibration Source:	High	Purity			
Continuing	Calibration Source:		Inorganic Ventur	es		

Concentration Units: ug/L

	Initial	Calibration		Continuing Calibration							
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м		
Arsenic	ĺ			50.0	50.6	101.2	50	.3 100.6	М		
Selenium				50.0	51.9	103.8	50	.7 101.4	М		

(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 Env	ironmental Man	agement, Inc.		
Lab Code:		Case No.:	SAS No.:	 SDG No.:	D9J270261
AA CRDL Sta	ndard Source:				
ICP CRDL St	andard Source:	Inorganic	Ventures		

Concentration Units: ug/L

	CRDL St	andard for AA			Init	CRDL Standar ial	d for I	CP Final	
Analyte	True	Found	%R		True	Found	%R	Found	%R
Arsenic				П	1.00	1.009	100.9	- 1	
Selenium				П	1.00	0.851	85.1	· · · · · · · · · · · · · · · · · · ·	i



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lot/SDG Number:

D9J270261

Lab Sample ID:

D9J300000-185B

Matrix:

WATER

Lab WorkOrder:

LNJNV

% Moisture:

Date/Time Collected:

Basis:

<u>Wet</u>

Date/Time Received:

Analysis Method:

6020

Date Leached:

Unit:

ug/L

<u>50 mL</u>

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303185

Date/Time Analyzed: **Instrument ID:**

11/08/09 02:39 024

Sample Aliquot: **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

-3-

BLANKS

Contract:	Northgate Environmental N	Management, Inc.			
Lab Code:	Case No.:	SAS No.:		SDG NO.:	D9J270261
Preparation	Blank Matrix (soil/water):	WATER			
Preparation	Blank Concentration Units	(ug/L or mg/kg):	UG/L		

	Initial Calib. Blank			Continuing Calibration Blank (ug/L)								
Analyte	(ug/L)	c	1	С	2	С	3	С		C	١	М
Arsenic	0.210	<u>ט</u>	0.210	ן ט	0.210	ן ט	0.210	ט	0.21	Ü	Ť	М
Selenium	0.700	U	0.700	ַ	0.700	ט	0.700	ט	0.70	Ū		М

-3-

BLANKS

Contract:	Northgate Environmental	Management, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO	D9J270261
Preparation	Blank Matrix (soil/water):	WATER		
Preparation	Blank Concentration Units	(ug/L or mg/kg):	UG/L	

	Initial Calib. Blank			Con	tinuing Ca Blank (ug		tion		Preparation Blank		
Analyte	(ug/L)	С	1	С	2	С	3	c		С	М
Arsenic	l		0.210	ן ט	0.210	ן ט ן	0.210	ט		ī	M
Selenium	1		0.700	וטן	0.700	ט	0.700	Ū		Ī	M

-4-

ICP INTERFERENCE CHECK SAMPLE

Con	tract:	Northgate E	nvironmental	Management,	Inc.				
Lab	Code:		Case No.:	·	SAS No.:	the Maria Control of the Control of	SDG NO.:	D9J270261	_
ICP	ID Numb	er: Agilent	7500			ICS Source:	Inorgan	ic Ventures	

Concentration	Units) :	ug/L
---------------	-------	------------	------

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



Northgate Environmental Management, Inc. Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

<u>M-139B</u>

Lot/SDG Number:

D9J270261

MS Lab Sample ID:

D9J270261-001S

Matrix:

WATER

MS Lab WorkOrder:

LNC7F

% Moisture:

N/A

voi korder.

10/26/09 12:55

Basis:

Wet

Date/Time Collected:
Date/Time Received:

10/27/09 09:30

Analysis Method:

6020

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/02/09 14:30 11/08/09 02:53

QC Batch ID:

<u>9303185</u>

Date/Time Analyzed: Instrument ID:

024

MS Sample Aliquot: MS Dilution Factor:

<u>50 mL</u> <u>5</u>

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



Northgate Environmental Management, Inc. Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

<u>M-139B</u>

Lot/SDG Number:

D9J270261

MSD Lab Sample ID:

D9J270261-001D

Matrix:

WATER

MSD Lab WorkOrder:

LNC7F

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/26/09 12:55

Basis:

Unit:

Wet

Date/Time Received:

10/27/09 09:30

Analysis Method:

<u>6020</u>

Date Leached:

11/02/09 14:30

QC Batch ID:

ug/L 9303185 Date/Time Extracted:
Date/Time Analyzed:

11/08/09 03:04

MSD Sample Aliquot:

50 mL

Instrument ID:

024

MSD Dilution Factor:

5

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

Total Metals Analysis -5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

Contract:	Northgate	Environmental	Management,	Inc.		M-139B F	PDS	
Lab Code:		Case No.:		SAS No.:		SDG NO.:	D9J270261	
Matrix (so	il/water):	WATER			Level	(low/med):	LOW	

Concentration Units:

ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added(SA)	%R	Q	М
Arsenic	75 - 125	232.300		38.140	1	200.00	97.1		M
Selenium	75 - 125	204.200		0.700 U	7	200.00	102.1		М



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9J300000-185C

Lot/SDG Number:

D9J270261

Lab Sample ID:

Matrix:

WATER

Lab WorkOrder:

<u>LNJNV</u>

% Moisture:

<u>N/A</u>

Date/Time Collected:

Basis:

<u>Wet</u>

Date/Time Received:

Analysis Method:

<u>6020</u>

Date Leached:

11/02/09 14:30

Unit:

ug/L

<u>50 mL</u>

Date/Time Extracted:

QC Batch ID:

9303185

Date/Time Analyzed:

11/08/09 02:42

Sample Aliquot: **Dilution Factor:**

1

Instrument ID:

024

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

-9-

ICP SERIAL DILUTIONS

SA	MP	LE	NO	

			M-139B	SER
Contract: Northgate En	nvironmental Management,	Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J270261
Matrix (soil/water): WA	ATER	L	evel (low/med):	LOW

Concentration Units:

ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S)	C	% Differ- ence	Q	м
Arsenic	38.140		37.570	1.5		М
Selenium	0.700 및		3.500 ប			М

-10-

DETECTION LIMITS

Contract: Nort	chgate Environmental Mana	gement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J270261
ICP ID Number:	Agilent 7500	Date: 4/23/2009		
Flame AA ID Numb	oer:			
Furnace AA ID Nu	umber:			

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

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ICP LINEAR RANGES (QUARTERLY)

Contract:	Northgate Env	ironmental	Management,	, Inc.			
Lab Code:	***************************************	Case No.:		SAS No.:		SDG NO.:	D9J270261
ICP ID Num	ber: Agilent	7500		Date:	10/1/2009		

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

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PREPARATION LOG

Contract:	Northgate	Environmental	Management,	Inc.			
Lab Code:		Case No.:		SAS No.:	 SDG NO.:	D9J270261	
Method:	MS	;	Prep Method:				

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

Comments:

50

ANALYSIS RUN LOG

Contract:	Northgate	Environmental	Management,	Inc.

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

Instrument ID Number: Agilent 7500 Method: M

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

tart Date: 11/7	72009												_			 			_							_
Sample ID.	D/F	Time	% R	A	S B	A S	В	B E	C D	C A	C R	C O		Ana F E		 М	H G	N I	ĸ	S E	A G	N A	T	v	z N	
CAL BLANK	1.00	15:09				x														х					•	F
100 PPB		15:12				х														х						İ
ICV		15:15				х														х				i		r
ICB		15:20				х														х						İ
RL STD		15:23				х														x						İ
ICSA	·	15:31				х														х						Ť
ICSAB		15:34				х														х						Ť
RINSE		15:37				х														х						İ
LR1		15:40				х														х						T
RINSE		15:42				х						Г								х						Ť
CCV	1.00	15:45				х														х						İ
ССВ		15:48				х														х						İ
CCV	1.00	19:25				х						-	Г							х						Ť
ССВ		19:28				х														х						İ
ICSA		19:33				х														х						İ
ICSAB		19:36		一		х														х						Ì
WASH		19:39		T		х														х					Г	İ
CCV		19:41		 		х														х						Ì
ССВ		19:44		T		х	_			İ										х						İ
CAL BLANK	1.00	02:25				х				Τ	Г									х						Ť
100 PPB	1.00	02:28		┪		х			Γ	İ										х						Ì
CCV	1.00	02:31				х														х						Ť
ССВ		02:33				х				İ										х	Г					Ť
MB9303185		02:39		T		х												İ		х						İ
Check Sample	1.00	02:42		T		х				İ					Г			Г	Γ	х						İ
M-139B		02:44		T		х				İ										х						Ť
M-139B SER	25.00	02:47				х														х						Ī
M-139B PDS	1.00	02:50				х						Π								х						Ī
M-139B MS	5.00	02:53				х														х						Ī
ccv	1.00	02:56				х														х						Ī
ССВ	1.00	02:58				х														х						Ī
M-139B MSD	5.00	03:04				х														х						Ī
ccv	1.00	03:21				ж														х					Г	T

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

CCB

Total Metals Analysis

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ANALYSIS RUN LOG

Contract:	Northgate	Envir	onmenta	1 Mana	gement,	Inc.															
Lab Code:			Case	No.:		SA	S No.	:				S	DG 1	·	<u>D</u> :	9J2	70	261	L_		
Instrument	ID Number:	Agil	ent 750	0 .		Me	thod:	:	M		·										
Start Date:	11/7/20	09				En	d Dat	e:	11	1/8/	200	9									
										Ana	lyte	s									
Samp ID	1	D/F	Time	% R	ASA		C C		CC							A				Z	

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

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: <u>D9J270263</u>

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: <u>001</u>

TestAmerica 53

Total Metals Analysis COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

	COVER PAGE - INORGA	ANIC ANAI	LYSIS DATA PACKAGE		
Contract: 1	Northgate Environmental Management	t, Inc.	SDG M	·	D9J270263
Lab Code:	Case No.:		SAS N	10.:	
SOW No.:	The beautiful and the party of the state of				
	Sample ID.	Lat	Sample No.		
	M-145B	<u>D9</u>	J270263-001		
Were ICP inte	erelement corrections applied?		Yes	/No	YES
Were ICP back	ground corrections applied?		Yes	/No	YES
If yes-	were raw data generated before				
applica	ation of background corrections?		Yes	/No	NO
Comments:					
	W-1				
	at this data package is in compliance				
above. Relea	th technically and for completeness, asset of the data contained in this hard	dcopy data	a package and in the comp	uter-	
	floppy diskette has been authorized the following signature.	by the Lal	ooratory Manager or the M	anage	er's designee, as
	1				
Signature:	11 10109	Name:	Janice Collins		
<i>J</i>					
pate: /	11 10107	Title:	Metals Analyst		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-145B

Lot/SDG Number:

D9J270263

Lab Sample ID:

D9J270263-001

Matrix:

Unit:

WATER

Lab WorkOrder:

LNC7L

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/26/09 10:15

Basis:

<u>Wet</u>

Date/Time Received:

10/27/09 09:30

Analysis Method:

6020 ug/L Date Leached:
Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303185

Date/Time Analyzed:

11/08/09 03:07

Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

Dilution Factor:

<u>5</u>

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

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Management,	Inc.		
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J270263
Initial Cal	ibration Source:	High Purity	***		
Continuing	Calibration Source:	Inorganic Ver	ntures		

Concentration Units: ug/L

	Initial (Calibration		Continuing Calibration							
Analyte	True	Found %	R(1)	True	Found	%R(1)	Found	%R(1)	м		
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.	9 101.8	М		
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.	0 102.0	M		

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	nenta:	l Management,	Inc.			
Lab Code:	Case	No.:		SAS No.:		SDG NO.:	D9J270263
Initial Cal	ibration Source:	High	Purity		,		
Continuing	Calibration Source:		Inorganic Ver	ntures			

Concentration Units: ug/L

	Initial		Contin	nuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic				50.0	51.0	102.0	50	.2 100.4	M
Selenium				50.0	49.4	98.8	52	.9 105.8	М

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental	Management,	Inc.		
Lab Code:	Case	No.:	***	SAS No.:	 SDG NO.:	D9J270263
Initial Cal	ibration Source:	High F	urity		<u></u>	
Continuing	Calibration Source:	I	norganic Ver	ntures		

Concentration Units: ug/L

	Initial Calibration				nuing Calibration				
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic	İ]		50.0	50.6	101.2	50.	3 100.6	М
Selenium				50.0	51.9	103.8	50.	7 101.4	М

⁽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 En	vironmental Manag	gement, Inc.		
Lab Code:		Case No.:	SAS No.:	SDG No.:	D9J270263
AA CRDL Sta	andard Source:				
ICP CRDL S	tandard Source:	Inorganic V	entures		
		· · · · · · · · · · · · · · · · · · ·			

Concentration Units: ug/L

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9J300000-185B

Lot/SDG Number:

D9J270263

Lab Sample ID:

Matrix:

Unit:

WATER

Lab WorkOrder:

LNJNV

% Moisture:

Wet

Date/Time Collected:

Basis:

Date/Time Received:

Analysis Method:

6020

Date Leached:

11/02/09 14:30

QC Batch ID:

ug/L

Date/Time Extracted: Date/Time Analyzed:

11/08/09 02:39

Sample Aliquot:

9303185 <u>50 mL</u>

Instrument ID:

<u>024</u>

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

-3-

BLANKS

Contract:	Northgate Environmental	Management, Inc.			
Lab Code:	Case No.:	SAS No.:		SDG NO.:	D9J270263
Preparation	Blank Matrix (soil/water):	WATER			
Preparation	Blank Concentration Units	(ug/L or mg/kg):	UG/L		

	Initial Calib. Blank			C	ontinuing Cal Blank (ug/		ration		Preparation Blank			
Analyte	(ug/L)	C	1	С	2	С	3	С		С		M
Arsenic	0.210	ט	0.210	[ט	0.210	ט	0.210	υ	0.21	Ū	Π	M
Selenium	0.700	ט	0.700	ט	0.700	ט	0.700	υ	0.70	υ	П	M

-3-

BLANKS

Lab Code: Preparation Blank Matr	Environmental Mai	nagement, Inc.			
_	Case No.:	SAS No.:	·	SDG NO.:	D9J270263
	rix (soil/water):	WATER			
Preparation Blank Con-	centration Units (ug	g/L or mg/kg):	UG/L		

Analyte	Initial Calib. Blank			Cor	ntinuing Cal Blank (ug/		ation		Preparation Blank			
Analyte	(ug/L)	С	1	C	2	C	3	c		C		M
Arsenic		l i	0.210	ן ט	0.210	ן ט	0.210	U			М	ī
Selenium			0.700	[ט	0.700	ט	0.700	ט		1	М	1

4-

ICP INTERFERENCE CHECK SAMPLE

Contract:	Northgate	Environmental	Management, I	nc.			
Lab Code:		Case No.:	SA	AS No.:		SDG NO.:	D9J270263
ICP ID Num	ber: Agiler	nt 7500		ICs	Source:	Inorgan	ic Ventures

Concentration Units): ug/L

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J270263

MS Lab Sample ID:

D9J270261-001S

Matrix:

WATER

MS Lab WorkOrder:

LNC7F

% Moisture:

N/A

Date/Time Collected:

10/26/09 12:55

Basis:

Unit:

<u>Wet</u>

Date/Time Received:

10/27/09 09:30

Analysis Method:

6020 ug/L Date Leached: Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

Date/Time Analyzed:

11/08/09 02:53

MS Sample Aliquot:

9303185 <u>50 mL</u>

Instrument ID:

<u>024</u>

MS Dilution Factor:

<u>5</u>

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J270263

MSD Lab Sample ID:

D9J270261-001D

Matrix:

Unit:

WATER

MSD Lab WorkOrder:

LNC7F

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/26/09 12:55

Basis:

<u>Wet</u>

Date/Time Received:

10/27/09 09:30

Analysis Method:

<u>6020</u>

Date Leached: **Date/Time Extracted:**

11/02/09 14:30

QC Batch ID:

ug/L

Date/Time Analyzed:

11/08/09 03:04

9303185 <u>50 mL</u>

MSD Sample Aliquot: **MSD Dilution Factor:**

Instrument ID:

<u>024</u>

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

Lab Code:

Total Metals Analysis -5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

INTRA-LA	B QC	PDS	
SDG NO .	TOQ.T	270263	

Contract: Northgate Environmental Management, Inc.

Case No.: SAS No.:

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	2 M
Arsenic	75 - 125	232.300	38.140	200.00	97.1	М
Selenium	75 - 125	204.200	0.700 U	200.00	102.1	М

Comments:		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9J300000-185C

Lot/SDG Number:

D9J270263

Lab Sample ID:

D91300000-1631

Matrix:

WATER

 ${\bf Lab\ WorkOrder:}$

LNJNV

% Moisture:

N/A

Date/Time Collected:

Basis:

Wet

Date/Time Received:

Analysis Method:

6020

Date Leached:

11/02/09 14:30

Unit:

ug/L

Date/Time Extracted:

<u>11/02/09 14:30</u> <u>11/08/09 02:42</u>

QC Batch ID: Sample Aliquot: 9303185 50 mL

Date/Time Analyzed: Instrument ID:

024

Dilution Factor:

1

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

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ICP SERIAL DILUTIONS

SAMPLE NO.

Contract:	Northgate	Environmental Manager	ment Inc		INTRA-LAB	QC SER	
Lab Code:		Case No.:	SAS No.:		SDG NO.:	D9J270263	
Matrix (so	il/water):	WATER		Level	(low/med):	LOW	
		Concentration Un	ug/L				
			Comical Diluti		%	-	

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S)	c	% - Differ- ence	Q	м
Arsenic	38.140		37.570	1.5		М
Selenium	0.700 [만		3.500 ប			М

-10-

DETECTION LIMITS

Contract:	Northgate Enviro	nmental Management,	Inc.			
Lab Code:	Cas	e No.:	SAS No.:		SDG NO.:	D9J270263
ICP ID Num	ber: Agilent 750	00	Date:	4/23/2009		
Flame AA II	Number:					
Furnace AA	ID Number:					

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

-12-

ICP LINEAR RANGES (QUARTERLY)

Contract:	Northgate Env	ironmental	Management,	Inc.			
Lab Code:		Case No.:	s	SAS No.:		SDG NO.:	D9J270263
ICP ID Numb	er: Agilent	7500		Date:	10/1/2009		

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

-13-

PREPARATION LOG

Contract:	<u>Northgate</u>	Environmental	Management,	Inc.			
Lab Code:	-	Case No.:		SAS No.:	SDG NO.:	D9J270263	
Method:	MS	1	Prep Method:		 		

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

ANALYSIS RUN LOG

Contract:	Northgate I	Environmental Management,	Inc.			
Lab Code:		Case No.:	SAS No.:		SDG No.:	D9J270263
Instrument	ID Number:	Agilent 7500	Method:	М		

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

				T										 					-							
Sample ID.	D/F	Time	% R		S B	A S	В	B E	C D	C A	C R	C O	С	P	M G	М	H G	N I	K	S E	A G	N A	T L	v	z N	
CAL BLANK	1.00	15:09				х														х						t
100 PPB	1.00	15:12				х			Т											Х						Ť
ICV	1.00	15:15				х														х						Ì
ICB	1.00	15:20				х														х						Ì
RL STD	1.00	15:23				х														х		П		-		Ì
ICSA	1.00	15:31				х														х						Ì
ICSAB	1.00	15:34				х														х			Π			İ
RINSE	1.00	15:37				х														х						İ
LR1	1.00	15:40				х														х					Г	Ì
RINSE	1.00	15:42				х														х						Ī
ccv	1.00	15:45				х													П	х						1
ССВ	1.00	15:48				х														х						Ī
CCV	1.00	19:25				х														х						
ССВ	1.00	19:28				х														х						1
ICSA	1.00	19:33	:			х														х						1
ICSAB	1.00	19:36				х														х						
WASH	1.00	19:39				х														х						
ccv	1.00	19:41				х														x						
ССВ	1.00	19:44				х														х						
CAL BLANK	1.00	02:25				x														х						
100 PPB	1.00	02:28				x														х						Ī
ccv	1.00	02:31				х														X						Ī
ССВ	1.00	02:33				x														х						Ī
MB9303185	1.00	02:39				х														х						1
Check Sample	1.00	02:42				х														x						1
INTRA-LAB QC	5.00	02:44				x														X						1
INTRA-LAB QC SER	25.00	02:47				х														Х						1
INTRA-LAB QC PDS	1.00	02:50				x														х						
LAB MS/MSD MS	5.00	02:53				x														х						
CCV	1.00	02:56				х														х						
ССВ	1.00	02:58				х														х						
LAB MS/MSD MSD	5.00	03:04				х														х						
M-145B		03:07				х														х						

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

ANALYSIS RUN LOG

Contract: Northgat	e Enviro	nmenta	1 Mana	ge	mer	t,	Ir	œ.																	
Lab Code:		Case	No.:					SA	.S 1	No.	:						SDG	No).:	D	9Ј	27	026	63	_
Instrument ID Number:	Agile	nt 750	0				_	Me	th	ođ:		M	I .												
Start Date: 11/7/2	009							En	d I	ate	9:		11/	8/2	200	9									
		1	1										A	nal	yte	s									
Sample ID.	D/F	Time	% R	A L		A S	B A	B E	C D		- 1	- 1	C I		P M B G	1	H G	N	I i	S E		N A	T L		 C N
ccv	1.00	03:21				х														х					
CCB	1.00	03:23		1		х							T	Т	Т	Т	T	Π		х					

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

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: <u>D9J280280</u>

Client: Northgate/Tronox

Method: <u>SW846 6020/Collision Cell</u>

Associated Samples: <u>001</u>

Total Metals Analysis COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

	COVER PAGE - INOR	GANIC ANAL	YSIS DATA PACKAGE	
Contract:	Northgate Environmental Manageme	ent, Inc.	SDG No.	: D9J280280
Lab Code:	Case No.:		SAS No.	:
SOW No.:				
	Sample ID.	Lab	Sample No.	
	M-146B	<u>D93</u>	7280280-001	
Were ICP int	erelement corrections applied?		Yes/No	YES
	kground corrections applied?		Yes/No	YES
	-were raw data generated before ation of background corrections?		Yes/No	NO
Comments:				
				
	at this data package is in complian		_	
above. Relea	th technically and for completeness ase of the data contained in this h	ardcopy data	a package and in the compute	er-readable data
	floppy diskette has been authorize the following signature.	d by the Lak	ooratory Manager or the Mana	ager's designee, as
<i>I</i>			Tanina Gallina	
signature:	1/10/09	Name:	Janice Collins	
Date: //	1/10/09	Title:	Metals Analyst	



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

<u>M-146B</u>

Lot/SDG Number:

D9J280280

Lab Sample ID:

D9J280280-001

Matrix:

Unit:

<u>WATER</u>

Lab WorkOrder:

LNFGD

% Moisture:

N/A

Date/Time Collected:

10/27/09 09:30

Basis:

<u>Wet</u>

Date/Time Received:

10/28/09 10:00

Analysis Method:

6020 ug/L Date Leached: Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

Date/Time Analyzed:

11/08/09 03:09

Sample Aliquot:

9303185 <u>50 mL</u>

Instrument ID:

024

Dilution Factor:

<u>5</u>

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Continuing	Calibration Source:	Inorganic	Ventures			
		High Purity				-
Lab Code:	Case	No.:	SAS No.:	 SDG NO.:	D9J280280	
Contract:	Northgate Environ	mental Managem	ent, Inc.			

	Initial Ca	libration		Contin	uing Calib	ration			Π
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50	9 101.8	l м
Selenium	40.0	39.0	97.5	50.0		102.6		0 102.0	

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Managemer	nt, Inc.		
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J280280
Initial Cal	ibration Source:	High Purity		 	
Continuing	Calibration Source:	Inorganic	Ventures		

	Initial	Calibration		Contin	uing Calib	ration			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic				50.0	51.0	102.0	50.	2 100.4	М
Selenium				50.0	49.4	98.8	52.	9 105.8	М

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

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Management,	Inc.		
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J280280
Initial Cal:	ibration Source:	High Purity			
Continuing	Calibration Source:	Inorganic Ver	ntures		

Concentration Units: ug/L

	Initial	Calibration		Contin	uing Calibr	ation			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic	ĺ			50.0	50.6	101.2	50.3	100.6	М
Selenium	I			50.0	51.9	103.8	50.7	101.4	M

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

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

Contract:	Northgate En	vironmental	Management,	Inc.		
Lab Code:	Control of the Contro	Case No.: _	SA	S No.:	SDG No.:	D9J280280
AA CRDL Sta	ndard Source:					
ICP CRDL St	andard Source:	Inorga	nic Ventures			

	CRDL St	CRDL Standard for AA			Init	CRDL Standar ial	d for I	for ICP Final		
Analyte	True	Found	%R	$\ \ $	True	Found	%R	Found	%R	
Arsenic				П	1.00	1.009	100.9			
Selenium	1			П	1.00	0.851	85.1			



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lot/SDG Number:

D9J280280

Lab Sample ID:

D9J300000-185B

Matrix:

Basis:

WATER

Lab WorkOrder:

LNJNV

% Moisture:

<u>Wet</u>

Date/Time Collected: Date/Time Received:

Analysis Method:

<u>6020</u>

Date Leached:

11/02/09 14:30

Unit: QC Batch ID: ug/L

Date/Time Extracted: Date/Time Analyzed:

11/08/09 02:39

Sample Aliquot:

9303185 <u>50 mL</u>

Instrument ID:

<u>024</u>

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	Ū

-3-

BLANKS

Contract:	Northgate Environmental M	Management, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J280280
Preparation	Blank Matrix (soil/water):	WATER		
Preparation	Blank Concentration Units	(ug/L or mg/kg):	UG/L	

			Preparation Blank									
Analyte	(ug/L)	c	1	С	2	С	3	С		С		М
Arsenic	0.210	ט	0.210	ט	0.210	ט	0.210	บ	0.21	Ū	П	M
Selenium	0.700	ט	0.700	Ū	0.700	ט	0.700	ט	0.70	U	Ц	M

-3-

BLANKS

Contract:	Northgate E	nvironmental	Management,	Inc.			
Lab Code:		Case No.: _		SAS No.:		SDG NO.:	D9J280280
Preparation	Blank Matrix	(soil/water):	WA	TER			
Preparation	Blank Concer	tration Units	(ug/L or mg/k	g):	UG/L		

	Initial Calib. Blank			C	Preparation Blank							
Analyte	(ug/L)	С	1	С	2	C	3	С		C		М
Arsenic	i		0.210	ט	0.210	ט	0.210	U			Ш	М
Selenium	l		0.700	ַ	0.700	บ	0.700	Ū				M

4-

ICP INTERFERENCE CHECK SAMPLE

Contract:	Northgate Ei	vironmental	management,	Inc.				
Lab Code:		Case No.:		SAS No.:		SDG NO.:	D9J280280	
ICP ID Numb	er: Agilent	7500			ICS Source:	Inorgan	ic Ventures	

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J280280

MS Lab Sample ID:

D9J270261-001S

Matrix:

Unit:

WATER

MS Lab WorkOrder:

LNC7F

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/26/09 12:55

Basis:

Wet

Date/Time Received:

10/27/09 09:30

Analysis Method:

<u>6020</u> ug/L

Date Leached:

11/02/09 14:30

QC Batch ID:

<u>50 mL</u>

Date/Time Extracted: Date/Time Analyzed:

11/08/09 02:53

9303185

Instrument ID:

<u>024</u>

MS Sample Aliquot: **MS Dilution Factor:**

<u>5</u>

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



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J280280

MSD Lab Sample ID:

D9J270261-001D

Matrix:

WATER

MSD Lab WorkOrder:

LNC7F

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/26/09 12:55

Basis:

Unit:

<u>Wet</u>

Date/Time Received:

10/27/09 09:30

Analysis Method:

6020 ug/L

Date Leached: Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

Date/Time Analyzed:

11/08/09 03:04

9303185

MSD Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

MSD Dilution Factor:

	Spike Sample			MSD		0/2	_			QC Limits	
Analyte	Amount	Result	C	Result	$ \mathbf{c} $	% Rec	Q	RPD	Q	% Rec	RPD
Arsenic	40.0	190		236	MSB	113		0.46		85 - 117	20
Selenium	40.0	3.5	U	42.4		101		3.3		77 - 122	20

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

INTRA-LAB	QC	PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: Case No.:

SAS No.:

SDG NO.: D9J280280

Matrix (soil/water):

WATER

Level (low/med):

LOW

Concentration Units:

ug/L

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9J300000-185C

Lot/SDG Number:

D9J280280

Lab Sample ID:

Matrix:

WATER

Lab WorkOrder:

LNJNV

% Moisture:

N/A

Date/Time Collected:

Basis:

Wet

Date/Time Received:

Analysis Method:

<u>6020</u>

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303185

Date/Time Analyzed:

11/08/09 02:42

Sample Aliquot:

Dilution Factor:

<u>50 mL</u> 1

Instrument ID:

<u>024</u>

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

-9-

ICP SERIAL DILUTIONS

SAMPLE	NO.
--------	-----

			nt, Inc.	Environmental Manage	Northgate	Contract: No:	
.: D9J280280	SDG NO.:		SAS No.:	Case No.:		Lab Code:	
TOM	(low/med):	Level		WATER	il/water):	Matrix (soi	
	(low/med):	Level		WATER	il/water):	Matrix (soi	

Concentration Units:

ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S)	c	% - Differ- ence	Q	м
Arsenic	38.140		37.570	1.5		М
Selenium	0.700 U		3.500 U			М

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DETECTION LIMITS

Contract:	Northgate Environmental Manag	ement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J280280
ICP ID Numb	ber: Agilent 7500	Date: 4/23/2009		
Flame AA ID	Number:			
Furnace AA	ID Number:			

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

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ICP LINEAR RANGES (QUARTERLY)

Con	tract:	Northgate E	Environmental	Management, Inc.				
Lab	Code:		Case No.:	SAS No.:		SDG NO.:	D9J280280	
ICP	ID Numb	er: Agile	ent 7500	Date:	10/1/2009			

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

Comments:	

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PREPARATION LOG

Contract:	Northgate	Environmental	Management,	Inc.		
Lab Code:		Case No.:		SAS No.:	 SDG NO.:	D9J280280
Method:	MS	:	Prep Method:			

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

ANALYSIS RUN LOG

Contract:	Nortngate	Environmental Management,	Inc.				
Lab Code:		Case No.:	SAS No.:		SDG No.:	D9J280280	
Instrument	ID Number:	Agilent 7500	Method:	M			

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

tart Date: 11/7/	2009							En	d I	Dat	e:			/ 0	/20					-							
			1											Ana	ly	es	;										
Sample ID.	D/F	Time	% R	A	S B	A S		B E	C D	C A	C R	C 0	r C	F E		M G	M N	H G	I	K	S	A G	N A	T L	v	z N	
CAL BLANK	1.00	15:09				х															x						
100 PPB	1.00	15:12				х															x						
ICV	1.00	15:15				х															х						Γ
ICB	1.00	15:20				х															x						Γ
RL STD	1.00	15:23		Г		х															х						Γ
ICSA	1.00	15:31				х															х						Γ
ICSAB	1.00	15:34				х															х						Τ
RINSE	1.00	15:37				х															х						Τ
LR1	1.00	15:40	1			х		Г													х						T
RINSE	1.00	15:42				х															х						Γ
ccv	1.00	15:45				х						Π									х						Γ
ССВ	1.00	15:48				х						Γ									х						T
ccv	1.00	19:25	1			х															х	Γ				Γ	T
ССВ	1.00	19:28				х			İ	Ī											х						Ť
ICSA	1.00	19:33				х			İ	İ											x					Г	T
ICSAB	1.00	19:36				х			İ	İ		İ									х		Г			Г	T
WASH	1.00	19:39				х															х					Γ	T
ccv	1.00	19:41				х			İ		Γ										х						T
ССВ	1.00	19:44				х		Г	Ī		Г		Γ								х						T
CAL BLANK	1.00	02:25				х		Г		Т		Γ									х						T
100 PPB	1.00	02:28				х		Г		П											х					Γ	T
ccv	1.00	02:31		1		х		T	Ť	Ì											х				Π		T
ССВ	1.00	02:33		T		х		Т	T				T	İ							х		Ī			Π	Ť
MB9303185	1.00	02:39		T		х			İ	İ			Ī	Ī							х					Т	T
Check Sample	1.00	02:42		T		х			İ	İ	İ	T	T	İ							х		İ		İ	T	Ť
INTRA-LAB QC	5.00	02:44		 		х			İ	İ		T	İ	T							х		Ī	Г		T	Ť
INTRA-LAB QC SER		02:47				х		Г		İ		T									х	Г	İ		İ	Ť	Ť
INTRA-LAB QC PDS		02:50				х	T		İ	Ī		T	Ī	Ī							х	Π				Γ	T
LAB MS/MSD MS	5.00	02:53				х		T	Ĺ	Ī		Τ	Ī								х					Γ	T
ccv	1.00	02:56		T		х		T	Í	Г		T	Г	Ť							х					Π	T
ССВ		02:58		T		х			Ī	Ť	Г	İ	Ī	Ī							х					Г	T
LAB MS/MSD MSD	5.00	03:04		T		х	T			Г		Т	Ī	Г							х					Π	T
M-146B	5.00	03:09		T	-	х	T		İ	İ		T	Ī	T			П				х			Г		Т	T

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

ANALYSIS RUN LOG

Contract: North	gate Enviro	nmenta	1 Mana	ger	mer	ıt,	Ir	nc.																			
Lab Code:		Case	No.:				_	SA	S I	No.	:			٠		-	S	ЭG	No	· . :	Ī	9J	28	028	80		_
Instrument ID Numb	er: <u>Agile</u>	nt 750	0				_	Me	th	ođ:		ľ	1		_												
Start Date: 11/7	//2009							En	đ I	Date	e:		11/	/8/	/20	09)			_							
	1	1											A	na	1yt	es	3						-				
Sample	D/F	Time	% R	A	S	A	В	В	С	С	С	С	c	F	Р	M	M	н	N	K	s	A	N	Т	v	Z	С
ID.				L	В	s	A	E	D	A	R	0	ט	E	В	G	N	G	I		E	G	A	L		N	N
ccv	1.00	03:21				х															x						
ССВ	1.00	03:23				х															х						i

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

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: <u>D9J280283</u>

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: <u>001</u>

TestAmerica 95

Total Metals Analysis COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

	COVER PAGE - INOR	GANIC ANAL	YSIS DATA PACKAC	EE	
Contract: Non	rthgate Environmental Manageme	ent, Inc.		SDG No.:	D9J280283
Lab Code:	Case No.:			SAS No.:	
SOW No.:					
				· .	
	Sample ID.	Lab	Sample No.		
	M-144B	D9J	280283-001		
Were TCD intere	element corrections applied?			Yes/No	YES
were ict imcere	siement collections applied:			1es/NO	
	round corrections applied?			Yes/No	YES
	ere raw data generated before tons?			Yes/No	NO
Comments:					
	this data package is in complian technically and for completeness				l
above. Release	e of the data contained in this h coppy diskette has been authorize	ardcopy data	package and in the	ne computer	-readable data
	e following signature.	a by the han	oracor, namager o	- 4114 1141142	,er b designed, as
i	· (11.				
Signature: Date:	ng lolli	Name:	Janice Collins		
U_{144}	10100				
Date:	10/09	Title:	Metals Analyst		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

<u>M-144B</u>

Lot/SDG Number:

D9J280283

Lab Sample ID:

D9J280283-001

Matrix:

WATER

Lab WorkOrder:

LNFG2

% Moisture:

<u>N/A</u>

10/27/09 12:25

Basis:

<u>Wet</u>

Date/Time Collected: Date/Time Received:

10/28/09 10:00

Analysis Method:

6020

Date Leached: Date/Time Extracted:

Unit:

ug/L

11/02/09 14:30

QC Batch ID:

9303185

Date/Time Analyzed:

11/08/09 03:12

Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

Dilution Factor:

<u>5</u>

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Envir	onmental Manage	ement, Inc.	
Lab Code: Ca	se No.:	SAS No.:	SDG NO.: D9J280283
Initial Calibration Source:	High Purity		
Continuing Calibration Sourc	: Inorgan	ic Ventures	

	Initial Ca	libration		Continu	ing Calibra	ation			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	М
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.	9 101.8	М
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.	0 102.0	М

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Management,	Inc.		
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J280283
Initial Cal:	ibration Source:	High Purity			
Continuing	Calibration Source:	Inorganic Ve	ntures		

	Initial	Calibration		Contin	uing Calibr	ation			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic	İ	1		50.0	51.0	102.0	50.2	100.4	М
Selenium				50.0	49.4	98.8	52.9	105.8	М

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: <u>Northgate Environmen</u>	al Management, Inc.	
Lab Code: Case No	SAS No.:	SDG NO.: D9J280283
Initial Calibration Source: Hig	Purity	
Continuing Calibration Source:	Inorganic Ventures	

	Initial	Calibration		Contin	uing Calibr	ation			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic				50.0	50.6	101.2	50	.3 100.6	М
Selenium	l			50.0	51.9	103.8	50	.7 101.4	М

⁽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 Env	ironmental Mana	agement, Inc.		
Lab Code:		Case No.:	SAS No.:	SDG No.:	D9J280283
AA CRDL Sta	andard Source:				
ICP CRDL St	andard Source:	Inorganic	Ventures		

Concentration Units: ug/L

	CRDL St	andard for AA			Init	CRDL Standar ial	d for I	CP Final	
Analyte	True	Found	%R	П	True	Found	%R	Found	%R
Arsenic				П	1.00	1.009	100.9		
Selenium					1.00	0.851	85.1		



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9J300000-185B

Lot/SDG Number: Matrix:

D9J280283

Lab Sample ID:

Basis:

WATER

Lab WorkOrder:

LNJNV

% Moisture:

Wet

Date/Time Collected:

Analysis Method:

<u>6020</u>

Date/Time Received: Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303185

Date/Time Analyzed:

11/08/09 02:39

Sample Aliquot:

<u>50 mL</u>

1

Instrument ID:

024

Dilution	Factor:
	

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

-3-

BLANKS

Contract:	Northgate	Environmental	Management,	Inc.			
Lab Code:		Case No.:		SAS No.:		SDG NO.:	D9J280283
Preparation	Blank Matr	ix (soil/water):	. W.	ATER			
Preparation	Blank Conc	entration Units	(ug/L or mg/	kg):	UG/L		

Analyte	Initial Calib. Blank			C	ontinuing Cal Blank (ug/		ration		Preparation Blank		
Analyte	(ug/L) C	С	1	C	2	C	3	С	С		M
Arsenic	0.210	ם	0.210	ט	0.210	U	0.210	Ū	0.21 0		М
Selenium	0.700	Ū	0.700	ט	0.700	U	0.700	ט	0.70 ت	П	M

-3-

BLANKS

Contract:	Northgate Environmental M	Management, Inc.			
Lab Code:	Case No.:	SAS No.:		SDG NO.:	D9J280283
Preparation	Blank Matrix (soil/water):	WATER			
Preparation	Blank Concentration Units ((ug/L or mg/kg):	UG/L		

Analyte	Initial Calib. Blank			Co	Preparation Blank							
	(ug/L)	С	1	С	2	С	3	С		C		М
Arsenic		1 1	0.210	וטן	0.210	ן ט	0.210	ט	1		Π	М
Selenium			0.700	U	0.700	ט	0.700	Ū			П	M

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ICP INTERFERENCE CHECK SAMPLE

Cont	rac		Management,	Inc.						
Lab	Code	e:		Case No.:		SAS No.:			SDG NO.:	D9J280283
ICP	ID I	Number:	Agilent	7500			ics	Source:	Inorgan	ic Ventures

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



Northgate Environmental Management, Inc. Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J280283

MS Lab Sample ID:

D9J270261-001S

Matrix:

Unit:

WATER

MS Lab WorkOrder:

LNC7F

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/26/09 12:55

Basis:

<u>Wet</u>

Date/Time Received:
Date Leached:

10/27/09 09:30

Analysis Method:

6020

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

ug/L

Date/Time Analyzed:

11/08/09 02:53

MS Sample Aliquot:

9303185 50 mL

Instrument ID:

<u>024</u>

MS Dilution Factor:

<u>5</u>

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J280283

MSD Lab Sample ID:

D9J270261-001D

Matrix:

WATER

MSD Lab WorkOrder:

LNC7F

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/26/09 12:55

Basis:

Wet

Date/Time Received:

10/27/09 09:30

Analysis Method:

<u>6020</u>

Date Leached:

11/02/00 14-20

Unit:

<u>ug/L</u>

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

<u>9303185</u>

Date/Time Analyzed:

11/08/09 03:04

MSD Sample Aliquot:

<u>50 mL</u>

Instrument ID:

024

MSD Dilution Factor:

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

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

						INTRA-LA	B QC PDS
Contract:	Northgate	Environmental	Management,	Inc.			
Lab Code:		Case No.:		SAS No.:		SDG NO.:	D9J280283
Matrix (so	il/water):	WATER			Level	(low/med):	FOM

Concentration Units:

ug/L

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



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lot/SDG Number:

D9J280283

Lab Sample ID:

D9J300000-185C

Matrix:

WATER

Lab WorkOrder:

LNJNV

% Moisture:

<u>N/A</u>

Date/Time Collected:

Basis:

<u>Wet</u>

Date/Time Received:

Analysis Method:

<u>6020</u>

Date Leached:

11/02/09 14:30

Unit:

ug/L

<u>50 mL</u>

Date/Time Extracted:

11/08/09 02:42

QC Batch ID:

9303185

Date/Time Analyzed: **Instrument ID:**

<u>024</u>

Sample Aliquot: **Dilution Factor:**

1

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

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ICP SERIAL DILUTIONS

SA	MP	LE	NO.
----	----	----	-----

Contract:	Northaate	Environmental	Management	Tna			INTRA-LAB	QC SER	
Lab Code:		Case No.:	······································	SAS 1			SDG NO.:	D9J280283	
Matrix (so	il/water):	WATER				Level	(low/med):	LOW	

Concentration Units:

ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S)	c	% - Differ- ence	Q	м
Arsenic	38.140		37.570	1.5		М
Selenium	0.700 U		3.500 😈			М

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DETECTION LIMITS

Contract:	North	gate Enviro	nmental M	anagement,	Inc.				
Lab Code:		Cas	se No.:		SAS No.	•	SDG NO.:	D9J280283	_
ICP ID Numl	ber:	Agilent 75	00		Date:	4/23/2009			
Flame AA ID	Number	::							
Furnace AA	ID Numb	er:							

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

ICP LINEAR RANGES (QUARTERLY)

Contract:	Northgate	Environmental	Management,	Inc.

Lab Code: _____ Case No.: ____ SAS No.: ____ SDG NO.: _____ D9J280283

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

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

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PREPARATION LOG

Contract:	Northgate	Environmental	Management,	Inc.			
Lab Code:		Case No.:		SAS No.:	 SDG NO.:	D9J280283	
Method:	MS	1	Prep Method:		 		

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

ANALYSIS RUN LOG

Contract:	Northgate	Environmental Management, In	<u>n</u> c.			
Lab Code:		Case No.:	SAS No.:		SDG No.:	D9J280283
Instrument	ID Number:	Agilent 7500	Method:	M		

Start Date: <u>11/7/2</u>	009						En	d I	Dat	e:		11	./8	/20	200	9			_						
													Ana	ıly	tes	3									
Sample ID.	D/F	Time	% R	A L	A S	B A		C D	C	C R	C 0	C U		P B		M N	H G	N	K	S E	N A	T L	v	z N	C N
CAL BLANK	1.00	15:09			х															х					
100 PPB	1.00	15:12			х															х					
ICV	1.00	15:15			х			П												х					Г
ICB	1.00	15:20			х															х					Г
RL STD	1.00	15:23			х															х					
ICSA	1.00	15:31			х															х					
ICSAB	1.00	15:34			х															х					Г
RINSE	1.00	15:37			х															х					
LR1	1.00	15:40			х															х					Γ
RINSE	1.00	15:42			 х															х					
CCV	1.00	15:45			х													Γ		х					Г
CCB	1.00	15:48			х															х					Г
CCV	1.00	19:25			х															х					
CCB	1.00	19:28			х															х					Г
ICSA	1.00	19:33			х															х					
ICSAB	1.00	19:36			х															х					Г
WASH	1.00	19:39			х															х					
CCV	1.00	19:41			х															х					
ССВ	1.00	19:44			х															х					
CAL BLANK	1.00	02:25			х												Г			х					
100 PPB	1.00	02:28			х															х					
ccv	1.00	02:31			х															х					Г
ССВ	1.00	02:33			х															х					
MB9303185	1.00	02:39			х															х					
Check Sample	1.00	02:42			х															х					
INTRA-LAB QC	5.00	02:44			 х															х					Г
INTRA-LAB QC SER	25.00	02:47			х															х					
INTRA-LAB QC PDS	1.00	02:50			х															х					
LAB MS/MSD MS	5.00	02:53			х															х					
ccv	1.00	02:56			х															х					
ССВ	1.00	02:58			x															х					
LAB MS/MSD MSD	5.00	03:04			x															х					
M-144B	5.00	03:12			х															х					

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

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ANALYSIS RUN LOG

Contract: Northgat	ce Enviro	nmenta	l Mana	ge	mer	ıt,	Iı	nc.																		
Lab Code:		Case	No.:				_	SA	s	No.	:					S	DG	No	.:	D	9J	280	028	33		_
Instrument ID Number:	Agile	nt 750	0					Μe	th	ođ:		M		_												
Start Date: <u>11/7/2</u>	009							En	đ I	Date	e:	1	.1/8	3/2	009	•			_							
a 1													Ar	aly	tes	3										
Sample ID.	D/F	Time	% R	A	s	A	В	В	С	C	С	С	C F	P	М	М	н	N	к	s	A	И	T	v	Z	С
15.				L	В	s	A	E	D	A	R	0	UΕ	В	G	N	G	I		E	G	A	L		N	N
ccv	1.00	03:21				х														х						
ССВ	1.00	03:23				х						T							П	х		\Box				

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

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: <u>D9J290310</u>

Client: Northgate/Tronox

Method: <u>SW846 6020/Collision Cell</u>

Associated Samples: <u>001</u>, <u>002</u>

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COVER PAGE - INORGA	ANIC ANAI	YSIS DATA PACKAGE			
Contract: Northgate Environmental Managemen	t, Inc.	S	DG No.:	D9J2903	310
Lab Code: Case No.:			AS No.:		
SOW No.:					
Sample ID.	T.al	Sample No.			
M-138009B M-138B		J290310-002 J290310-001			
12 1300		7270310 001			
Were ICP interelement corrections applied?			Yes/No	YES	
Were ICP background corrections applied?			Yes/No	YES	
If yes-were raw data generated before			ies/NO	TES	
application of background corrections?			Yes/No	NO	
Comments:					
Marie Control of the					
I certify that this data package is in compliance contract, both technically and for completeness,					
above. Release of the data contained in this har	dcopy date	a package and in the o	computer	-readable	
submitted on floppy diskette has been authorized verified by the following signature.	by the Lai	ooratory Manager or th	ne Manag	er's desi	gnee, as
verified by the forfowing signature.					
Signature: James Collin	Name:	Janice Collins			
V					
Signature: June Collin Date: 11/10/09	Title:	Metals Analyst			



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

<u>M-138B</u>

Lot/SDG Number:

D9J290310

Lab Sample ID:

D9J290310-001

Matrix:

WATER

Lab WorkOrder:

LNH2J

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/28/09 11:15

Basis:

Unit:

<u>Wet</u>

Date/Time Received:

10/29/09 10:00

Analysis Method:

6020 ug/L

Date Leached: Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303185

Date/Time Analyzed:

11/08/09 03:15

Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

Dilution Factor:

<u>5</u>

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-138009B

Lot/SDG Number:

D9J290310

Lab Sample ID:

D9J290310-002

Matrix:

Unit:

WATER

Lab WorkOrder:

LNH2K

% Moisture:

<u>N/A</u>

10/28/09 11:15

Basis:

Wet

Date/Time Collected: Date/Time Received:

10/29/09 10:00

Analysis Method:

6020

Date Leached:

QC Batch ID:

ug/L

Date/Time Extracted: Date/Time Analyzed:

11/02/09 14:30 11/08/09 03:18

Sample Aliquot:

9303185 50 mL

Instrument ID:

<u>024</u>

Dilution Factor:

<u>5</u>

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

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Management	t, Inc.		
Lab Code:	Case	No.:	SAS No.:	 SDG NO.:	D9J290310
Initial Ca	libration Source:	High Purity		 	
Continuing	Calibration Source:	Inorganic V	entures		
		····	· · · · · · · · · · · · · · · · · · ·		

Concentration Units: ug/L

	Initial	Calibration		Contin	uing Calibr	ation			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.	9 101.8	М
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.	0 102.0	М

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

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	nenta	l Management,	Inc.		
Lab Code:	Case	No.:		SAS No.:	SDG NO.:	D9J290310
Initial Cali	ibration Source:	High	Purity			
Continuing	Calibration Source:		Inorganic Ven	tures		
				*		

Concentration Units: ug/L

	Initial	Calibration		Contin	uing Calib	ration			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic		I		50.0	51.0	0 102.0	50	.2 100.4	М
Selenium	1	l		50.0	49.4	4 98.8	52	.9 105.8	М

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

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Nor	thgate Enviror	mental Managem	ent, Inc.		
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J290310
Initial Calibra	tion Source:	High Purity			
Continuing Cali	bration Source:	Inorganio	: Ventures		

Concentration Units: ug/L

	Initial	Calibration		Contin	uing Calibr	ation			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	М
Arsenic				50.0	50.6	101.2	50.3	100.6	М
Selenium			I	50.0	51.9	103.8	50.7	101.4	М

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

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

Contract: Nor	rthgate Environ	mental Man	agement, Inc.		
Lab Code:	Case	No.:	SAS No.:	 SDG No.:	D9J290310
AA CRDL Standa	rd Source:				
ICP CRDL Stand	ard Source:	Inorganic	Ventures		

Concentration Units: ug/L

	CRDL St	andard for AA			Init	CRDL Standar ial	d for I	CP Final	
Analyte	True	Found	%R		True	Found	%R	Found	%R
Arsenic				Ħ	1.00	1.009	100.9		ĺ
Selenium				П	1.00	0.851	85.1		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID: Lab Sample ID:

D9J300000-185B

Lot/SDG Number:

D9J290310

Matrix:

Basis:

WATER

Lab WorkOrder:

<u>LNJNV</u>

% Moisture:

Date/Time Collected:

Date/Time Received:

Analysis Method:

<u>Wet</u> 6020

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303185

Date/Time Analyzed:

11/08/09 02:39

Sample Aliquot: **Dilution Factor:**

<u>50 mL</u> 1

Instrument ID:

<u>024</u>

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

-3-

BLANKS

Contract:	Northgate Environmental Manaq	gement, Inc.			
Lab Code:	Case No.:	SAS No.:		SDG NO.:	D9J290310
Preparation	Blank Matrix (soil/water):	WATER	···		
Preparation	Blank Concentration Units (ug/L	or mg/kg):	UG/L		

	Initial Calib. Blank			Co	ontinuing Ca Blank (ug		ration		Prep Blan				
Analyte	(ug/L)	С	1	С	2	С	3	С			С		M
Arsenic	0.21	ן ט וס	0.210	ן ט	0.210	U	0.210	ט	ĺ	0.21	ט	Π	М
Selenium	0.70	ט ס	0.700	ט	0.700	Ū	0.700	U		0.70	ט		М

-3-

BLANKS

Contract:	Northgate Environmental Mana	gement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J290310
Preparation	Blank Matrix (soil/water):	WATER		
Preparation	Blank Concentration Units (ug/	L or mg/kg):	UG/L	

	Initial Calib. Blank			Con	tinuing Ca Blank (ug		ation		Preparation Blank			
Analyte	(ug/L)	с	1	С	2	С	3	С		C		м
Arsenic	1		0.210	ט	0.210	u	0.210	Ū	Ì	Ī		м
Selenium	1	i i	0.700	וטן	0.700	ן ט	0.700	Ū			ľ	м

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract:	Northgate Environmental	Management, Inc.			
Lab Code:	Case No.:	SAS No.:		SDG NO.: D9J290310	
ICP ID Numb	er: Agilent 7500		ICS Source:	Inorganic Ventures	_
					_

Concentration Units): ug/L

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J290310

MS Lab Sample ID:

D9J270261-001S

Matrix:

WATER

MS Lab WorkOrder:

LNC7F

% Moisture:

<u>N/A</u>

10/26/09 12:55

Basis:

Wet

Date/Time Collected: Date/Time Received:

10/27/09 09:30

Analysis Method:

6020

Date Leached:

11/02/09 14:30

Unit:

ug/L

Date/Time Extracted:

11/08/09 02:53

QC Batch ID:

<u>9303185</u>

Date/Time Analyzed: Instrument ID:

<u>024</u>

MS Sample Aliquot: **MS Dilution Factor:**

<u>50 mL</u>

<u>5</u>

2								
	Spike	Sample	С	MS Popult	C	% Pos	o	QC Limit

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J290310

MSD Lab Sample ID:

D9J270261-001D

Matrix:

Unit:

WATER

MSD Lab WorkOrder:

LNC7F 10/26/09 12:55

% Moisture:

N/A

Date/Time Collected:

Basis:

<u>Wet</u>

Date/Time Received:

10/27/09 09:30

Analysis Method:

6020 ug/L Date Leached: Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

Date/Time Analyzed:

11/08/09 03:04

MSD Sample Aliquot:

9303185 <u>50 mL</u>

Instrument ID:

<u>024</u>

MSD Dilution Factor:

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

Lab Code:

Total Metals Analysis

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

|--|

Contract: Northgate Environmental Management, Inc.

Case No.: SAS No.:

SDG NO.: D9J290310

Matrix (soil/water):

WATER

Level (low/med):

LOW

Concentration Units:

ug/L

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

Lot/SDG Number:

TESTAMERICA DENVER

Client Sample ID:

D9J300000-185C

D9J290310

Lab Sample ID:

Matrix:

WATER

Lab WorkOrder:

LNJNV

% Moisture:

<u>N/A</u>

Date/Time Collected:

Basis:

Wet

Date/Time Received:

Analysis Method:

6020

Date Leached:

11/02/09 14:30

Unit:

ug/L

Date/Time Extracted:

QC Batch ID:

9303185

Date/Time Analyzed:

11/08/09 02:42

Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

Dilution Factor:

1

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

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ICP SERIAL DILUTIONS

SAMPLE NO.

tract:	Northgate	Environmental Managem	ent,	Inc.		INT	RA-LAB	QC SI	ER	
Code:		Case No.:		SAS No.:	·	SDO	g no.:	D9J2	9031	0
rix (so	il/water):	WATER		Le	evel (1	ow/med	i):	LOW		
		Concentration Uni	LCS.	ug/L						
Ana	lyte	Initial Sample Result (I)	c	Serial Dilution Result (S)		С	% Diffe ence	_	Q	м
Ana		Initial Sample Result (I)		Serial Dilution	37.57		Diffe	_	<u> </u>	M

-10-

DETECTION LIMITS

Contract:	Northgate En	nvironmental Mana	gement, Inc.		
Lab Code:	***	Case No.:	SAS No.:	SDG NO.:	D9J290310
ICP ID Num	ber: Agilen	t 7500	Date: 4/23/2009		
Flame AA II	Number:				
Furnace AA	ID Number:				

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

ICP LINEAR RANGES (QUARTERLY)

Contract:	Northgate	Environmental	Management,	Inc.
-----------	-----------	---------------	-------------	------

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

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

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

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PREPARATION LOG

Contract:	Northgate	Environmental	Management,	Inc.		
Lab Code:		Case No.:		SAS No.:	 SDG NO.:	D9J290310
Method:	MS	1	Prep Method:		 	

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

ANALYSIS RUN LOG

Concract:	Northgate	Environmental	management, inc.	
	10			

Instrument ID Number: Agilent 7500 Method: M

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

tart Date: 11/7	/2009	_					En	a 1	Jat	e:		11	, ,	, 2												
-													Ana	ıly	tes	3										
Sample ID.	D/F	Time	% R	A L	A S	B A		C D		C R	С О	G C	F E		M G		H	I	K	S E	A G	N A	T L	V	Z N	
CAL BLANK	1.00	15:09			х															х						
100 PPB	1.00	15:12			х															x						
ICV	1.00	15:15			х															х						
ICB	1.00	15:20			х															х						
RL STD	1.00	15:23			х															х						
ICSA	1.00	15:31			х															х						
ICSAB	1.00	15:34		T	х															х						
RINSE	1.00	15:37		Г	х															х						
LR1	1.00	15:40		Γ	х															х						
RINSE	1.00	15:42			х															х						
ccv	1.00	15:45			х															х						
ССВ	1.00	15:48			х															х						
ccv	1.00	19:25			х															х						
ССВ	1.00	19:28		Г	х															х			Ì			
ICSA	1.00	19:33			 х															х			T			
ICSAB	1.00	19:36			 х															х			T			
WASH	1.00	19:39			х															х			i	Ī		
ccv	1.00	19:41			х															х						
CCB	1.00	19:44			х															х			Ť			
CAL BLANK	1.00	02:25			х															х						
100 PPB	1.00	02:28			х															х						
CCV	1.00	02:31			х															х						
ССВ	1.00	02:33			х															х			T			
MB9303185	1.00	02:39			х															х			T	Ī		
Check Sample		02:42			х										•					х						
INTRA-LAB QC		02:44			х															х			T			
INTRA-LAB QC SER	25.00	02:47			х															х						
INTRA-LAB QC PDS	1.00	02:50			х															х			j			
LAB MS/MSD MS	5.00	02:53			х															х			j	Ī		
ccv	1.00	02:56			х		Т													х						
ССВ	1.00	02:58			х															х						
LAB MS/MSD MSD	5.00	03:04		Π	х															х						
M-138B	5.00	03:15		Т	х	Т														х			T			

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

ANALYSIS RUN LOG

Contract: Nort	hgate Enviro	nmenta	l Mana	gei	mer	ıt,	Ir	nc.																			
Lab Code:	···	Case	No.:				-	SA	s:	No.	:						s	DG	No) .:	Ē	9J	29	03:	10		
Instrument ID Num	ber: Agile	ent 750	0				_	Me	th	od:		I	M		_												
Start Date: 11/	7/2009							En	đ I	Dat	e:		11	/8	/20	200	•			_							
Sample							Analytes																				
Sample ID.	D/F	Time	% R	A	S B	A S	B A		C D		C R		C D			l	M N	H G	N I	К	S E	A G	N A		v	1 - 1	N C
м-138009В	5.00	03:18				х															х						
ccv	1.00	03:21				х															x						
CCB	1.00	03.23		T	Г	x												Г			х						

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

TestAmerica

Dissolved Metals

CLP-Like Forms

Lot ID: <u>D9J290310</u>

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: <u>003</u>, <u>004</u>

TestAmerica 138

Dissolved Metals Analysis COVER PACE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Nort	thgate Environmental Manageme			SDG No.:	D9J290310
Lab Code:	Case No.:			SAS No.:	
			-		
SOW No.:					
	Sample ID.	La	ab Sample No.		
	M-138009BDISS	-	9J290310-004		
	M-138BDISS		9J290310-00 4		
	M-138BDISS MS		9J290310-003 9J290310-003S		
	M-138BDISS MSD		9J290310-003SD		
		=			
Were ICP interel	Lement corrections applied?			Yes/No	YES
	ound corrections applied?			Yes/No	YES
_	e raw data generated before				
applicatio	on of background corrections?			Yes/No	NO
Comments:					
	his data package is in compliand echnically and for completeness				1
	of the data contained in this ha				
submitted on flo	ppy diskette has been authorized				
verified by the	following signature.				
	~ / / / ·				
Signature:	ig lollin	Name:	Janice Collins		
U					
Signature: Date:	10/09	Title:	Metals Analyst		



Northgate Environmental Management, Inc. Dissolved Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-138BDISS

Lot/SDG Number:

D9J290310

Lab Sample ID:

D9J290310-003

Matrix:

Unit:

WATER

Lab WorkOrder:

LNH2L

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/28/09 11:15

Basis:

<u>Wet</u>

Date/Time Received:

Date Leached:

10/29/09 10:00

Analysis Method:

6020 ug/L

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303187

Date/Time Analyzed:

11/08/09 01:52

Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

Dilution Factor:

2

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



Northgate Environmental Management, Inc. **Dissolved Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-138009BDISS

Lot/SDG Number:

D9J290310

Lab Sample ID:

D9J290310-004

Matrix:

Unit:

WATER

Lab WorkOrder:

LNH2N

% Moisture:

N/A

10/28/09 11:15

Basis:

Wet

Date/Time Collected: Date/Time Received:

10/29/09 10:00

Analysis Method:

6020

Date Leached:

QC Batch ID:

ug/L

Date/Time Extracted:

11/02/09 14:30 11/08/09 02:06

Sample Aliquot:

9303187 <u>50 mL</u>

Date/Time Analyzed: Instrument ID:

<u>024</u>

Dilution Factor:

2

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

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

ontract: Northgate Environment	nmental Man	agement, Inc.		
ab Code: Ca	se No.:	SAS No.:	SDG NO.:	D9J290310
nitial Calibration Source:	High Purit	y		
ontinuing Calibration Source	: Inorg	anic Ventures		

Concentration Units: ug/L

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

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

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	menta:	Management,	Inc.		
Lab Code:	Case	No.:		SAS No.:	 SDG NO.:	D9J290310
Initial Cal	ibration Source:	High	Purity			
Continuing	Calibration Source:		Inorganic Ve	ntures		

Concentration Units: ug/L

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

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Manag	gement, Inc.		
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J290310
Initial Cal	ibration Source:	High Purity			
Continuing	Calibration Source:	Inorga	nic Ventures		

Concentration Units: ug/L

	Initial	Calibration		Contin	uing Calibra	ation			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic	ĺ			50.0	49.7	99.4	49.	99.6	М
Selenium				50.0	49.0	98.0	49.	6 99.2	М

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

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

Contract:	Northgate En	nvironmental	Management,	Inc.			
Lab Code:		Case No.: _	SA:	S No.:	***	SDG No.:	D9J290310
AA CRDL Sta	ndard Source:						
ICP CRDL St	andard Source	: Inorga	nic Ventures				

Concentration Units: ug/L

	CRDL St	andard for AA			Init	CRDL Standar ial	d for I	Final	
Analyte	True	Found	%R		True	Found	%R	Found	%R
Arsenic					1.00	1.009	100.9		
Selenium	1	İ		ΠĬ	1.00	0.851	85.1		



Northgate Environmental Management, Inc. **Dissolved Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9J300000-187B

Lot/SDG Number:

D9J290310

Lab Sample ID:

Matrix:

WATER

Lab WorkOrder:

LNJN5

% Moisture:

Date/Time Collected:

Basis:

<u>Wet</u>

Date/Time Received:

Analysis Method:

<u>6020</u>

Date Leached:

11/02/09 14:30

Unit: QC Batch ID: ug/L 9303187 Date/Time Extracted: Date/Time Analyzed:

11/08/09 01:46

Sample Aliquot:

<u>50 mL</u>

1

Instrument ID:

<u>024</u>

Dilution Factor:

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

-3-

BLANKS

Contract:	Northgate Environmental Manag	gement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J290310
Preparation	Blank Matrix (soil/water):	WATER		
Preparation	Blank Concentration Units (ug/L	or mg/kg):	UG/L	

Analyte	Initial Calib. Blank			C	ontinuing Cal Blank (ug/		ration			Preparation Blank			
	(ug/L)	С	1	C	2	С	3	С			С	М	
Arsenic	0.210	ן ט	0.210	Ū	0.210	U	0.210	ם	Г	0.21	U		М
Selenium	0.700	<u>י</u>	0.700	Ū	0.700	Ū	0.700	ט	Г	0.70	Ū	П	M

-3-

BLANKS

Contract:	Northgate Environmental Man	nagement, Inc.			
Lab Code:	Case No.:	SAS No.:		EDG NO.:	D9J290310
Preparation	Blank Matrix (soil/water):	WATER			
Preparation	Blank Concentration Units (ug	//L or mg/kg):	UG/L		

	Initial Calib. Blank		Continuing Calibration Blank (ug/L)						Preparation			
Analyte	(ug/L)	c	1	C	2	С	3	С		C		M
Arsenic	I	l İ	0.210	וטן	0.210	ן ש	0.210	ט		1	Π	M
Selenium	ļ	İ	0.700	ט	0.700	<u>ט</u>	0.700	ט			П	M

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract:	Northgate En	vironmental	Management,	Inc.				
Lab Code:	-	Case No.: _		SAS No.:		SDG NO.:	D9J290310	
ICP ID Numb	er: Agilent	7500			ICS Source	: Inorgan	nic Ventures	

ug/L Concentration Units):

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



Northgate Environmental Management, Inc. **Dissolved Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-138BDISS

Lot/SDG Number:

D9J290310

MS Lab Sample ID:

D9J290310-003S

Matrix:

WATER

MS Lab WorkOrder:

LNH2L

% Moisture:

<u>N/A</u>

10/28/09 11:15

Basis:

Wet

Date/Time Collected: Date/Time Received:

10/29/09 10:00

Analysis Method:

6020

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303187

Date/Time Analyzed:

11/08/09 02:00

MS Sample Aliquot: **MS Dilution Factor:**

<u>50 mL</u>

Instrument ID:

<u>024</u>

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



Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-138BDISS

Lot/SDG Number:

D9J290310

MSD Lab Sample ID:

D9J290310-003D

Matrix:

WATER

MSD Lab WorkOrder:

LNH2L

N/A

10/28/09 11:15

% Moisture: Basis:

Date/Time Collected:

Unit:

<u>Wet</u>

Date/Time Received: Date Leached:

10/29/09 10:00

Analysis Method:

6020 ug/L

Date/Time Extracted:

11/02/09 14:30

QC Batch ID:

9303187

Date/Time Analyzed:

11/08/09_02:03

MSD Sample Aliquot:

<u>50 mL</u>

Instrument ID:

024

MSD Dilution Factor:

	Analyta Spike Sa			MSD			_	1 1 2		QC Lin	nits
Analyte	Amount	Sample Result	С	Result	С	% Rec	Q	RPD	Q	% Rec RPI	RPD
Arsenic	40.0	340		377	MSB	102		0.74		85 - 117	20
Salanium	40.0	2.4	D	41.4		06		4.1		77 122	20

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

						M-138BD	ISS PDS
Contract:	Northgate	Environmental	Management,	Inc.			
Lab Code:		Case No.:		SAS No.:		SDG NO.:	D9J290310
Matrix (soi	il/water):	WATER			Level	(low/med):	LOW

Concentration Units:

ug/L

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



Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9J300000-187C

Lot/SDG Number:

D9J290310

Lab Sample ID:

Matrix:

Unit:

WATER

Lab WorkOrder:

LNJN5

% Moisture:

N/A

Date/Time Collected:

Basis:

<u>Wet</u>

Date/Time Received:

Analysis Method:

6020 ug/L

Date Leached:

11/02/09 14:30

QC Batch ID:

9303187

Date/Time Extracted: Date/Time Analyzed:

11/08/09 01:49

Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

Dilution Factor:

1

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

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

					M-138BDISS SER			
Contract:	Northgate	Environmental	Management,	Inc.				
Lab Code:	***************************************	Case No.:		SAS No.:		SDG NO.:	D9J290310	
Matrix (so	il/water):	WATER			Level	(low/med):	LOW	

Concentration Units:

ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S)	С	% - Differ- ence	Q	м
Arsenic	168.250		161.650	3.9		М
Selenium	1.211 B		3.500 U	100.0		М

-10-

DETECTION LIMITS

Contract:	Northgate Envi	ronmental Management,	Inc.			
Lab Code:	C	ase No.:	SAS No.	•	SDG NO.:	D9J290310
ICP ID Numb	per: Agilent 7	7500	Date:	4/23/2009		
Flame AA ID	Number:					
Furnace AA	ID Number:					

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

Dissolved Metals Analysis -12ICP LINEAR RANGES (QUARTERLY)

Contract:	Northgate Environmental	Management, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J290310

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

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

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PREPARATION LOG

Contract:	Northgate	Environmental	Management,	Inc.		
Lab Code:		Case No.:		SAS No.:	SDG NO.:	D9J290310
Method: 1	MS	1	Prep Method:			

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

ANALYSIS RUN LOG

Contract:	Northgate	Environmental	Management, Inc	Z.

Lab Code: _____ Case No.: ____ SAS No.: ____ SDG No.: ____ D9J290310

Instrument ID Number: Agilent 7500 Method: M

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

	/2009			1									_	 			-									_
Sample ID.	D/F	Time	% R		S B	A S	B A	BE	C D	C A	C R	C O	С		M G	М	H G	N I	ĸ	S E	A G	N A	T L		z N	
CAL BLANK	1.00	15:09				х														х			寸			ľ
100 PPB	1.00	15:12				х														x						
ICV	1.00	15:15				х														x						
ICB	1.00	15:20				х														х						ſ
RL STD	1.00	15:23				х														х						
ICSA	1.00	15:31				х														x						
ICSAB	1.00	15:34				х														х				\neg		ſ
RINSE	1.00	15:37				х														х						ľ
LR1	1.00	15:40				х														x						
RINSE	1.00	15:42				х														х						Ī
CCV	1.00	15:45				х														х						I
ССВ	1.00	15:48				х														х						ľ
ccv	1.00	19:25				х						Г								х						ľ
ССВ	1.00	19:28				х														х						١
ICSA	1.00	19:33				х														х						I
ICSAB	1.00	19:36				х														х						
WASH	1.00	19:39				х														x						
ccv	1.00	19:41				х							Г							х						
ССВ	1.00	19:44				х														x						I
CAL BLANK	1.00	23:44				х														х						
100 PPB	1.00	23:47				х														х						I
ccv	1.00	23:50				х														х						I
CCB	1.00	23:52				х						T								x						ĺ
CCV	1.00	01:38				х														х						ĺ
ССВ	1.00	01:41				х			Г											x						I
MB9303187	1.00	01:46				х														х						
Check Sample	1.00	01:49				х														x						
M-138BDISS	2.00	01:52				х														х						
M-138BDISS SER	10.00	01:55				х														x						
M-138BDISS PDS	1.00	01:58				х														x						
M-138BDISS MS	2.00	02:00				х														x						ſ
M-138BDISS MSD	2.00	02:03				х														x						ľ
M-138009BDISS	2.00	02:06				х						Г								х						I

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

ANALYSIS RUN LOG

Contract:	Northgate	Enviro	nmenta	1 Mana	.gei	mer	ıt,	II	œ.																			
Lab Code: _			Case	No.:				_	SA	S I	No.	:					-	S	DG	No	.:	D	9J	29	031	LO		-
Instrument I	D Number:	Agile	nt 750	0				_	Me	th	ođ:		M	1														
Start Date:	11/7/200	19							En	d I	ato	e:		11/	/8/	/20	09)			_							
				l										A	na	1yt	es	;										
Sampl	е	D/F	Time	% R	A L		A S		B E					C U								S E	A G		T L	V	Z N	C
ccv		1.00	02:09				х															x						
ССВ		1.00	02:11		Γ		х															X						

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

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: <u>D9J300353</u>

Client: Northgate/Tronox

Method: <u>SW846 6020/Collision Cell</u>

Associated Samples: <u>001</u>

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Total Metals Analysis COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

	COVER PAGE - INORG	GANIC ANAL	YSIS DATA PACKAO	GE	
Contract:	Northgate Environmental Manageme	ent, Inc.		SDG No.:	D9J300353
Lab Code:	Case No.:			SAS No.:	
SOW No.:					
Personal design of the second	Sample ID.		Sample No.		
	М-137В	<u>D90</u>	7300353-001	<u></u>	
Were ICP int	erelement corrections applied?			Yes/No	YES
	kground corrections applied?			Yes/No	YES
	-were raw data generated before ation of background corrections?			Yes/No	NO
Comments:					
I certify th	at this data package is in compliant th technically and for completeness	ce with the	terms and conditi	ons of the	1
above. Rele	ase of the data contained in this h. floppy diskette has been authorize	ardcopy data	a package and in t	he computer	-readable data
	the following signature.				
Signature:	baring Collin	Name:	Janice Collins		
J	Janua Collin				
Date:	1111109	Title:	Metals Analyst		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-137B

Lot/SDG Number:

D9J300353

Lab Sample ID:

D9J300353-001

Matrix:

Unit:

WATER

Lab WorkOrder:

LNLN9

% Moisture:

<u>N/A</u>

Date/Time Collected:

 $\underline{10/29/09\ 13:30}$

Basis:

<u>Wet</u> 6020 Date/Time Received:

10/30/09 10:30

Analysis Method:

ug/L

Date Leached:

11/03/09 14:00

QC Batch ID:

9306276

Date/Time Extracted: Date/Time Analyzed:

11/09/09 21:21

Sample Aliquot:

9306276 50 mL

Instrument ID:

<u>024</u>

Dilution Factor:

2

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Management,	Inc.		
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J300353
Initial Cal	ibration Source:	High Purity			
Continuing	Calibration Source:	Inorganic Ver	ntures		

Concentration Units: ug/L

	Initial Ca	libration		Contin	uing Calib	ration			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м
Arsenic	40.0	40.1	100.2	50.0	50.9	101.8	51.	4 102.8	М
Selenium	40.0	40.2	100.5	50.0	51.9	103.8	50.	6 101.2	М

(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 Env	ironmental Man	agement, Inc.	•		
Lab Code:		Case No.:	SAS No.:		SDG No.:	D9J300353
AA CRDL Sta	ndard Source:					
ICP CRDL St	andard Source:	Inorganic	Ventures			

Concentration Units: ug/L

	CRDL Sta	andard for AA			Init	CRDL Standa ial	ard for I	CP Final	
Analyte	True	Found	%R		True	Found	%R	Found	%R
Arsenic				П	1.00	1.05	L 105.1		
Selenium			İ	Π	1.00	1.232	123.2		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9K020000-276B

Lot/SDG Number:

D9J300353

Lab Sample ID:

Matrix:

Basis:

Unit:

WATER

Lab WorkOrder:

LNNP6

% Moisture:

<u>Wet</u>

<u>6020</u>

ug/L

Date/Time Collected:

Date/Time Received:

Date Leached:

Date/Time Extracted:

11/03/09 14:00

Date/Time Analyzed:

11/09/09 21:16

QC Batch ID: Sample Aliquot:

Analysis Method:

9306276 <u>50 mL</u>

Instrument ID:

<u>024</u>

Dilution Factor:

1

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

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BLANKS

Contract:	Northgate Environmental Manage	ement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J300353
Preparation	Blank Matrix (soil/water):	WATER	And are a second	
Preparation	Blank Concentration Units (ug/L	or mg/kg):	UG/L	

	Initial Calib. Blank				inuing C Blank (u		ion		Preparation Blank		
Analyte	(ug/L)	С	1	С	2	С	3	с		С	М
Arsenic	0.21	.0 U	0.210	ן ט	0.21	0 0		1 1	0.21	ט	M
Selenium	0.70	0 0	0.700	Ū	0.70	ס ט			0.70	Ū	М

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ICP INTERFERENCE CHECK SAMPLE

Contract:	Northgate Environmental Ma	nagement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.: D9J300353	
ICP ID Numb	er: Agilent 7500	ICS Sour	rce: Inorganic Ventures	

Concentration Units): ug/L

	True		Initi	al Found		Fina	1 Found	
Analyte	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.28	101.00	101.0			
Selenium	0.0	100.0	0.38	100.00	100.0			



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J300353

MS Lab Sample ID:

D9J310138-001S

Matrix:

WATER

MS Lab WorkOrder:

LNME4

% Moisture:

N/A

Date/Time Collected: Date/Time Received:

10/30/09 11:10

Basis: **Analysis Method:** <u>Wet</u> <u>6020</u>

Date Leached:

10/31/09 08:30

Unit:

ug/L

Date/Time Extracted:

11/03/09 14:00

QC Batch ID:

Date/Time Analyzed:

11/09/09 21:35

MS Sample Aliquot:

<u>9306276</u> <u>50 mL</u>

Instrument ID:

024

MS Dilution Factor:

1

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J300353

MSD Lab Sample ID:

D9J310138-001D

Matrix:

WATER

MSD Lab WorkOrder:

LNME4

% Moisture:

<u>N/A</u>

10/30/09 11:10

Basis:

Wet

Date/Time Collected: Date/Time Received:

10/31/09 08:30

Analysis Method:

6020

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/03/09 14:00

QC Batch ID:

9306276

Date/Time Analyzed:

11/09/09 21:38

MSD Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

MSD Dilution Factor:

1

	Spike	Sample	_	MSD	C		_	222	_	QC Lin	nits		
Analyte	Amount	Result	C	Result	C			% Rec	Ų	RPD	Q	% Rec	RPD
Arsenic	40.0	0.21	U	39.6		99	11111	0.17		85 - 117	20		
Selenium	40.0	0.70	U	37.1		92		1.6		77 - 122	20		

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

|--|

Contract: Northgate Environmental Management, Inc.

Lab Code: Case No.: SAS No.:

SDG NO.: D9J300353

Matrix (soil/water):

WATER

Level (low/med):

LOW

Concentration Units:

ug/L

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



Northgate Environmental Management, Inc. Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lot/SDG Number:

D9J300353

Lab Sample ID:

D9K020000-276C

Matrix:

WATER

Lab WorkOrder:

LNNP6

% Moisture:

<u>N/A</u>

Date/Time Collected:

Basis: Wet

Date/Time Received:

Analysis Method:

<u>6020</u>

Date Leached:

11/03/09 14:00

Unit:

<u>ug/L</u>

Date/Time Extracted: Date/Time Analyzed:

11/09/09 21:19

QC Batch ID:

9306276 50 mL

Instrument ID:

024

Sample Aliquot: Dilution Factor:

<u>1</u>

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

ICP SERIAL DILUTIONS

SAMPLE NO.

Contract:	Northgate	Environmental Manage	ment. Inc.		INTRA-LAB	QC SER	
Lab Code:	1102 0119400	Case No.:	SAS No.:		SDG NO.:	D9J300353	
Matrix (soi	.1/water):	WATER		Level	(low/med):	LOW	
		Concentration U	nits: ug/L				
			Gamial Diluti		%	- 1	

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S)	С	% - Differ- ence	Q	м
Arsenic	0.210 U		1.050 ປ			М
Selenium	0.700 U		3.500 ປັ			М

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DETECTION LIMITS

Contract: No:	rthgate Environmental Manag	gement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J300353
ICP ID Number:	Agilent 7500	Date: 4/23/2009		
Flame AA ID Nu	mber:			
Furnace AA ID	Number:			

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

Comments:	

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ICP LINEAR RANGES (QUARTERLY)

Contra	ct:	Northgate Env	ironmental	Management	, Inc.				
Lab Co	de:		Case No.:		SAS No.:		SDG NO.:	D9J300353	
ICP ID	Numbe	r: Agilent	7500		Date:	10/1/2009			

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

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PREPARATION LOG

Contract:	Northgate E	Environmental	Management,	Inc.			
Lab Code:		Case No.:		SAS No.	 SDG NO.:	D9J300353	
Method:	MS	1	Prep Method:				

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

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ANALYSIS RUN LOG

Contract:	Northgate	Environmental Management,	inc.				
Lab Code:	4° 44° 41	Case No.:	SAS No.:		SDG No.:	D9J300353	
Instrument	ID Number:	Agilent 7500	Method:	M			

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

Sample	D/F	Time	% R	 									Ana	1y	tes	3										
ID.	D/F	Time	% K	S B	A S	B A	B E	C D	C A	C R	С 0	C U		P B	M G		H G	I	K	S E	A G	N A	T L	v	Z N	
CAL BLANK	1.00	20:32			х															x						
100 PPB	1.00	20:35			x															X						
ICV	1.00	20:37			х															х						
ICB	1.00	20:43			х															х						
RL STD	1.00	20:46			х															х						ĺ
ICSA	1.00	20:54			x															х						
ICSAB	1.00	20:57			х															x						
RINSE	1.00	20:59			х															х						
LR1	1.00	21:02			х															х						
RINSE	1.00	21:05			х		Г													х						
CCV	1.00	21:08			х															х						
CCB	1.00	21:10			х															х						
MB9306276	1.00	21:16			х															x						
Check Sample	1.00	21:19			х															х						
M-137B	2.00	21:21	:		x															х						
INTRA-LAB QC	1.00	21:27			х															х						
INTRA-LAB QC SER	5.00	21:30			х															х						
INTRA-LAB QC PDS	1.00	21:32			х															х						
LAB MS/MSD MS	1.00	21:35			х															х						
LAB MS/MSD MSD	1.00	21:38			х															х						
CCV	1.00	21:41			х															х						
ССВ	1.00	21:43			х														Γ	х						

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

TestAmerica

Dissolved Metals

CLP-Like Forms

Lot ID: <u>D9J300353</u>

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: <u>002</u>

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Dissolved Metals Analysis COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract	COVER PAGE - INORGA Northgate Environmental Managemen		ASIS DATA PACKAG	SDG No.:	D9J300353
Contract:	MOI thigate Environmental Managemen	ic, inc.		DDG MO	
Lab Code:	Case No.:			SAS No.:	
SOW No.:				-	
	Sample ID.	Lab	Sample No.		
	M-137BDISS		J300353-002		•
	M-137BDISS MS		7300353-002S		
	M-137BDISS MSD		J300353-002SD		
Were ICP i	nterelement corrections applied?			Yes/No	YES
Were TCD h	eackground corrections applied?			Yes/No	YES
	es-were raw data generated before			105,110	The same of the sa
	ication of background corrections?			Yes/No	NO
-					
Comments:					
***************************************					<u> </u>
I certify	that this data package is in compliance	e with the	terms and condition	ns of the	•
contract,	both technically and for completeness, lease of the data contained in this ha	tor other rdcopy dat	tnan tne condition a package and in th	s detailed e computer	r-readable data
submitted	on floppy diskette has been authorized	by the La	boratory Manager or	the Manag	ger's designee, as
	y the following signature.				
	1				
Signature:	James Illin	Name:	Janice Collins		
	V				
Date:	James (Mi)	Title:	Metals Analyst		
	1111101				



Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-137BDISS

Lot/SDG Number:

D9J300353

Lab Sample ID:

D9J300353-002

Matrix:

WATER

Lab WorkOrder:

LNLPF

% Moisture:

 $\underline{N/A}$

Date/Time Collected:

10/29/09 13:30

Basis:

<u>Wet</u>

Date/Time Received:

10/30/09 10:30

Analysis Method:

<u>6020</u>

Date Leached:

11/09/09 14:00

Unit:

ug/L

Date/Time Extracted:

11/10/09 02:22

QC Batch ID:

9306272 50 mL

Date/Time Analyzed: Instrument ID:

<u>024</u>

Sample Aliquot: **Dilution Factor:**

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Management,	Inc.		
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J300353
Initial Cal	ibration Source:	High Purity			
Continuing	Calibration Source:	Inorganic Ver	ntures		

Concentration Units: ug/L

Initial Calibration				Contin					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	М
Arsenic	40.0	40.1	100.2	50.0	50.	9 101.8	50	5 101.0	M
Selenium	40.0	40.2	100.5	50.0	51.	9 103.8	49	5 99.0	M

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Manageme	ent, Inc.		
Lab Code:	Case	No.:	_ SAS No.:	SDG NO.:	D9J300353
Initial Cal	ibration Source:	High Purity			
Continuing	Calibration Source:	Inorganic	Ventures	····	
		Concentration U	Inits: ug/L		

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

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

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environm	ental	Management,	Inc.		
Lab Code:	Case	No.:		SAS No.:	 SDG NO.:	D9J300353
Initial Cal	ibration Source:	High P	urity			
Continuing	Calibration Source:	I	norganic Ve	ntures		

Concentration Units: ug/L

	Initial	Calibration		Contin	uing Calibra	ation			
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	М
Arsenic	l			50.0	49.3	98.6			М
Selenium	1			50.0	48.2	96.4		<u> </u>	М

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

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

Contract:	Northgate Envi	ironmental Man	agement, Inc.	•		
Lab Code:		Case No.:	SAS No.:	SDG	3 No.:	D9J300353
AA CRDL Sta	ndard Source:					
ICP CRDL St	andard Source:	Inorganic	Ventures			

Concentration Units: ug/L

	CRDL St	andard for AA			Init	CRDL Standa ial	rd for I	d for ICP Final		
Analyte	True	Found	%R		True	Found	%R	Found	%R	
Arsenic	İ				1.00	1.051	105.1			
Selenium	1			П	1.00	1.232	123.2			



Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lab Sample ID:

D9K020000-272B

Matrix:

<u>D9J300353</u> <u>WATER</u>

Lab WorkOrder:

<u>LNNPL</u>

% Moisture:

Basis:

Wet

Date/Time Collected:
Date/Time Received:

Analysis Method:

Lot/SDG Number:

<u>6020</u>

Date Leached:

11/09/09_14:00

Unit:

ug/L

Date/Time Extracted:

11/10/09 02:16

QC Batch ID: Sample Aliquot: 9306272 50 mL Date/Time Analyzed: 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

-3-

BLANKS

Contract:	Northgate Environmental Manag	gement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J300353
Preparation	Blank Matrix (soil/water):	WATER		
Preparation	Blank Concentration Units (ug/I	or mg/kg): UG	3/L	

	Initial Calib. Blank			Cor	ntinuing Ca Blank (ug		ation		Preparation Blank			
Analyte	(ug/L)	С	1	С	2	С	3	c		С	1	M
Arsenic	0.210	ע	0.210	ן ט ן	0.210	ן ש	0.210	ש	0.21	Ū	M	:
Selenium	0.700	บ	0.700	ש	0.700	ט	0.700	U	0.70	Ü	M	1

-3-

BLANKS

Contract:	Northgate Environmental Ma	nagement, Inc.			
Lab Code:	Case No.:	SAS No.:		SDG NO.:	D9J300353
Preparation	Blank Matrix (soil/water):	WATER			
Preparation	Blank Concentration Units (u	ng/L or mg/kg):	UG/L		

	Initial Calib. Blank		Continuing Calibration Blank (ug/L)					Preparation Blank			
Analyte	(ug/L)	С	1	С	2	С	3	С		C	М
Arsenic	1	Ιİ	0.210	ם	0.21	ן ט ן ס					M
Selenium	I		0.700	ט (0.70	ן ט ס				1	М

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract:	Northgate En	vironmental	Management,	Inc.				
Lab Code:		Case No.: _		SAS No.:		SDG NO.:	D9J300353	
ICP ID Num	er: Agilent	7500			ICS Source:	Inorgan	ic Ventures	

Concentration Units): ug/L

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



Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lot/SDG Number:

D9J300353

M-137BDISS

D9J300353-002S

Matrix: % Moisture: **WATER**

LNLPF

Basis:

N/A

10/29/09 13:30

<u>Wet</u>

Date/Time Collected: Date/Time Received:

10/30/09 10:30

Analysis Method:

<u>6020</u>

Date Leached:

MS Lab Sample ID:

MS Lab WorkOrder:

11/09/09 14:00

Unit:

ug/L

Date/Time Extracted:

11/10/09 02:30

QC Batch ID:

9306272

Date/Time Analyzed:

MS Sample Aliquot:

<u>50 mL</u>

Instrument ID:

024

MS Dilution Factor: 1

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



Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-137BDISS

Lot/SDG Number:

D9J300353

MSD Lab Sample ID:

D9J300353-002D

Matrix:

<u>WATER</u>

MSD Lab WorkOrder:

LNLPF

% Moisture:

N/A

Date/Time Collected:

10/29/09 13:30

Basis:

Wet

Date/Time Received:

10/30/09 10:30

Analysis Method:

<u>6020</u>

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/09/09 14:00

QC Batch ID:

9306272

Date/Time Analyzed:

11/10/09 02:33

MSD Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

MSD Dilution Factor: $\underline{1}$

	6 11	C 1	C MSD				% Rec	6 Rec Q	Q RPD	Q	QC Limits	
Analyte	Spike Amount	Sample Result	С	Result	C	% Rec					RPD	
Arsenic	40.0	190		235	MSB	105		0.12		85 - 117	20	
Selenium	40.0	2.2	В	45.5		108		3.5		77 - 122	20	

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

M-137BDISS	PDS	

Contract: Northgate Environmental Management, Inc.

Lab Code: Case No.:

SAS No.:

SDG NO.: D9J300353

Matrix (soil/water):

WATER

Level (low/med):

LOW

Concentration Units:

ug/L

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



Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lot/SDG Number:

D9J300353

Lab Sample ID:

D9K020000-272C

Matrix:

WATER

Lab WorkOrder:

LNNPL

% Moisture:

N/A

Date/Time Collected:

Basis:

Analysis Method:

Wet

Date/Time Received:

Unit:

<u>6020</u>

Date Leached:

11/09/09 14:00

ug/L

Date/Time Extracted:

QC Batch ID:

9306272

Date/Time Analyzed:

11/10/09 02:19

Sample Aliquot: **Dilution Factor:**

50 mL

1

Instrument ID:

<u>024</u>

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

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

						M-137BDI	SS SER
Contract: No	orthgate	Environmental	Management,	Inc.	L		
Lab Code: _		Case No.:		SAS No.:		SDG NO.:	D9J300353
Matrix (soil/	water):	WATER			Level	(low/med):	TOM

Concentration Units:

ug/L

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	С	% Differ- ence	Q	м
Arsenic	193.000		189.050	2.0		М
Selenium	2.230 B		3.819 B	71.3]	М

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DETECTION LIMITS

Contract:	Northgate Environmental Manage	ement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J300353
ICP ID Numi	ber: Agilent 7500	Date: 4/23/2009		
Flame AA II	Number:			
Furnace AA	ID Number:			

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

Dissolved Metals Analysis -12-ERLY)

Contract:	Northgate Env	ironmental	Management, Inc.			
Lab Code:	***************************************	Case No.:	SAS No.:		SDG NO.:	D9J300353
ICP ID Numb	er: Agilent	7500	Date:	10/1/2009		

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

Comments:	

Check Sample

Dissolved Metals Analysis

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PREPARATION LOG

Cont	ract: Northgate	Environmental Managemen	t, Inc.			
Lab (Code:	Case No.:	SAS No.:	SDG NO.:	D9J300353	
Metho	od: MS	Prep Method	l:			
	Sample ID	Preparation Dat	Initial Vo	lume	Final Volume(mL)	
	M-137BDISS	11/9/2009	50	.0	50.0	
	M-137BDISS MS	11/9/2009	50	.0	50.0	
	M-137BDISS MSD	11/9/2009	50	.0	50.0	
	MB9306272	11/9/2009	50	.0	50.0	

11/9/2009

50.0

50.0

-14-

ANALYSIS RUN LOG

Contract:	Northgate	Environmental	Management,	Inc.

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

Instrument ID Number: Agilent 7500 Method: M

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

art Date: 11/9	/2009	_						Enc						/ 10				_											
													Analytes																
Sample ID.	D/F	Time	% R	A L	S B	A S	B A	B E	C D	C A	C R	С 0		F E		M G		H G	N	ĸ	S		N A	T L	v	Z N			
CAL BLANK	1.00	20:32				Х															x						L		
100 PPB	1.00	20:35				X															х						L		
ICV	1.00	20:37				x															X								
ICB	1.00	20:43				х															X								
RL STD	1.00	20:46				Х															X								
ICSA	1.00	20:54				х															x								
ICSAB	1.00	20:57				х															x								
RINSE	1.00	20:59				х															x						Γ		
LR1	1.00	21:02				x															x								
RINSE	1.00	21:05				Х															х								
ccv	1.00	21:08				Х															х						Ī		
ССВ	1.00	21:10				х															х						Ī		
CAL BLANK	1.00	23:23				х															x						Ī		
100 PPB	1.00	23:26				х															х						T		
CCV	1.00	23:29				х													Γ		x						T		
ССВ	1.00	23:32				х															х						Ī		
ICSA	1.00	23:37				х			Γ				Г						Π		x						T		
ICSAB	1.00	23:40		T		х															x						Ī		
WASH	1.00	23:43		П		х															х						Ī		
ccv	1.00	23:45				х															x						Ţ		
CCB	1.00	23:48				х		Π													x						T		
CAL BLANK	1.00	02:03			Г	х															х						I		
100 PPB	1.00	02:05				х			T			1									х						T		
ccv	1.00	02:08				х		Г													х		Γ				T		
ССВ	1.00	02:11		T		х				Ī	Г										x						T		
MB9306272	1.00	02:16				х			Ť	T		T									x						Ī		
Check Sample	1.00	02:19				х						Г									х					$oxed{\Box}$	Ī		
M-137BDISS	1.00	02:22		T		х					Γ										х						Ţ		
M-137BDISS SER	5.00	02:25				х															x						J		
M-137BDISS PDS	1.00	02:27				х															x						T		
M-137BDISS MS	1.00	02:30				х															x						T		
M-137BDISS MSD	1.00	02:33				х															x						Ī		
CCV	1.00	02:36				х										Π					x					Γ	T		

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

ANALYSIS RUN LOG

Contract:	Northgate	Enviro	nmenta	1 Mana	gen	nen	t,	I	œ.																		
Lab Code: _			Case	No.:				_	SA	s 1	٧o.	:					\$	SDG	No	.:	D	9J	30	035	3		-
Instrument I	D Number:	Agile	nt 750	0				_	Ме	the	od:		M	[
Start Date:	11/9/200	9							En	đ I	ato	e:		11/	10	/20	09			_							
														A	na]	Lyt	es										
Sampl ID.	e	D/F	Time	% R	A		A S	B A	1	C D			- I	C U			M S N		1		SE			T L		Z N	C
CCB		1.00	02:38		П		x	Ī						\neg							х						

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

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: <u>D9J300356</u>

Client: Northgate/Tronox

Method: <u>SW846 6020/Collision Cell</u>

Associated Samples: <u>001</u>

TestAmerica 198

Total Metals Analysis COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

	COVER PAGE - INORG	ANIC ANAL	YSIS DATA PACKAGE	
Contract: I	Northgate Environmental Managemen	nt, Inc.	SDG No.:	D9J300356
Lab Code:	Case No.:		SAS No.:	
CON No.				
SOW No.:				
	Sample ID.	Lab	Sample No.	
	M-148B	D90	J300356-001	
Warra TOD int	analamant samuastions applied?		Yes/No	YES
were ich inc	erelement corrections applied?		100/110	
	kground corrections applied?		Yes/No	YES
	-were raw data generated before ation of background corrections?		Yes/No	NO
Comments:				
940 94 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
I certify the	at this data package is in compliand th technically and for completeness,	e with the for other	terms and conditions of the	ed.
above. Rele	ase of the data contained in this ha floppy diskette has been authorized	rdcopy dat	a package and in the compute	er-readable data
	the following signature.			
	1 - 2115			
Signature:	pmg Collin	Name:	Janice Collins	
U				
Date:	1111109	Title:	Metals Analyst	



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

M-148B

Lot/SDG Number:

D9J300356

Lab Sample ID:

D9J300356-001

Matrix:

WATER

Lab WorkOrder:

LNLR4

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/29/09 09:10

Basis:

Wet

Date/Time Received:

10/30/09 10:30

Analysis Method:

<u>6020</u>

Date Leached:

11/03/09 14:00

Unit:

ug/L

Date/Time Extracted:

QC Batch ID:

9306276

Date/Time Analyzed:

11/09/09 21:24

Sample Aliquot: **Dilution Factor:** 50 mL

<u>2</u>

Instrument ID:

<u>024</u>

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

Total Metals Analysis -2AINITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	menta]	. Management,	Inc.		
Lab Code:	Case	No.:	**************************************	SAS No.:	SDG NO.:	D9J300356
Initial Cal	ibration Source:	High	Purity			
Continuing	Calibration Source:		Inorganic Ve	ntures		

Concentration Units: ug/L

	Initial Ca	alibration		Continuing Calibration									
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	М				
Arsenic	40.0	40.1	100.2	50.0	50.9	101.8	51.	4 102.8	М				
Selenium	40.0	40.2	100.5	50.0	51.9	103.8	50	6 101.2	М				

⁽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 Environ	nmental Management, Inc.	
Lab Code: Case	No.: SAS No.:	SDG No.: D9J300356
AA CRDL Standard Source:		
ICP CRDL Standard Source:	Inorganic Ventures	

Concentration Units: ug/L

	CRDL Standard for AA				Init	CP Final			
Analyte	True	Found	%R		True	Found	%R	Found	%R
Arsenic				П	1.00	1.05	1 105.1		
Selenium				ΙĬ	1.00	1.23	2 123.2		



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lab Sample ID:

D9K020000-276B

Lot/SDG Number:

% Moisture:

D9J300356

Lab WorkOrder:

LNNP6

Matrix:

WATER

Date/Time Collected:

Basis: **Analysis Method:** Wet

Date/Time Received:

Unit:

<u>6020</u> ug/L

Date Leached: Date/Time Extracted:

11/03/09 14:00

QC Batch ID:

9306276

Date/Time Analyzed:

11/09/09 21:16

Sample Aliquot:

<u>50 mL</u>

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	

-3-

BLANKS

Contract:	Northgate Environmental Man	nagement, Inc.			
Lab Code:	Case No.:	SAS No.:		SDG NO.:	D9J300356
Preparation	Blank Matrix (soil/water):	WATER			
Preparation	Blank Concentration Units (ug	g/L or mg/kg):	UG/L		

	Initial Calib. Blank		Continuing Calibration Blank (ug/L)							Preparation Blank			
Analyte	(ug/L)	С	1	С	2	С	3	c			C		М
Arsenic	0.210	ן ט	0.210	ן ט	0.210	ן ט				0.21	Ū	П	М
Selenium	0.700	Ū	0.700	ן ט	0.700	ם				0.70	υ	Ц	М

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract:	Northgate En	vironmental	Management,	Inc.			
Lab Code:		Case No.: _		SAS No.:		SDG NO.:	D9J300356
ICP ID Numb	er: Agilent	7500			ICS Source:	Inorgan	ic Ventures

Concentration Units): ug/L

	True		Initi	al Found	Fina			
Analyte	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.28	101.00	101.0			
Selenium	0.0	100.0	0.38	100.00	100.0			



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J300356

MS Lab Sample ID:

D9J310138-001S

Matrix:

WATER

MS Lab WorkOrder:

LNME4

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/30/09 11:10

Basis:

Wet

Date/Time Received:

10/31/09 08:30

Analysis Method:

6020

Date Leached:

11/03/09 14:00

Unit:

ug/L

Date/Time Extracted:

QC Batch ID:

9306276

Date/Time Analyzed:

11/09/09 21:35

MS Sample Aliquot:

50 mL

Instrument ID:

<u>024</u>

MS Dilution Factor: 1

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



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

LAB MS/MSD

Lot/SDG Number:

D9J300356

MSD Lab Sample ID:

D9J310138-001D

Matrix:

WATER

MSD Lab WorkOrder:

LNME4

% Moisture:

N/A

10/30/09 11:10

Basis:

Wet

Date/Time Collected: Date/Time Received:

10/31/09 08:30

Analysis Method:

<u>6020</u>

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/03/09 14:00

QC Batch ID:

9306276

Date/Time Analyzed:

11/09/09 21:38

MSD Sample Aliquot:

<u>50 mL</u>

Instrument ID:

024

MSD Dilution Factor:

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

Lab Code:

Total Metals Analysis -5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

	INTRA-LAB	QC	PDS	
ļ				

Contract: Northgate Environmental Management, Inc.

Case No.: SAS No.:

SDG NO.: D9J300356

Matrix (soil/water):

WATER

Level (low/med):

LOW

Concentration Units:

ug/L

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



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

D9K020000-276C

Lot/SDG Number:

D9J300356

Lab Sample ID:

Matrix:

WATER

Lab WorkOrder:

LNNP6

% Moisture:

<u>N/A</u>

Date/Time Collected:

Basis:

<u>Wet</u>

Date/Time Received:

Analysis Method:

<u>6020</u>

Date Leached:

11/03/09 14:00

Unit:

ug/L

Date/Time Extracted: Date/Time Analyzed:

11/09/09 21:19

QC Batch ID:

9306276 50 mL

Instrument ID:

<u>024</u>

Sample Aliquot: **Dilution Factor:**

1

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

ICP SERIAL DILUTIONS

SAMPLE NO.

	INTF	RA-LAB	QC	SER	
L					

Contract: Northgate Environmental Management, Inc.

SAS No.: Lab Code: Case No.:

SDG NO.: D9J300356

Matrix (soil/water): WATER

Level (low/med):

LOW

Concentration Units:

ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S)	С	% . Differ- ence	Q	м
Arsenic	0.210 U		1.050 ប្រ			M
Selenium	0.700 U		3.500 ປັ			М

-10-

DETECTION LIMITS

Contract: No	orthgate Environmental Manag	ement, Inc.		
Lab Code: _	Case No.:	SAS No.:	SDG NO.:	D9J300356
ICP ID Number	r: Agilent 7500	Date: 4/23/2009		
Flame AA ID N	Number:			
Furnace AA ID	Number:			

Analyte	Isotope	Back- ground	PQL (ug/L)	MDL (ug/L)	М
Arsenic	75		5.000	0.2100	М
Selenium	78	1	5.000	0.7000	M

Comments:	

-13-

PREPARATION LOG

Contract:	Northgate	Environmental	Management,	Inc.		
Lab Code:		Case No.:		SAS No.:	 SDG NO.:	D9J300356
Method:	MS		Prep Method:			

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

-14-

ANALYSIS RUN LOG

Contract:	Northgate E	Environmental Management, In	nc.			
Lab Code:	····	Case No.:	SAS No.:		SDG No.:	D9J300356
Instrument I	D Number:	Agilent 7500	Method:	M		
Start Date:	11/9/2009		End Date:	11/9/2009		

									<u> </u>				,	Ana	1y	tes	1										
Sample ID.	D/F	Time	% R	A	S B	A S	B A	B E	C D	C A	C R		C D	F E	P B	M G		G H	N	ĸ	S E	A G	N A	T L	v		C N
CAL BLANK	1.00	20:32				x															X						
100 PPB	1.00	20:35				X															X						
ICV	1.00	20:37				Х															Х						
ICB	1.00	20:43				х															x						
RL STD	1.00	20:46				X															х						
ICSA	1.00	20:54				X															х						
ICSAB	1.00	20:57				Х															х						
RINSE	1.00	20:59				Х															х						
LR1	1.00	21:02				х															х						
RINSE	1.00	21:05				X															х						_
ccv	1.00	21:08				х															х						<u> </u>
ССВ	1.00	21:10				Х															x				Ļ		辶
мв9306276	1.00	21:16				x															x					L	ᆫ
Check Sample	1.00	21:19				х															х				_	<u> </u>	ㄴ
M-148B	2.00	21:24				x								_							х					ᆜ	<u> </u>
INTRA-LAB QC	1.00	21:27				X														L	x				L	<u> </u>	ㄴ
INTRA-LAB QC SER	5.00	21:30				Х													_	<u> </u>	х	_	_			Ļ	<u> </u>
INTRA-LAB QC PDS	1.00	21:32				х									_					<u> </u>	x				_	上	<u> </u>
LAB MS/MSD MS	1.00	21:35				х						L	<u> </u>	_						_	x		<u>L</u>	<u> </u>		<u> </u>	<u> </u>
LAB MS/MSD MSD	1.00	21:38				х															X		_	_	_	ㅗ	_
ccv	1.00	21:41				х															x	_	<u> </u>			<u> </u>	Ļ
ССВ	1.00	21:43				X													L		x						<u> </u>

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

TestAmerica

Total Metals

CLP-Like Forms

Lot ID: <u>D9J310138</u>

Client: Northgate/Tronox

Method: <u>SW846 6020/Collision Cell</u>

Associated Samples: <u>001</u>

TestAmerica 214

Total Metals Analysis COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

	COVER PAGE - INORGA	ANIC ANAL	YSIS DATA PACKAGE		
Contract:	Northgate Environmental Managemen	t, Inc.	s	DG No.:	D9J310138
* .1- ~-3-	Case No.:				
Lab Code:	b Code:				
SOW No.:					
	Sample ID.	Lab	Sample No.		
	EB103009-GWA4	D9J	310138-001	•	
	EB103009-GWA4 MS	D9.	7310138-001S		
	EB103009-GWA4 MSD	D95	310138-001SD		
Were ICP i	interelement corrections applied?			Yes/No	YES
					1
	packground corrections applied?			Yes/No	YES
- -	es-were raw data generated before			Yes/No	NO
appı	ication of background corrections?			102,110	
Comments:					
				.,,,	

3 74				·	
	that this data package is in compliance	a with the	torms and conditions	of the	
contract.	both technically and for completeness,	for other	than the conditions	detailed	
above. Re	elease of the data contained in this ha	rdcopy dat	a package and in the	computer	readable data
	on floppy diskette has been authorized by the following signature.	by the La	boratory Manager or t	ne Manag	er's designee, as
verified i	y the lottowing signature.				
Signature:	James Colle	Name:	Janice Collins		
-					
Date:	James Collin	m: -1	Metals Analyst		
Date:	_111107	Title:	Mecars maryst		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

EB103009-GWA4

Lot/SDG Number:

D9J310138

Lab Sample ID:

D9J310138-001

Matrix:

WATER

Lab WorkOrder:

LNME4

% Moisture:

<u>N/A</u>

Date/Time Collected:

10/30/09 11:10

Basis:

Wet

Date/Time Received:

10/31/09 08:30

Analysis Method:

<u>6020</u>

Date Leached:

11/03/09 14:00

Unit:

CAS No.

7440-38-2

7782-49-2

ug/L

Date/Time Extracted: Date/Time Analyzed:

11/09/09 21:27

5.0

U

QC Batch ID: Sample Aliquot: 9306276 50 mL

Instrument ID:

024

0.70

Dilution Factor:

1

Arsenic

Selenium

Analyte	Conc.	MDL	RL	Q	
	0.21	0.21	5.0	U	

0.70

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Management	, Inc.			
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J310138	_
Initial Cal	ibration Source:	High Purity		 		
Continuing	Calibration Source:	Inorganic Ve	ntures			

Concentration Units: ug/L

	Initial Ca	libration		Continuing Calibration						
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м	
Arsenic	40.0	40.1	100.2	50.0	50.	9 101.8	51.4	102.8	М	
Selenium	40.0	40.2	100.5	50.0	51.	9 103.8	50.6	101.2	M	

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

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract:	Northgate Environ	mental Mana	agement, Inc.			
Lab Code:	Case	No.:	SAS No.:	SDG NO.:	D9J310138	
Initial Cal	ibration Source:	High Purit	У			
Continuing	Calibration Source:	Inorg	anic Ventures			

Concentration Units: ug/L

	Initial Calibration				Continuing Calibration						
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	М		
Arsenic	40.0	40.1	100.2	50.0	50.9	101.8	51.	4 102.8	M		
Selenium	40.0	40.2	2 100.5	50.0	51.9	103.8	50.	6 101.2	M		

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

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

ICP CRDL S	tandard Source	: Inorga	nic Ventures					
AA CRDL Sta	andard Source:	·						
Lab Code:		Case No.: _	SA:	S No.:		SDG No.:	D9J310138	_
Contract:	Northgate En	nvironmental	Management,	Inc.	-			

Concentration Units: ug/L

	CRDL St	andard for AA							
Analyte	True	Found	%R		True	Found	%R	Found	%R
Arsenic					1.00	1.051	105.1		
Selenium				Ш	1.00	1.232	123.2		



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lot/SDG Number:

D9J310138

Lab Sample ID:

D9K020000-276B

Matrix:

WATER

Lab WorkOrder:

LNNP6

% Moisture:

Date/Time Collected:

Basis: **Analysis Method:** Wet

Date/Time Received:

<u>6020</u>

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/03/09 14:00

QC Batch ID:

9306276

Date/Time Analyzed:

11/09/09 21:16

Sample Aliquot:

<u>50 mL</u>

Instrument ID:

<u>024</u>

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

-3-

BLANKS

Contract:	Northgate Environmental Ma	anagement, Inc.		
Lab Code:	Case No.:	SAS No.:	SDG NO.:	D9J310138
Preparation	Blank Matrix (soil/water):	WATER		
Preparation	Blank Concentration Units (u	ig/L or mg/kg):	UG/L	

	Initial Calib. Blank			Cc	ontinuing Cal Blank (ug/	Calibration (ug/L)				Preparation Blank			
Analyte	(ug/L)	c	1	С	2	С	3	С			С		M
Arsenic	0.210	<u>ס</u>	0.210	ן ט ן	0.210	Ū				0.21	Ū	L	М
Selenium	0.700	Ū	0.700	ַ	0.700	ט				0.70	Ū	L	М

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract:	Northgate E	nvironmental	Management,	Inc.					
Lab Code:	***	Case No.:		SAS No.:			SDG NO.:	D9J310138	
ICP ID Numb	er: Agilent	7500			ics	Source:	Inorgan	ic Ventures	

Concentration Units): ug/L

	True			Initi	al Found		Final Found			
Analyte		Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R	
Arsenic	1	0.0	100.0	0.28	101.00	101.0				
Selenium		0.0	100.0	0.38	100.00	100.0				



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

EB103009-GWA4

Lot/SDG Number:

D9J310138

MS Lab Sample ID:

D9J310138-001S

Matrix:

<u>WATER</u>

MS Lab WorkOrder:

LNME4

% Moisture:

N/A

Date/Time Collected:

10/30/09 11:10

Basis:

Wet

Date/Time Received:

10/31/09 08:30

Analysis Method:

<u>6020</u>

Date Leached:
Date/Time Extracted:

11/03/09 14:00

Unit:

ug/L

Date/Time Analyzed:

11/09/09 21:35

QC Batch ID:

<u>9306276</u>

2

004

MS Sample Aliquot:

quot: 50 mL

MS Dilution Factor: 1

Instrument ID:

<u>024</u>

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



Northgate Environmental Management, Inc. **Total Metals Analysis Data Sheet**

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

EB103009-GWA4

Lot/SDG Number:

D9J310138

MSD Lab Sample ID:

D9J310138-001D

Matrix:

WATER

MSD Lab WorkOrder:

LNME4

% Moisture:

N/A

10/30/09 11:10

Basis:

Date/Time Collected: Date/Time Received:

10/31/09 08:30

Analysis Method:

<u>Wet</u> <u>6020</u>

Date Leached:

Unit:

ug/L

Date/Time Extracted:

11/03/09 14:00

QC Batch ID:

9306276

<u>50 mL</u>

Date/Time Analyzed:

11/09/09 21:38

MSD Sample Aliquot:

Instrument ID:

<u>024</u>

MSD Dilution Factor:

	6.7	C1-		MSD					_	QC Lin	nits
Analyte	Spike Amount	Sample Result	C	Result	С	% Rec	Q	RPD	Q	% Rec	RPD
Arsenic	40.0	0.21	U	39.6		99		0.17		85 - 117	20
Selenium	40.0	0.70	U	37.1		92		1.6		77 - 122	20

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

EB103009-GWA4	PDS	

Contract: Northgate Environmental Management, Inc.

Lab Code: Case No.: SAS

SAS No.:

SDG NO.: D9J310138

Matrix (soil/water):

WATER

Level (low/med):

LOW

Concentration Units:

ug/L

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



Northgate Environmental Management, Inc. Total Metals Analysis Data Sheet

Lab Name:

TESTAMERICA DENVER

Client Sample ID:

Lot/SDG Number:

D9J310138

Lab Sample ID:

D9K020000-276C

Matrix:

WATER

Lab WorkOrder:

LNNP6

% Moisture:

N/A

Date/Time Collected:

Basis:

Wet

Date/Time Received:

Analysis Method:

<u>wet</u>

Date/1 ime Rece

Unit:

<u>6020</u>

Date Leached:

11/03/09 14:00

QC Batch ID:

ug/L

Date/Time Extracted: Date/Time Analyzed:

11/09/09 21:19

Sample Aliquot:

9306276 50 mL

Instrument ID:

024

Dilution Factor:

1

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

Analyte

Arsenic

Selenium

Total Metals Analysis

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ICP SERIAL DILUTIONS

SAMPLE NO.

ence

1.050 U

3.500 ປັ

M

M

Contract:	Northanto	Environmental Manage	ment. Inc.		EB103009-0	SWA4 SER	
Lab Code:	MOTCHIGACE	Case No.:	SAS No.:	· · · · · · · · · · · · · · · · · · ·	SDG NO.:	D9J310138	
Matrix (soi	.l/water):	WATER		Level	(low/med):	LOW	
		Concentration U	nits: ug/L				-
		Initial Sample	Serial Dilutio		% Diffe	11 1	

C

0.210 U

0.700 U

Result (I)

Result (S)

-10-

DETECTION LIMITS

Contract:	Northgate En	vironmental Mana	gement, inc.		
Lab Code:		Case No.:	SAS No.:	SDG NO.:	D9J310138
ICP ID Num	ber: Agilent	7500	Date: 4/23/2009		
Flame AA II	Number:				
Furnace AA	ID Number:				

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

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ICP LINEAR RANGES (QUARTERLY)

Con	tract	t: Nor	thgate Envi	ironmental	Management	i, Inc.				
Lab	Code	e:	· · · · · · · · · · · · · · · · · · ·	Case No.:		SAS No.:		SDG NO.:	D9J310138	
ICP	ID N	Number:	Agilent	7500	·	Date:	10/1/2009			

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

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PREPARATION LOG

Contract:	Northgate	Environmental	Management,	Inc.			
Lab Code:		Case No.:		SAS No.:	 SDG NO.:	D9J310138	
Method:	MS	1	Prep Method:				

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

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract:	Northgate	Environmental Manag	gement, Inc.			
Lab Code:		Case No.:	SAS No.:		SDG No.:	D9J310138
Instrument	ID Number:	Agilent 7500	Method:	M		

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

												- 2	Ana	ly	tes	3									
Sample ID.	D/F	Time	% R	A L	S B	A S	B A	B E	C D	C A	C R	C U			M G		N I	ĸ	S E		N A	T L	V	, ,	N C
CAL BLANK	1.00	20:32				x													х						
100 PPB	1.00	20:35				Х													х						
ICV	1.00	20:37				x													x						
ICB	1.00	20:43				х													х						
RL STD	1.00	20:46				х													х						
ICSA	1.00	20:54				х													х						
ICSAB	1.00	20:57				х													x						
RINSE	1.00	20:59				x													x				Ļ		
LR1	1.00	21:02				X													х				_	L	_
RINSE	1.00	21:05				х													x				丄	L	
CCV	1.00	21:08				х													x					L	
ССВ	1.00	21:10				х											<u> </u>		x			L	丄	_	
мв9306276	1.00	21:16				х													x				<u> </u>	L	_
Check Sample	1.00	21:19				х													x				<u> </u>	L	<u> </u>
EB103009-GWA4	1.00	21:27				х										<u> </u>			x	÷			丄	<u> </u>	Ļ
EB103009-GWA4 SER	5.00	21:30				х													х	-			<u> </u>	丄	Ļ
EB103009-GWA4 PDS	1.00	21:32				x													х		ļ.,		<u> </u>	丄	<u> </u>
EB103009-GWA4 MS	1.00	21:35				x													x	-	Ļ	_	Ļ	Ļ	ㅗ
EB103009-GWA4 MSD	1.00	21:38				х											L		x	÷	Ļ	<u> </u>	丄	丄	Ļ
ccv	1.00	21:41				x											_		x	+	<u> </u>	_	丄	ᄂ	Ļ
ССВ	1.00	21:43				x													х						

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

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

CHAIN-OF-CUSTODY / Analytical Request Document

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

COC No. Page: Cooler# 2027.001.01113 1 of 1

Collection Area: III

frank.hagar@ngem.com	Notifications provided to: cindy.arnold@ngem.com	FTP site address provided to labs	Northgate Environmental Management, Inc.	As Se only by collison cell	Additional Comments/Special Instructions:	12	10	00	Jwo		4	M_139BDISS	M-139B	One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	2		Lab PM email imicriaer.pniiiips@ testamericainc.com		ab PM: Michael P. Phillips	Arvada, CO 80002	Address: 4955 Yarrow Street	Lab Name: TestAmerica
				2										TER WO WA R LF SO OIL SW AA 05	×	Site PM Email: d	Phone/Fax: 949-	Site PM Name	City Henderson	Site Address 560	Project #	Site ID #: TRO
6 6 0		.	I											4 0 ¥ 15 % % ≥		lerrick.will	949-375-7004	Derrick Willis	State	560 W. Lake Mead Drive	2027.001	TRONOX LLC. HENDERSON
SHIPPING METHOD UPS COURIER US MAIL			N X		RELINQUISHED BY / AFFILIATION							we e	WG	SAMPLE TYPE G=GRAB C=COM	=	derrick.willis@ngem.com				ENDERSON		
(mark as a				WO	Y / AFFILIATION								10/26/09	SAMPLE DATE		CC Hardcopy report to	CC Hardcopy report to	Send EDD to	Reimbursement project?	City/State	Address: PO Box 55	Tronox LLC
F SAMPL			(PES										125	SAMPLETIME	-			Frank Hag frank.haga	g	ox 55	Tronox LLC	
SAMPLER NAMER: Damo ER:			1921/60	10/26 MOS	DATE TIME							 1	3	#OF CONTAINER	RS	see additional c	PDF Electronic	Frank Hagar Northgate Environmental Management, Inc	X Non-re	Henderson, NV 89009		C
Brown S			Corino	5								k	z	FIELD FILTERED?	(Y/N)) H	: Version Only	Environment	Non-reimbursement project?	Phone #:		
SIGNATURE W &			L	À	ACCEPTED BY / AFFILIATION							 *	×	Unpreserved H2SO4 HNO3 HCt	Pres	elow	₹	al Manageme	t project?	(949)260-9293		
DATE Signed			Sur	ST.	LIATION									NaOH Na2S2O3 Methanol	Preservatives			ent, Inc	Mark one	293		
W 0715		an 10	78	ú								×	×	Request Analyse	:s	_	Lab Proj	MA MCP Cert?		QC level	If Rush, Date due	7
1340		olation	0500 copper	12/2/	DATE TIME									EPA 80 TO COMMON C.			Lab Project ID (lab use)	Cert?	ed Deliveral	QC level Required: Standard NJ Reduced Deliverable Package?	ate due	AT Standard 30 day
	,		30	40													se)	CT RCP Cert?	ole Packag			×
Temp in 00 Samples on Ice?	Y/N	Y/N	۲/ _Z	イ/z	ple Recei							500 ml Plastic	500 ml Plastic					Cert?	e?	Special		Kusii
Sample intact?	≺ / z	Y/N	Y/N	۲/2 ع	Sample Receipt Conditions								astic	Comments/Lab	\					EPA Stage Mark one		
Trip Blank	z	Y/N	Y/N	Y/N	ons							معد		s/Lab				Mark One		Mark one		Wark One

TestAmerica Denver

Sample Receiving Checklist

Lot:	#: [)7	J	270261 Date/Time Received: 10-27-09 (0930
		ıy Na	ame	e & Sampling Site: Northynte - KRONOX
				This Section: Yes No Yes No heck required: □ □ □
Quote	e#:	4.	2 /	
Speci	al In		<i>y</i> -	
Брос				
Time	Zon	e:	ייירוני	/CST • MDT/MST • PDT/PST • OTHER
• ED	1/ES	1 • (וענ	CSI • MIDI/MISI • FDI/I SI • OTHER
Unp	ack	ing (Che	ecks:
_F		_		
Tamn	CU proti	170ICI 1	#(8). º(^`)∙	2.4
N/A	Yes		C).	Initials
<u> </u>	7		1.	Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
	7 2			Coolers scanned for radiation. Is the reading ≤ to background levels? Yes: Vo:
•	2			Chain of custody present? If no, document on CUR.
		\Box	4.	Bottles broken and/or are leaking? If yes, document on CUR.
		7		Multiphasic samples obvious? If yes, document on CUR.
,	Þ	٥	6.	Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
<u> </u>	p			pH of all samples checked and meet requirements? If no, document on CUR.
` `	ZĮ.			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.
		Þ	9.	Did chain of custody agree with labels ID and samples received? If no, document on CUR.
p 1		Q		Were VOA samples without headspace? If no, document on CUR.
•			11.	Were VOA vials preserved? Preservative □HCl □4±2°C □Sodium Thiosulfate □ Ascorbic Acid
1				Did samples require preservation with sodium thiosulfate?
				If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
4				Sediment present in dissolved/filtered bottles? If yes, document on CUR.
ф .				Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
į		. 1		Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
[þ	17.	Are analyses with short holding times requested?
(\neg	k	1 2	Was a quick Turn Around (TAT) requested?

TestAmerica Denver Sample Receiving Checklist

Lot #D9JZ70261 Initials Login Checks: Ware 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? 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: 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

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

33. Were AFCEE metals stored refrigerated?

northgate environmental management, Inc. 1100 Quali 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.
Page:
Cooler # Collection Area: III 2027.001.01110 1 of 1

frank.hagar@ngem.com	FTP site address provided to labs Notifications provided to: cindy_arnold@ngem.com	All PDF reports and EDDs will be uploaded to: Northgate Environmental Management, Inc.	Aggronal commens/special instructions. As Se only by collison cell	Additional Comments/Special Instructions:	10	,	\$ Jwo		4	M-A5BDISS	1 M-145B	SAMPLE ID One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE			Lab PM email michael.pniiips@	Phone/Fax: 303-736-0157	P. Phillips	Arvada, CO 80002	Address: 4955 Yarrow Street	Lab Name: TestAmerica
		· fo										MALKIX. ZERNORIO YMEE GROUND VIKE WORTER WORTER WORTER WORTER WORTER WORTER WORTER FOR JUDGE SOIL WITER SOIL WITER SOIL WITER SOIL A G JAMAIL TISSUE BOIL 649	tx Codes	Site PM Email:	Phone/Fax: 949	Site PM Name	City Henderson	Site Address 560	Project #	Site ID #: TRONOX LLC
SHIPP UPS US N		[/ J	\	Į.						944	WG	MATRIX CODE	SIX I	derrick.willis@ngem.com	949-375-7004	Derrick Willis	State	560 W. Lake Mead Drive	2027.001	TRONOX LLC. HENDERSON
SHIPPING METHOD UPS COURIER US MAIL		M	2 X	RELINQUISHED BY / AFFILIATION						6	ြ	SAMPLE TYPE G=GRAB C=COM	P	ngem.com		S.	NV	Drive	-	DERSON
.~			9	/ AFFILIATION							10/26/09			City/State Henders Reimbursement project? Reimbursement project? Frank H Send EDD to frank.ha CC Hardcopy report to	Address: PO Box 55	Send Invoice to:				
f SAMPL		2 CEP.	10/	D/							1015					frank Hagar Northgate E frank.hagar@ngem.com	project?	Henderson, NV 89009	эх 55	Tronox LLC
SAMPLER NAME ER: Dang E ER:		24/60	_	DATE TIME								#OF CONTAINER	s	see additional com	PDF Electronic Ve		Non-reimb			, ×
Brown Jos		Corin	V	ACCEPTED E							z	FIELD FILTERED? (Unpreserved H2SO4	Y/N)	omments below	Version Only	invironmental Management,	mbursement project?	Phone #: (94		
エ		B		ACCEPTED BY / AFFILIATION						\ 	×	HNO3 HCI NaOH Na2S2O3	Preservatives			nagement, inc		(949)260-9293		
W OT 15		,	Gres	2						\ \		Methanol Other Requeste	ed		Lab	MA	Mark one NJ I	ည်	If Ru	2
6 Time: 1045		10/27/0	15/21	DATE						,	×	Analyses EPA 60301Collegor Ce, EFA 6131A OPEPER		_	Lab Project ID (lab use)	MA MCP Cert?	NJ Reduced Deliverable Package?	QC level Required: Standard	If Rush, Date due	IAI. Startdard 50 day
54		04,70	V	TIME S								Per			ab use)	CT RO	verable Pack	d: Standard		×
Temp in 0 Samples on Ice?	< < < < > Z Z	Y/N	イ/ Z	Sample Receipt Conditions						OOC ITT Flastic	500 ml Plastic					CT RCP Cert?	age?	Special		- Tiens
Sample intact?	≺ / ∠ Z	Y/N	۲ ۷	pt Condition								Comments/Lab Sample I.D.		\		Me		4 NE		IVIC
Trip Blank	2 × ×	۲/ N	イ/N	ន						1	3	a b				Mark Che		Wark one		0.00

TestAmerica Denver

Sample Receiving Checklist

Lot #: D9 J270263 Date/Time Received: 10.27-09/0930 Company Name & Sampling Site: Nor Mga +c	_
Company Name & Sampling Site: Nor Mga te	_
Company Ivanie & bamping sweet	
PM to Complete This Section: Yes No Quarantined:	=
Quote #: 83046	
Special Instructions:	
Time Zone: • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER	
• EDI/ESI • CDI/CSI • MDI/MSI • IDI/ISI • CTILEK	-
Unpacking Checks:	
Cooler #(s):	
Temperatures (°C): 7.4	
N/A Yes No Initials	_
☐ ☐ 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.)
2. Coolers scanned for radiation. Is the reading ≤ 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?	
14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.	
 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

Lo	t # D	9	IZ	70263	
Log	gin C	hec	ks:		Initials
N/A	Yes	No			cuse
	Ø			Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) document on CUR, and contact PM before proceeding.	If no,
6			20.	Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document of contact PM before proceeding.	on CUR, and
	6,		21.	Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?	
رو	. ⊒∕		22.	Were special log in instructions read and followed?	
1	رٍت		23.	Were AFCEE metals logged for refrigerated storage?	
	z		24.	Were tests logged checked against the COC? Which samples were confirmed?	
Ø			25.	Was a Rush form completed for quick TAT?	
6		0	26.	Was a Short Hold form completed for any short holds?	
	abla		27.	Were special archiving instructions indicated in the General Comments? If so, what were they?	
		g			.
Lal	oelin	g an	d S	torage Checks:	Initials
A		<u>.</u>	28.	Was the subcontract COC signed and sent with samples to bottle prep?	
1	×		29.	Were sample labels double-checked by a second person?	
X			30.	Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
•	X		31.	Did the sample ID, Date, and Time from label match what was logged?	
\bigvee		Q	32.	Were stickers for special archiving instructions affixed to each box? See #27	
X			33.	Were AFCEE metals stored refrigerated?	

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

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

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

Collect	Cooler#	Page:	COC No.
Collection Area: <u>I</u>	<u>ا</u>	1 of	
Ē	<u> </u>	٠	2027.001.01111
		~	<u>.</u>

Notifications provided to: cindy.arnold@ngem.com frank.hagar@ngem.com	All PDF reports and EDDs will be uploaded to: Northgate Environmental Management, Inc. FTP site address provided to labs	As Se only by collison cell	Additional Comments/Special Instructions:	10	· •			4	<u> </u>	国 1468DISS	M-146B	SAMPLE ID SAMPLE ID SAMPLE ID AATRIX AATRIX ANTRIX ANTRIX ANDROWN A		Lab PM email michael.pniiiips@ Ph		Lab PM: Michael P. Phillips City	Arvada, CO 80002 Sit	Street	Required Ship to Lab: Rec Lab Name: TestArnerica Site
												Void Merit Codes MATRIX MATRIX Were voite end of the control of	ä∷	Phone/Fax: 949-	Site PM Name	Henderson		Project # 20	Required Project Information: Site ID#: TRONOX LLC
	-1,1		Z.						-	VVG	WG	SELE TA TRIX CODE	errick.willis	949-375-7004	Derrick Willis	State	Site Address 560 W. Lake Mead Drive City/State Henderson, NV 89009 Phone # (949)260-9293 QC level Required: Standard	2027.001	t Information: TRONOX LLC. HENDERSON
SHIPPING METHOD UPS COURIER US MAIL	0	191	RELINQUISHED BY / AFFILIATION							G G	G G	SAMPLE TYPE G=GRAB C=COMP	derrick.willis@ngem.com		lis	N	Drive		NDERSON
(mark as a	8	18	Y / AFFILIATION			`					10/27/09	SAMPLE DATE	CC Hardcopy report to	CC Hardcopy report to	Send EDD to	Reimbursement p	Site Address 560 W. Lake Mead Drive City/State Henderson, NV 89009 Phone # (949)260-9293	Address: PO Box 55	Required Invoice Information: Send Invoice to: Susan Crowley Tronox LLC
ppropriate) SAMPLER NAMPLER: JOS	ES CEN	10/27	DATE								0930	SAMPLE TIME	report to see additional		Frank Hagar Northgate Environmental Management, Inc	roject?	Henderson, NV 8	X 55	Susan Crowley Tronox LLC
	168	14/0	HME			€ \$				1		#OF CONTAINERS	itional comi	PDF Electronic Version Only	thgate Envi	Non-reimbursement project?			
ME AND SIGNATURE			ACCEPTED							k	Z	FIELD FILTERED? (Y/N Unpreserved	comments below	sion Only	onmental N	rsement pro			
	ap Bui	P	ACCEPTED BY / AFFILIATION							 - -	×	H2SO4 HN03 HCI NaOH Na2S203			fanagement, i	ject?	949)260-9293		
DATE Signed /		K '	TON									Methanol Other				ark one			
10/27 Time:	80/01	\$ \(\begin{align*} \text{S} & \t	J,							7	×	Requested Analyses		Lab Project ID (lab use)	MA MCP Cert?	NJ Reduced Deliverable Package	QC level Re	If Rush, Date due	TAT: Standard 30 day
1055		7	DATE TIME									EPA 8030 Colleion Ce.		lD (lab us	1.7	Deliverab	quired: Sta	e due	ard 30 day
Temp in 00														ě	CT RCP Cert?	e Package	ndard		X Rush
	イ イ 2 Z	Y/N	ole Receip							ood mil lade	500 ml Plastic	w c			Cert?	7	Special E		sh
Sample < /	Y/N	Υ / Z	Sample Receipt Conditions		,		-			2 L E C		Comments/Lab	\				PA Stage M		<u> </u>
Trip Blank?	Y/N	۲/ ۷	าร							Č	>	Lab			Mark One		ark one		Mark One

TestAmerica Denver

Sample Receiving Checklist

Lot #:	Date/Time Received:/	0/28/09	1000	
Company Name & Sampling Site: Nor	Prograte - TR	YOUD	· · · · · · · · · · · · · · · · · · ·	
PM to Complete This Section: Yes No Residual chlorine check required: ✓	Yes Quarantined:	No X	<i>Ye</i> MIS prep : □	
Quote #: 43046				
Special Instructions:				
Time Zone: • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OT	THER			
* EDI/ESI * CDI/CSI * INDI/INSI * IDI/INSI * CO.				
Unpacking Checks:				
Cooler #(s):			. <u></u>	
Temperatures (°C):				
N/A Yes No				Initials
☐ ☐ 1. Cooler seals intact? (N/A if hand d	elivered) If no, document on (CUR.		CHK
2. Coolers scanned for radiation. Is the	e reading ≤ to background lev	els? Yes: 👱	No:	
3. Chain of custody present? If no, doc	cument on CUR.			
4. Bottles broken and/or are leaking? I	If yes, document on CUR.			
5. Multiphasic samples obvious? If ye	s, document on CUR.			
☐ 6. Proper container & preservatives us	ed? (ref. Attachment D of SO	P# DV-QA-0	003) If no, docume	nt on CUR.
☐ ☐ 7. pH of all samples checked and meet	t requirements? If no, docume	ent on CUR.		
8. Sufficient volume provided for all a document on CUR, and contact PM		ment D of So	OP# DV-QA-0003)	If no,
9. Did chain of custody agree with lab	els ID and samples received?	If no, docume	ent on CUR.	
☐ ☐ 10. Were VOA samples without headsp	pace? If no, document on CUF	₹.		
☑ □ □ 11. Were VOA vials preserved? Preser	vative □HCl □4±2°C □Sod	lium Thiosulf	ate 🛘 Ascorbic Acid	i
☐ ☐ 12. Did samples require preservation wi	ith sodium thiosulfate?			
☐ ☐ 13. If yes to #11, did the samples contai	in residual chlorine? If yes, do	cument on Cl	UR.	
☐ ☐ 14. Sediment present in dissolved/filtere	ed bottles? If yes, document or	n CUR.		
☐ ☐ 15. Is sufficient volume provided for cli contact PM before proceeding.	ient requested MS, MSD or m	atrix duplicat	es? If no, document	on CUR, and
☐ ☐ 16. Receipt date(s) > 48 hours past the c	collection date(s)? If yes, noti	fy PA/PM.		
☐ ☐ 17. Are analyses with short holding time	es requested?			
☐ ☑ 18. Was a quick Turn Around (TAT) re	quested?			

Revision 7, 10-22-09 C:\Documents and Settings\bindela\Local Settings\Temporary Internet Files\OLK832\Sample Receiving Checkilist Rev 7.doc

TestAmerica Denver

Sample Receiving Checklist

Lo	ot #	Ĺ	09	T280280	
Ĺo	gin (Chec	ks:		Initials
N/A	4 Yes	s No			_\$B_
	ø	ا ا		Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) document on CUR, and contact PM before proceeding.	If no,
X		ū	20.	Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document of contact PM before proceeding.	on CUR, and
	Ø		21.	Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?	
	Z		22.	Were special log in instructions read and followed?	
Ø			23.	Were AFCEE metals logged for refrigerated storage?	
	Ø		24.	Were tests logged checked against the COC? Which samples were confirmed?	
	ٔ ت		25.	Was a Rush form completed for quick TAT?	
Ø			26.	Was a Short Hold form completed for any short holds?	
		A	27.	Were special archiving instructions indicated in the General Comments? If so, what were they?	
					_
La	belir	ng an	id S	torage Checks:	Initials
Þ		۵	28.	Was the subcontract COC signed and sent with samples to bottle prep?	
,	ď		29.	Were sample labels double-checked by a second person?	V
\Q			30.	Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
`	ZZ ·		31.	Did the sample ID, Date, and Time from label match what was logged?	
É	ر			Were stickers for special archiving instructions affixed to each box? See #27	
P		ū		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).



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

CHAIN-OF-CUSTODY / Analytical Request Document

Lab Name: TestAmerica Phone/Fax: Required Ship to Lab: Applicable Lab Quote #: _ab PM email |micnaer.pniiips@ ab PM: Arvada, CO 80002 Address frank.hagar@ngem.com All PDF reports and EDDs will be uploaded to: ITEM# cindy.arnold@ngem.com As Se only by collison cell Notifications provided to: FTP site address provided to labs Northgate Environmental Management, Inc. Additional Comments/Special Instructions: M-144BBISS M-144B Michael P. Phillips 4955 Yarrow Street Samples IDs MUST BE UNIQUE 303-736-0157 testamericainc.com One Character per box. (A-Z, 0-9 / ,-) SAMPLE ID JWG Valid Matrix Codes
MATRIX
MATRIX
Detector where very depute where very where very material and the code of the cod Required Project Information:
Site ID #: TEONOVIIO City Project # Site PM Email: Site Address Phone/Fax: Site PM Name Henderson WE GE A 949-375-7004 560 W. Lake Mead Drive TRONOX LLC. HENDERSON derrick.willis@ngem.com 2027.001 Derrick Willis State 7 9 7 F 8 8 W ð ¥G MATRIX CODE UPS COURIER FEDEX PRINT Name of SAMPLER: US MAIL 6HIPPING METHOD: (mark as appropriate) RELINQUISHED BY / AFFILIATION ž SAMPLE TYPE ດ G=GRAB C=COMP Required Invoice Information:
Send Invoice to: Susan Crov Send EDD to frank.ha Reimbursement project? CC Hardcopy report to see additional comments below City/State Address: 10/27/09 SAMPLE DATE PO Box 55 SIGNATURE of SAMPLER: Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com Susan Crowley Henderson, NV 89009 Tronox LLC SAMPLE TIME 1225 PDF Electronic Version Only 6/180 10/27 1410 SAMPLER NAME AND SIGNATURE DATE | TIME Non-reimbursement project? #OF CONTAINERS Phone #: ACCEPTED BY / AFFILIATION FIELD FILTERED? (Y/ z Inpreserved (949)260-9293 12504 × HNO3 Preservatives -ICI NaOH DATE Signed Mark one Na2S2O3 Methanol 10/27 Time: 1340 NJ Reduced Deliverable Package? QC level Required: Standard Requested If Rush, Date due TAT: Standard 30 day MA MCP Cert? Lab Project ID (lab use) Analyses × EPA 8141A OPEPER 1000 9 × CT RCP Cert? Sample Receipt Conditions Rush Temp in 00 Special Y/N イ/z 500 ml Plastic Y/N マ ン マ Samples on Ice? Sample I.D. EPA Stage Comments/Lab **∀**/**Z** Y/N Y/N Sample intact? 200 Mark one Mark One Mark One Y/N ≺ / × ≺ / N Trip Blank TestAmeric

TestAmerica Denver Sample Receiving Checklist

Lot #:		D9T280283	Date	e/Time Receive	ed:	10/28/07	1000	·	
	ıny Nam	ne & Sampling Site:	Nort	e/Time Receive		PRON	o×		
	-		No PA	Quarantined:	Yes	No X	MIS prep :	Yes	No
Quote #:	830	24(o							
Special I	Instruction								
•									
Time Zo		I/CST • MDT/MST • PD7	Γ/PST • OTHEF	₹					
<u> </u>	DI CD	1/OST - IND 1/11251 - 12							
Unpacl	king Ch	ecks:							•
C	Cooler #(s):							
Tempera	tures (°C)	: 1.1					-		
	s No								Initials
		. Cooler seals intact? (N/	A if hand deliver	red) If no, docum	ent on CU	JR.		-	Cost
Z	2	Coolers scanned for radi	ation. Is the read	ding≤to backgro	und level	s? Yes: <u></u>	No:		
4	□ 3	. Chain of custody presen	t? If no, documen	nt on CUR.					
	4	. Bottles broken and/or ar	e leaking? If yes,	, document on Cl	JR.				
	<u></u> <u> </u>	. Multiphasic samples obv	vious? If yes, doo	cument on CUR.					
P	<u> </u>	. Proper container & prese	ervatives used? (1	ref. Attachment I	of SOP#	# DV-QA-00	03) If no, docu	ıment o	on CUR.
ם בו		. pH of all samples checke	ed and meet requ	irements? If no,	documen	t on CUR.			
	- □ 8	. Sufficient volume provided document on CUR, and of			f. Attachn	nent D of SO	P# DV-QA-00	03) I	f no,
Ø	□ 9	. Did chain of custody agr	ee with labels ID	and samples rec	eived? If	no, documer	nt on CUR.		
<u> </u>	□ 10	. Were VOA samples wit	hout headspace?	If no, document	on CUR.				
<u> </u>	1 1	. Were VOA vials preserv	ved? Preservative	e □HC1 □4±2°C	□ Sodiu	m Thiosulfa	te 🖵 Ascorbic	Acid	
	a 12	. Did samples require pres	servation with so	dium thiosulfate?					
2 0	☐ 13	. If yes to #11, did the sam	iples contain resi	idual chlorine? If	yes, docu	ment on CU	R.		
a _ o _	□ 14	. Sediment present in disso	olved/filtered bot	ttles? If yes, docu	ment on	CUR.			
<u> </u>	□ 15	. Is sufficient volume provocantact PM before proces		equested MS, MS	D or mat	rix duplicates	s? If no, docum	ent on	CUR, and
	J 16.	. Receipt date(s) > 48 hour	rs past the collec	tion date(s)? If y	es, notify	PA/PM.			
	2 17.	Are analyses with short h	nolding times req	uested?					
	18.	. Was a quick Turn Aroun	d (TAT) requeste	ed?					

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TestAmerica Denver Sample Receiving Checklist

Lo	ot #		1)9	J280283	
		Chec	ks:		Initials M
N/A	1 1e	S NO	19.	Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) document on CUR, and contact PM before proceeding.	If no,
Ø			20.	Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document contact PM before proceeding.	n CUR, and
	Ø		21.	Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?	
	ø		22.	Were special log in instructions read and followed?	
Ø			23.	Were AFCEE metals logged for refrigerated storage?	
	Ø		24.	Were tests logged checked against the COC? Which samples were confirmed?	
Þ			25.	Was a Rush form completed for quick TAT?	
			26.	Was a Short Hold form completed for any short holds?	
		Z	27.	Were special archiving instructions indicated in the General Comments? If so, what were they?	
					_
La	belii	ng ar	ıd S	torage Checks:	Initials
Ø	Q		28.	Was the subcontract COC signed and sent with samples to bottle prep?	/
	Þ		29.	Were sample labels double-checked by a second person?	
Ø			30.	Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
	Ø		31.	Did the sample ID, Date, and Time from label match what was logged?	
P	<u>ם</u>		32.	Were stickers for special archiving instructions affixed to each box? See #27	
<i>a</i>			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).

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.

cindy.arn frank.hag	FTP site a	All PDF re	As Se onl	Additional C	12	<u> </u>	10	9	Ç2	7	6	G	4 M-1	3 M-1	2 M-1	M-1	ITEM#		Applicable Lab Quote #:	Lab PM email	Phone/Fax:	Lab PM: M	Arvada, CO 80002	Address: 49	Required Ship to Lab: Lab Name: TestAmerica
riodincanoria provided con cindy.arnold@ngem.com frank.hagar@ngem.com	FTP site address provided to labs	ports and ED	As Se only by collison cell	Additional Comments/Special Instructions				Q					M-138009BDISS	M-138BDISS	M-138009B	M-138B	SAMPLE One Character (A-Z, 0-9. Samples IDs MUS1		1b Quote #:	testamericainc.com	303-736-0157	Michael P. Phillips	10002	4955 Yarrow Street	ip to Lab: estAmerica
3 €	ded to labs	All PDF reports and EDDs will be uploaded to: Northgate Environmental Management Inc.	cell	l Instructions:					5				S				SAMPLE ID One Character per box. (A-Z, 0-9 / -) Samples IDs MUST BE UNIQUE			c.com ps@				*	
	9	; to:															DRANCHO WATER WO WW OROUND OWNTER WO WW WW WW WO WW OWN WO WW OWN WO WO WATER FROUDOT SO OIL AND WORE ARE AND ADDICTURE ARE AND ADDICTURE ARE AND ADDICTURE ARE ON ADDICTURE ADDICTURE ARE ON ADDICTURE ADDICTUR	Valid Matrix Codes	Site PM Email:	Phone/Fax:	Site PM Name	City Henderson	Site Address	Project #	Site ID # TRONOX LLC
																	W WILFACE WITER WE WASHING WITER WE WE WITER OF WE HANSENTE WH OTHER OF TA OR ANAMALTISSUE TA	MATRIX	l: derrick.willis@ngem.com	949-375-7004	e Derrick Willis	on State	560 W. Lake Mead Drive	2027.001	t Information: TRONOX LLC. HENDERSON
SHIPPING UPS CC		11	1	RELING	·								₩ _G	₩ _G	₩G	WG	MATRIX CODE	_	llis@ng		SIIIM	le NV	ad Drive		HENDER
NG METHOD COURIER		Y	ha	/ A9 daHsin									G	6	G	ဓ	SAMPLE TYPE G=GRAB C=COM	(P	em.com						
SHIPPING METHOD (mark as appropriate) UPS COURIER FEDEX PRINT Name of SAMPLER: US MAIL SIGNATURE of SAMPLER:			180	RELINQUISHED BY / AFFILIATION									10/28/2009	10/28/2009	10/28/2009	10/28/2009	SAMPLE DATE		CC Hardcopy report to	CC Hardcopy report to	Send EDD to	Reimbursement project?	City/State	Address: PO	Required Invoice Information: Send Invoice to: Susan Crowley Tropox LLC
ppropriate) SA PRINT Name of SAMPLER: SIGNATURE of SAMPLER:		32	•										<u> </u>	-	-	ļ			y report	y report		it project?	Hen	PO Box 55	Susa
SAMPLER: Jo:			10/28	DATE									1115	1115	1115	1115	SAMPLE TIME		to see additional comments below	to PDF Electronic Version Only	Frank Hagar Northgate Environmental Management, inc frank.hagar@ngem.com	×	Henderson, NV 89009		nformation: Susan Crowley Tronox LLC
Josh			1350	TIME									_	_	-	_	#OF CONTAINER	s	tional co	ctronic \	ngate Ei	Non-reimbursement project?	9009		
R NAME AND SIGNATURE	1		N	ACCE									~	~	z	z	FIELD FILTERED?	(Y/N)	mments	ersion C	vironme	burseme	Phone #:		
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		SA.	M	Y / AFFI						-		-	×	×	×	×	HNO3 HCI	Pres			nageme	3	(949)260-9293		
DATE		mill	S.	LIATION							-	F	1	F	-	-	NaOH Na2S2O3	Preservatives			nt, inc	ž	293		
DATE Signed (0/28		1	No.														Methanol	Se				Mark one			
10/2			4														Other Request		<u> </u>	Lab	ĕ	Š	ည္က	If R	TAT
	+	10/29	19										×	×	×	×	Analyse:			Proje	MA MCP Cert?	Reduc	level F	ısh, D	Stan
Time: 1340		99	8/2	DATE								-	\vdash	 		-	EPA 60-30 Collision Ce.		_	₽ E	ert?	ed Deli	equire	lf Rush, Date due	TAT∷Standard 30 day
0		1000	130	TIME													Per			Lab Project ID (lab use)		NJ Reduced Deliverable Package?	QC level Required: Standard		0 day
			(1)					_			-								\		OT RO	Packa	dard		×
Temp in 00	~	Y	~	mple I				_	-	-			50	50	50	52					CT RCP Cert?	ıge?	န		Rush
Samples on Ice?	+	Y / N	Y/N	Receipt									500 ml Plastic	500 ml Plastic	500 ml Plastic	500 ml Plastic	S C				-3		Special EP		
Sample <	≺ / N	Y/N	Y/N	Sample Receipt Conditions									tic	tö	l g	Ę	Comments/Lab				<u> </u>		EPA Stage Mark one		
Trip Blank?	Y/N	Y / N	Y/N	ons													ıts/Lab				Mark One		Mark or		Mark One

TestAmerica Denver Sample Receiving Checklist

Lo	t #:_			D9T290310	Dat	e/Time Receive	ed:	10/2	9/09 10	000					
	-	ny N	lam	e & Sampling Site:_	North	sate 1	RO	NOX							
		-		This Section: Yes check required:□	No 🔀	Quarantined:	Yes	No X	MIS prep :	Yes	No No				
Quo	ote#:	É	3	046											
Spe	cial I	nstruc	ction	s:											
	ie Zoi DT/E		CDT	/CST • MDT/MST • PI	OT/PST • OTHE	R									
Un	-	_		ecks;											
	C	ooler	#(s)	2.2				* .			<u> </u>				
Ten	pera	tures	(°C):	1.1											
N/A	Ye.	s No						770			Initials				
	7			Cooler seals intact? (1					NT	_	<i>N</i>				
				Coolers scanned for ra			ina ieve	is? Yes:	NO:						
			_	Chain of custody prese			m								
	!!		parties of the same	Bottles broken and/or are leaking? If yes, document on CUR.											
	<u></u>			Multiphasic samples of	•		-CCOD-	#TDV O A 000)2) If mo door	ımant c	on CLID				
_	4	Ü		Proper container & pre					13) 11 110, doci	ишені с	m COR.				
	I			pH of all samples chec					DW O A 100		f no.				
	¥.	Q	δ.	Sufficient volume providocument on CUR, and			Auacin		# DV-QA-00	<i>(103)</i>	i no,				
	Ø	<u> </u>	9.	Did chain of custody a	gree with labels I	D and samples rece	eived? If	no, documen	t on CUR.						
7			10.	Were VOA samples w	vithout headspace	? If no, document o	on CUR.								
6		٥	11.	Were VOA vials prese	erved? Preservativ	re □HCl □4±2°C	□Sodiı	ım Thiosulfat	e 🗆 Ascorbic	Acid					
		Z	12.	Did samples require pr	eservation with so	dium thiosulfate?									
ф			13.	If yes to #11, did the sa	amples contain res	idual chlorine? If	yes, docı	ment on CUI	λ.						
þ			14.	Sediment present in dis	ssolved/filtered bo	ottles? If yes, docum	ment on	CUR.							
þ			15.	Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.											
		4	16.	Receipt date(s) > 48 ho	ours past the colle	ction date(s)? If ye	es, notify	PA/PM.							
		ф	17.	Are analyses with shor	t holding times re	quested?									
		4	18.	Was a quick Turn Arou	and (TAT) reques	ted?									

Revision 7, 10-22-09 C:\Documents and Settings\bindela\Local Settings\Temporary Internet Files\OLK832\Sample Receiving Checkilist Rev 7.doc

TestAmerica Denver

Sample Receiving Checklist

Lo	t #	1	90	290310	
Lo	gin C	hec	ks:		Initials MO
N/A	Yes	No			_\$D
	Ø			document on CUR, and contact PM before proceeding.	If no,
Ø		ū		Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document o contact PM before proceeding.	n CUR, and
	Z		21.	Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?	
	Ø		22.	Were special log in instructions read and followed?	
Ø	´ם		23.	Were AFCEE metals logged for refrigerated storage?	
	∠ r			Were tests logged checked against the COC? Which samples were confirmed?	
Ø	<u></u>			Was a Rush form completed for quick TAT?	÷
/- Z				Was a Short Hold form completed for any short holds?	
	_ _	$ \overline{\square} $	27.	Were special archiving instructions indicated in the General Comments? If so, what were they?	
		/			-
La	belin	ıg ar	nd S	torage Checks:	Initials
X			28.	Was the subcontract COC signed and sent with samples to bottle prep?	
, ,	X		29.	Were sample labels double-checked by a second person?	
			30.	Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
/\	À			Did the sample ID, Date, and Time from label match what was logged?	
X			32.	Were stickers for special archiving instructions affixed to each box? See #27	
X				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).



CHAIN-OF-CUSTODY / Analytical Request Document

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

2,90

COC No. 2027.001.01114
Page: 1 of 1

Collecti	Cooler#
Collection Area: IV	<u></u>

Northgate Environmental Management, Inc. FTP site address provided to labs Notifications provided to: cindy.arnold@ngem.com frank.hagar@ngem.com	Additional Comments/Special instructions: As Se only by collison cell All PDF reports and EDDs will be uploaded to:	12	10	© &	7	5	42		M-137B	SAMPLE ID SAMPLE ID SAMPLE ID SOURCE Character per box. (A-Z, 0-9 / ,-) M Samples IDs MUST BE UNIQUE SOURCE SAMPLE ID M SAMPLE ID SAM		.pniiips@ ericainc.com		Lab PM: Michael P. Phillips City		Street	Required Ship to Lab: Re Lab Name: TestAmerica Si
	y.									VOIGH Martin Codes MATRIX MA	Site PM Email: der	Phone/Fax: 949-375-7004	Site PM Name	Hender	Site Address 560 W.	Project # 2027	Required Project Information: Site ID #: TRONOX LLC
C C S S	R							WG	wg	#####################################	rick.willis@	5-7004	Derrick Willis	State	560 W. Lake Mead Drive	2027.001	t Information: TRONOX LLC. HENDERSON
SHIPPING METHOD UPS COURIER US MAIL	RELINCUISHED BY / AFFILIATION							G	<u>ه</u>	SAMPLE TYPE G=GRAB C=COMP	derrick.willis@ngem.com		S.	N	Drive		DERSON
SHIPPING METHOD (mark as appropriate) UPS COURIER FEDEX PRINT Name of SAMPLER: US MAIL SIGNATURE of SAMPLER:	AFFILIATION							7	10/23/05	SAMPLE DATE	CC Hardcopy report to	CC Hardcopy report to	Send EDD to	Reimbursement project?	City/State	Address: PO Box 55	Required Invoice Information: Send Invoice to: Susan Crov Tronox LLC
f SAMPL	Sela Sela							۲	1330	SAMPLE TIME	eport to see additional		Frank Hagar Northgate frank.hagar@ngem.com	roject?	Henderson, NV 89009	(55	Information: Susan Crowley Tronox LLC
Dear NA	THE TIME							->	_	#OF CONTAINERS	litional comr	PDF Electronic Version Only	thgate Envii em.com				
ME AND SIGNATURE	ACCEPTED							≺	Z	FIELD FILTERED? (Y/N) Unpreserved H2SO4	comments below	sion Only	onmental M	Non-reimbursement project?	Phone #: (9		
ORE DATES	ACCEPTED BY / AFFILIATION							×	×	HNO3 Preservati			Environmental Management, Inc		(949)260-9293		
10/23 10/23	1 S									Methanol Other Requested				ark one	Ω	If	7
Time								×	×	Analyses		Lab Project ID (lab use)	MA MCP Cert?	J Reduced D	C level Requ	lf Rush, Date due	TAT: Standard 30 day
1415	-SMA/C									EPA 8747A OPP PER) (lab use)		liverable	QC level Required: Standard	ue	30 day X
Temp in 00 Samples	Sample Receipt Conditions Y/N Y/N Y V/N Y/N Y							500 ml Plastic	500 ml Plastic				CT RCP Cert?	:kage?	Special		Rush
	Y/N							Plastic	Plastic	Comments/Lab	\				EPA Stage Mark one		
Trip Blank?	ons). Lab			Mark One		Vark one		Mark One

TestAmerica Denver Sample Receiving Checklist

Lot #: <u>D9/J300353</u> Date/Time Received: <u>10/30/09 1030</u>
- O- war Wather to
Company Name & Sampling Site: 7 KONON - 1001 1991
PM to Complete This Section: Yes No Yes No
PM to Complete This Section: Yes Residual chlorine check required: ☐ Vo Quarantined: ☐ Ves No Qu
Quote #: \$3046
Special Instructions:
Time Zone:
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER
Unpacking Checks:
Cooler #(s):
Temperatures (°C): <u>2.9</u>
N/A Yes No
1. Cooler seals intact? (N/A if hand delivered) if no, document on Corc. 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

Lo	t #	_[])9i	7300353	
Lo	gin (Chec	ks:		Initials M)
N/A	Ye.	s No			XB
	Ø		19.	Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) document on CUR, and contact PM before proceeding.	If no,
Ø			20.	Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document of contact PM before proceeding.	on CUR, and
	Ø		21.	Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?	
	ĺ⊿		22.	Were special log in instructions read and followed?	
Ø	<u> </u>		23.	Were AFCEE metals logged for refrigerated storage?	
	Ø		24.	Were tests logged checked against the COC? Which samples were confirmed?	
Ģ			25.	Was a Rush form completed for quick TAT?	
Ø	ū		26.	Was a Short Hold form completed for any short holds?	
		Ø		Were special archiving instructions indicated in the General Comments? If so, what were they?	
					-
La	belir	ıg ar	ıd S	torage Checks:	Initials (H)
d			28.	Was the subcontract COC signed and sent with samples to bottle prep?	
	4		29.	Were sample labels double-checked by a second person?	
d			30.	Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
	\mathbf{p}'		31.	Did the sample ID, Date, and Time from label match what was logged?	
Ø			32.	Were stickers for special archiving instructions affixed to each box? See #27	
			33.	Were AFCEE metals stored refrigerated?	

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

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

CHAIN-OF-CUSTODY / Analytical Request Document / (c/30/09

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

Lab Name: TestAmerica Lab PM email | michael.pniiips@ Phone/Fax: Arvada, CO 80002 Applicable Lab Quote #: ab PM: Address: Required Ship to Lab: All PDF reports and EDDs will be uploaded to frank.hagar@ngem.com cindy.arnold@ngem.com Notifications provided to: FTP site address provided to labs Northgate Environmental Management, Inc. As Se only by collison cell ITEM# dditional Comments/Special Instructions: M-148B 4955 Yarrow Street Michael P. Phillips (A-Z, 0-9 / ,-)
Samples IDs MUST BE UNIQUE 303-736-0157 testamericainc.com One Character per box. OW SAMPLE ID Required Project Information:
Site ID # TECHNOV!! DRINKING WATER GROUND WATER GROUND WATER WASTE WATER FREE PRODUCT SOIL Site Address | 560 W. Lake Mead Drive Site PM Email: |derrick.willis@ngem.com City Phone/Fax: Site PM Name Project # Henderson MATRIX
WP WATER
WW SUPFACE WATER OC
80 OIL BLIDGE
8W RINGEATE
AN OTHER
AE OS ANIMAL TREBUE 949-375-7004 TRONOX LLC. HENDERSON 2027.001 Derrick Willis # G ₹ B % % ₹ State Š US MAIL UPS COURIER FEDEX PRINT Name of SAMPLER RELINQUISHED BY / AFFILIATION MATRIX CODE HIPPING METHOD: (mark as appropriate) Z SAMPLE TYPE G=GRAB C=COMP G Send EDD to frank.ha
CC Hardcopy report to CC Hardcopy report to see additional comments below Send Invoice to: Reimbursement project? City/State Address: Required invoice Information:
Send Invoice to: Susan Crowley 10/29/09 SAMPLE DATE PO Box 55 SIGNATURE of SAMPLER: frank.hagar@ngem.com Henderson, NV 89009 Frank Hagar Northgate Environmental Management, Inc Tronox LLC SAMPLE TIME 20 PDF Electronic Version Only ó SAMPLER NAME AND SIGNATURE 10/29 1445 DATE 13/100 Non-reimbursement project? #OF CONTAINERS Phone #: ACCEPTED BY / AFFILIATION z FIELD FILTERED? (Y/N inpreserved (949)260-9293 12504 105H W 0715 HNO3 × Preservatives ICI DATE Signed 1929 Time: 1000 NaOH ta2S2O3 Mark one lethanol NJ Reduced Deliverable Package? Requested MA MCP Cert? QC level Required: Standard If Rush, Date due TAT: Standard 30 day Lab Project ID (lab use) Analyses 8 × EPA 8747A OPP PER 030 1445 CT RCP Cert? × Sample Receipt Conditions Rush Temp in 0 Special **∀**/N ۲ / N イ | | | イ | | 500 ml Plastic Samples on Ice? Sample I.D. Comments/Lab EPA Stage | Mark one Y/N ≺ / **Z ∀/N ∀/**N Sample intact? しとの Mark One Mark One **∀/**2 Y/N X N Trip Blank Test

TestAmerica Denver Sample Receiving Checklist

Lo	t #:			D9 T300356 Date/Time Received: 10/30/09 1030
Co	mpar	ıy N	am	19930356 Date/Time Received: 10/30/09 1030 e & Sampling Site: Northgate - TRONOX
		-		This Section: Yes No Yes No heck required: ☐ Yes No MIS prep : ☐ ☐
Quo	te #:	宋	2 (JU16
	cial Ir			
Брч				
	e Zon OT/ES		CDT	7/CST • MDT/MST • PDT/PST • OTHER
Unj	pack	ing	Ch	ecks:
	Co	ooler	#(s)	: <u> </u>
Tem	perat	ures ((°C):	: <u>2.9</u>
N/A	Yes	No		Initials (1)
	P			Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
				Coolers scanned for radiation. Is the reading ≤ to background levels? Yes: No:
	Ø			Chain of custody present? If no, document on CUR.
				Bottles broken and/or are leaking? If yes, document on CUR.
		₫		Multiphasic samples obvious? If yes, document on CUR.
				Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
	4			pH of all samples checked and meet requirements? If no, document on CUR.
	Ø	-0	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.
ф			10.	Were VOA samples without headspace? If no, document on CUR.
ф			11.	Were VOA vials preserved? Preservative □HCl □4±2°C □Sodium Thiosulfate □ Ascorbic Acid
	۵		12.	Did samples require preservation with sodium thiosulfate?
7			13.	If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
ϕ			14.	Sediment present in dissolved/filtered bottles? If yes, document on CUR.
þ	ū		15.	Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
		ф	16.	Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
	ū	4		Are analyses with short holding times requested?
		4		Was a quick Turn Around (TAT) requested?

Revision 7, 10-22-09 C:\Documents and Settings\bindela\Local Settings\Temporary Internet Files\OLK832\Sample Receiving Checkilist Rev 7.doc

TestAmerica Denver Sample Receiving Checklist

Lo	ot #_	\mathcal{J})9J	300356	
Lo	gin	Chec	ks:		Initials
N/A	4 Ye	s No			X
	M		19.	Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) document on CUR, and contact PM before proceeding.	If no,
Ø	ū		20.	Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document contact PM before proceeding.	on CUR, and
	Ø		21.	Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?	
	Ø		22.	Were special log in instructions read and followed?	
Ø			23.	Were AFCEE metals logged for refrigerated storage?	
•	Ø		24.	Were tests logged checked against the COC? Which samples were confirmed?	
Z				Was a Rush form completed for quick TAT?	
			26.	Was a Short Hold form completed for any short holds?	
		٦	27.	Were special archiving instructions indicated in the General Comments? If so, what were they?	
					_
La	beli	ng ar	nd S	torage Checks:	Initials
					(m)
			28.	Was the subcontract COC signed and sent with samples to bottle prep?	
	□		29.	Were sample labels double-checked by a second person?	
6			30.	Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
	๔			Did the sample ID, Date, and Time from label match what was logged?	
6			32.	Were stickers for special archiving instructions affixed to each box? See #27	
Ø				Were AFCEE metals stored refrigerated?	
-					

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

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

COC No.
Page:
Cooler #

	cindy.a frank.h	Notifica	FTP site	All PDF	As Se o	Additiona	j =	<u> </u>	9	æ	7	6	ŷ	4	ω	2		_	TEM#	-	Applicable	Lab PM email	Phone/Fax:	Lab PM:	Arvada, CO 80002	Address:	Lab Name:
	cindy.arnoid@ngem.com frank.hagar@ngem.com	Notifications provided to:	Northgate Environmental Management, inc.	All PDF reports and EDDs will be uploaded to:	As Se only by collison cell	Additional Comments/Special Instructions:						\ June	•				EB103009-GWA4		SAMPLE ID One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE		Applicable Lab Quote #:	nail michaei.phiiiips@ testamericainc.com	303-736-0157	Michael P. Phillips	D 80002	4955 Yarrow Street	TestAmerica
			elit, ilic.	ploaded to:															MATRIX COMMOND WITER GROUND WITER GROUND WITER HAGE PRODUCT SOIL UNIT WHE MHE MHE SVE JIR SOELOAS		Site PM Email:	Phone/Fax:	Site PM Name	City Henderson	Site Address	Project #	Site U#
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US MAIL	SHIPPING METHO		1	0	1	RELINQUISHED BY / AFFILIATION											WG		SAMPLE TYPE G=GRAB C=COMP	<u> </u>	derrick.willis@ngem.com		illis	NV	d Drive		NDERSON
SIGN	SHIPPING METHOD (mark as appropriate) SA UPS COURIER FEDEX PRINT Name of SAMPLER.			G	791	Y / AFFILIATION											10/ 30/0	10/20/06	SAMPLE DATE		CC Hardcopy report to	CC Hardcopy report to	Send EDD to	Reimbursement project?	City/State	Address: PO Box 55	Gelia ili Acico
SIGNATURE of SAMPLER:	f SAMPL			200	10/	DA							,				T	0111	SAMPLE TIME				frank.hagar@ngem.com	project?	Henderson, NV 89009	ж 55	Tronox LLC
1/4	SAMPLER NAME AND S			To peop	10/30 1550	DATE TIME A											+	-	#OF CONTAINERS	\dashv	see additional comm	PDF Electronic Version Only	Frank Hagar Normgate Environmental manayement, mo	Non-reimbur	/ 89009		
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A DATE Signed				700	36	AFFILIATION													HCI NaOH Na2S2O3 Methanol	Preservatives			allient, mic	Naiz Cid	⊸		
DATE Signed 10/50 Time: 12				0	8													×	Other Requeste Analyses	;	<u> </u>	Lab Proje	MX MCL Cells	١.,		OC lovel Pequires	5
ne 1230				10/319 0830	130														EPA BOROCOMBIOT CO.	///		Lab Project ID (lab use)		1146100	odalioa: omio	OC lovel Peguired: Standard	╁.
Sar	mp in 00	∀ /z	Y/N	Y/N	٧ ۲/٧													500 m		///			C NOT Call:	d d d Corto	Dackage?	ard Special	-
s	ice? Sample ntact?	۲ ۲ ۲	Y/N	Y/N	۲ ۲ ۲	Sample Receipt Conditions												500 ml Plastic	Comments/Lab	\	\			3		EPA Stage Mark one	
1	ip Blank' eric	Y / N	۲/z	۲/2 ع	Y/N	ms													Lab					Mark One		ark one	

TestAmerica Denver

Sample Receiving Checklist

Lot #: $D9J310138$ Date/Time Received: $10/31/9$ 0830
Company Name & Sampling Site: Northgate
PM to Complete This Section: Yes No Yes No Yes No Residual chlorine check required: ☐ Quarantined : ☐ ☐ MIS prep : ☐ ☐
Quote #:
Special Instructions:
Time Zone: • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER
Unpacking Checks:
Cooler #(s):
Temperatures (°C): 2.7
N/A Yes No
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?

Revision 7, 10-22-09 C:\Documents and Settings\bindela\Local Settings\Temporary Internet Files\OLK832\Sample Receiving Checkilist Rev 7.doc

TestAmerica Denver Sample Receiving Checklist

Lot # D9 J 310138 Login Checks: 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? Z ☐ 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: 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



	Lot ID:	D9	J27020	5/	
	Client:	Northg	ate Env	ironmenta	<u>1</u>
	Batch(es) #:_		930318	9	
Assoc	iated Samples:		1		
	I certify that, to represents a con				
Signati	ıre/Date:	W	Il 111	19/09	

TestAmerica 256

Metals Raw Data RoadMap

LotID		Metal	WorkOrder	Anal Dat	e TestDesc	Batch	File Id	Instr
D9J270261	1 D	SE	LNC7F1AH	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1 S	SE	LNC7F1AG	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1 D	AS	LNC7F1AF	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1 S	AS	LNC7F1AE	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1	SE	LNC7F1AC	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1	AS	LNC7F1AA	20091108	6020TOTA	9303185	AG110709	024

METALS PREPARATION LOGS ICP-MS



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 258

Batch Number: 9303185

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By: 1 AM

Prep Date: Due Date:

11/09/09

Lot	Work Order			Initial Weight/Volume
D9J300000 Water	LNJNV	В	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJNV	С	Due Date: SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	S	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	D	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270263 Water	LNC7L Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280280 Water	LNFGD Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280283 Water	LNFG2 Total		Due Date: 11/09/09 SDG:	50 mL
D9J290310 Water	LNH2J Total		Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2K Total		Due Date: 11/10/09 SDG:	50 mL

Comments:

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

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

METALS PREP SHEET SOP: DEN-IP-0014



TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH #	KS									
PREP DATE:	11/2/2009	DIGES	STED BY:	JRW						
CONSUMABLES	JSED									
Digestion Cups:	Manufacturer:	Environmental Expres	s Lot #:	A901LS268						
One or more samples	No									
If "yes", then the metho	d blank and the LCS wer	e also filtered in the sam	ne manner using the sam	ne type of filter.						
			Analyst(s) Initials:							
STANDARDS USE	ED									
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID						
2008Cal-1	STD-6471-09	11/1/10	100uL	. 15						
2008Cal-2	STD-5356-09	1/10/10	100uL	15						
·										
REAGENTS USED)									
Reagent	Manufacturer	Lot #	Volume Used (mL)							
HNO₃	JT Baker	H14024	3							
TEMPERATURE C	CYCLES									
Thermometer ID: 40%Σ Block & Cup #: 42										
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)						
HNO3	1430	95	1845	५६						
HNO3	1900	45	1 430	43						
HNO3										
Samples and QC re	volumed to:	50mL	Analyst's Initials	JAN						
COMMENTO										

COMMENTS:

Signature: An With

Date: 11/2/04

260 TestAmerica

METALS SAMPLE DATA ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 261

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ICP-MS Standard and Spike True Values

Post	Digestion	Spike	200	200	700	200	200	700	200	200	200	700	700	700	700	700	20	200	200	200	700	200			
Matrix Spike	Sample and	Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	. ,	y for the	ICSAB.
Laboratory	Control Sample	and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	,	ition, the % recover	the ICSA from the
Interference	Check	Sample AB	1	100	100	100	100	100	100	100	100	100	1	100	100	100	100	100	100	100	100	100		in the ICSA solu	ng the levels in t
Interference Check	Sample A		100,000 Aluminum	100,000 Calcium	100,000 Iron	100,000 Magnesium	100,000 Sodium	100,000 Phosphorus	100,000 Potassium	100,000 Sulfur	200,000 Carbon	1,000,000 Chloride	2000 Molybdenum	2000 Titanium										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
Continuing	Calibration	Standard	20	20	20	50	50	20	50	20	50	50	20	20	50	20	50	20	50	50	20	50		to the presence	SAB solution is
Initial	Calibration	Standard	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
Cal.	Std.	100 ppb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	;	All units are	T/gu
Element			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc			

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-09-2009

Analyst: trudelll

Logbook: \Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Lot No.: B2-SE02003

Vendor's Expiration Date: 12-01-2009

Solvent: 2% HNO3

Vendor: Inorganic Ventures 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

Se

Initial Conc (mg/L)

Final Conc (mg/L)

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

Component

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

Initial Conc (mg/L)

Final Conc (mg/L)

Se

1,000.0

1.0000

Page 1 of 12

STD2483-09, 1000 Zn (Inorganic Ventures)

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

Final Conc (mg/L) Component Initial Conc (mg/L) 1.000.0 1000 Zn 1,000.0

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

Solvent: 5% HNO3

Lot No.: H14024

Analyst: DIAZL Volume (ml): 250.00

Analyst: trudelll

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) 3,000.0 1.000.0

Ge

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)

4,000.0

Lithium6

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)

1,000.0 In

1,000.0

Parent Std No.: STD6531-09, Scandium stock

Aliquot Amount (ml): 0.5000

1,000.0

Parent Date Expires(1): 10-26-2010

Parent Date Expires(2): 11-01-2010 Component Initial Conc (mg/L)

Final Conc (ug/L)

Final Conc (ug/L)

Sc

1,000.0 2,000.0

Aliquot Amount (ml): 0.2500

Parent Std No.: STD6532-09, Holmium stock 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

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Analyst: DIAZL

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

Initial Conc (mg/L) Component

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

Final Conc (mg/L)

Component 1000 Zn

Sn

1,000.0

1,000.0

1.0000

STD6795-09, ICP-MS ICSA

Solvent: 5% HNO3

Lot No.: H14024

Analyst: DIAZL Volume (ml): 50.000

Date Prep./Opened: 11-05-2009

Date Expires(1): 12-05-2009 (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

STD6836-09, ICP-MS BLANK

Solvent: Water

Analyst: LILLT

Volume (ml): 1,000.0

Date Prep./Opened: 11-07-2009

Date Expires(1): 05-07-2010 (6 Months) Date Expires(2): 05-07-2010 (6 Months)

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

Page 3 of 12

Parent Std No.: STD6835-09, NITRIC ACID	Aliquot Amount (ml): 50.000
---	-----------------------------

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

STD6837-09, ICP-MS HIGH CAL STD Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

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

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
TI .	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	Aliquo	t Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	t Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000
Na	2,000.0	10.000

Page 4 of 12

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
TD6838-09, ICP-MS HIGH CCV STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 100.00
Date Prep./Opened: 11-07-2009		
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Aliqu	ot 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	Aliqu	ot Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliqu	ot Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000
1718	۷,000.0	5.0000

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Na	2,000.0	5.0000
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Alique	ot Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
STD6839-09, ICP-MS HIGH RL STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		(,
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn	-	ot Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2):		T 10 (T)
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090
Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD	Aliqu	ot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

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Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W.	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

EE RL STD Analyst: LILLT Lot No.: H14024 Volume (ml): 10.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Solvent: 5% HNO3

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD Aliquot Amount (ml): 2.0000

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 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 V 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Wo 0.0010 0.0002 Sb 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sh 0.0010 0.0002 Ca 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Na 0.1000 0.0200	Component	Initial Conc (mg/L)	Final Conc (mg/L)
As 0.0010 0.0002 Ba 0.0010 0.0002 Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 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 Ti 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Al 0.1000 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0000 0.0004 Pt 0.0010 0.0002 Nb 0.0010 0.0002 Pt 0.0010 0.0002	Ag	0.0010	0.0002
Be 0.0010 0.0002 Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 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 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sh 0.0010 0.0002 Ca 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Nb 0.1000 0.0200 Nb 0.0010 0.0002 Pt 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0001 <		0.0010	0.0002
Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 0.0010 0.0002 Mn 0.0010 0.0002 Mi 0.0010 0.0002 Pb 0.0010 0.0002 Se 0.0010 0.0002 Th 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 Sh 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Na 0.1000 0.0200 Na 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0002 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Ba	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 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sn 0.0010 0.0002 AI 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0040 Pd 0.0010 0.0002 Nb 0.0010 0.0002 W 0.0010	Be	0.0010	
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 U 0.0010 0.0002 V 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Ng 0.1000 0.0200 Ng 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Cd		
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 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Co		
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 Ti 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 Sh 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Cr		
Ni 0.0010 0.0002 Pb 0.0010 0.0002 Se 0.0010 0.0002 Th 0.0010 0.0002 Ti 0.0010 0.0002 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Na 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0020 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Cu		
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 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Nb 0.1000 0.0200 Pt 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Mn		
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 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Ni		
Th 0.0010 0.0002 TI 0.0010 0.0002 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002	Pb	0.0010	
TI 0.0010 0.0002 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Se		
U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018	Th	0.0010	
V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018	Tl		
Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018			
Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	V		
Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	Zn		
Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	Mo	0.0010	
Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Sb		
Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Sn		
Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Al		
K0.10000.0200Mg0.10000.0200Na0.10000.0200Nb0.00200.0004Pd0.00100.0002Pt0.00100.0002W0.00100.0002Sn0.00900.0018			
Mg0.10000.0200Na0.10000.0200Nb0.00200.0004Pd0.00100.0002Pt0.00100.0002W0.00100.0002Sn0.00900.0018	Fe		
Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Mg		
Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
W 0.0010 0.0002 Sn 0.0090 0.0018	Pd	0.0010	
Sn 0.0090 0.0018			
1000 Zn 0.0090 0.0018	Sn	0.0090	0.0018
	1000 Zn	0.0090	0.0018

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STD6841-09, ICP-MS HIGH ICSAB

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

Analyst: LILLT

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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

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	Aliquo	Amount (ml): 0.0500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Aliquot Amount (ml): 0	
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

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W	20.000	1.000
Parent Std No.: STD4542-09, ICPMS Interferent Check St	~	ot Amount (ml): 1.000
Parent Date Expires(1): 07-31-2010 Parent Date Expires		Einel Cone (mar/l
Component	Initial Conc (ug/ml)	Final Conc (mg/L
Al	1,000.0	100.0
C	2,000.0	200.0
Ca	1,000.0	100.0
Cl	10,000	1,000
Fe	1,000.0	100.0
K	1,000.0	100.0
Mg	1,000.0	100.0
Mo	20.000	2.000
Na	1,000.0	100.0
P	1,000.0	100.0
S	1,000.0	100.0
Ti	20.000	2.000
TD6842-09, ICP-MS HIGH LR STD1		Analyst: LILL
Solvent: 5% HNO3 Lot No.: H14024 Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)		Volume (ml): 10.00
	Alian	at Amount (ml), 0.500
Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Component	Alique Initial Conc (mg/L)	
Component	·	Final Conc (mg/l
Component Ag	Initial Conc (mg/L)	Final Conc (mg/
Component	Initial Conc (mg/L) 20.000	Final Conc (mg/ 1.000 1.000
Component Ag As	Initial Conc (mg/L) 20.000 20.000	Final Conc (mg/ 1.000 1.000
Component Ag As Ba	Initial Conc (mg/L) 20.000 20.000 20.000	Final Conc (mg/ 1.000 1.000 1.000 1.000
Component Ag As Ba Be	Initial Conc (mg/L) 20.000 20.000 20.000 20.000	Final Conc (mg/ 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/ 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Cone (mg/ 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Cone (mg/ 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cr	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/l 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Cone (mg/l 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Cone (mg/l 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Cone (mg/) 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Cone (mg/) 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Ti U	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Cone (mg/) 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U	Initial Conc (mg/L) 20.000	Final Cone (mg/) 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Ti U	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Cone (mg/l 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U	Initial Cone (mg/L) 20.000	Final Cone (mg/l 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn	Initial Cone (mg/L) 20.000	Final Cone (mg/I 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	Final Cone (mg/I 1.000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th TI U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	Final Conc (mg/I 1.000

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STD6843-09, ICP-MS HIGH ICV STD

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA IC		quot Amount (ml): 0.1000
	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	
Co	20.000	
Cr	20.000	
Cu	20.000	
Mn	20.000	
Ni	20.000	
Pb	20.000	
Se	20.000	
Th	20.000	
Tl	20.000	
U	20.000	
V	20.000	
Zn	20.000	0.0400
	Date Expires(2): 04-21-2010	quot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0400
Mo	20.000	
Sb	20.000	
Sn	20.000	0.0400
Parent Std No.: STD3115-09, ICP-MS TA IC		quot Amount (ml): 0.1000
•	Date Expires(2): 04-21-2010	Einel Cons (mag)
Component	Initial Conc (mg/L)	
Al	2,000.0	
<u>C</u> a	2,000.0	
Fe	2,000.0	
K	2,000.0	
Mg	2,000.0	
Na	2,000.0	4.0000
	'V BRC Alic	quot Amount (ml): 0.1000
Parent Std No.: STD3116-09, ICP-MS TA IC Parent Date Expires(1): 04-21-2010 Parent		1
Parent Date Expires(1): 04-21-2010 Parent	Date Expires(2): 04-21-2010	
Parent Date Expires(1): 04-21-2010 Parent Component	Date Expires(2): 04-21-2010 Initial Conc (mg/L)	Final Conc (mg/L)
Parent Date Expires(1): 04-21-2010 Parent	Date Expires(2): 04-21-2010	Final Conc (mg/L) 0.0800

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Analyst: LILLT

20.000 0.0400 W

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (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) 1.0000 0.0020 Se

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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
TI	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000

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Parent Std No.: STD3107-09, ICP-MS LLCCV 2	Aliquot Amount (ml): 1.0000	

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000
Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1	Aliquot	Amount (ml): 1.0000
Component	Initial Conc (mg/L)	Final Conc (ug/L)
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

Reviewed By: 11/9/09

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709 Analyst: TEL								
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	11/07/09 15:09		
4	100 ppb		,		1.0	11/07/09 15:12		
5	ICV				1.0	11/07/09 15:15		
6	RLIV				1.0	11/07/09 15:18		
7	ICB				1.0	11/07/09 15:20		
8	RL STD				1.0	11/07/09 15:23		
9	AFCEE RL				1.0	11/07/09 15:26		
10	ALTSe				1.0	11/07/09 15:29		
11	ICSA				1.0	11/07/09 15:31		
12	ICSAB				1.0	11/07/09 15:34		
13	RINSE				1.0	11/07/09 15:37		
14	LR1				1.0	11/07/09 15:40		
15	RINSE				1.0	11/07/09 15:42		
16	CCV				1.0	11/07/09 15:45		
17	CCB				1.0	11/07/09 15:48		
18	RLCV				1.0	11/07/09 15:50		
19	LNDMKB	D9J280000	9301081	46	1.0	11/07/09 15:53		
20	LNDMKC	D9J280000	9301081	46	1.0	11/07/09 15:56		
21	LM9FJ	D9J240188-1	9301081	46	1.0	11/07/09 15:59		
22	LM9FJP5	D9J240188	9301081		5.0	11/07/09 16:01		
23	LM9FJZ	D9J240188-1	9301081		1.0	11/07/09 16:04		
24	LM9FJS	D9J240188-1	9301081	46	1.0	11/07/09 16:07		
25	LM9FJD	D9J240188-1	9301081	46	1.0	11/07/09 16:09		
26	LM9FK	D9J240188-2	9301081	46	1.0	11/07/09 16:12	4	
27	CCV				1.0	11/07/09 16:15		
28	ССВ				1.0	11/07/09 16:18		
29	RLCV				1.0	11/07/09 16:20		
30	LNJT4B	D9J300000	9303213	MS	1.0	11/07/09 16:23		
31	LNJT4C	D9J300000	9303213	MS	1.0	11/07/09 16:26		□
32	LM8A7	D9J230367-1	9303213	MS	1.0	11/07/09 16:29		
33	LM8CG	D9J230367-2	9303213	MS	1.0	11/07/09 16:32		
34	LM8CV	D9J230367-3	9303213	MS	1.0	11/07/09 16:34		
35	LM8C1	D9J230367-4	9303213	MS	1.0	11/07/09 16:37		
36	LM8C1P5	D9J230367	9303213		5.0	11/07/09 16:40		
37	LM8C1Z	D9J230367-4	9303213		1.0	11/07/09 16:43		
38	LM8C1S	D9J230367-4	9303213	MS	1.0	11/07/09 16:45		□
39	LM8C1D	D9J230367-4	9303213	MS	1.0	11/07/09 16:48		
40	CCV				1.0	11/07/09 16:51		
41	CCB				1.0	11/07/09 16:53		
42	RLCV				1.0	11/07/09 16:57		
43	LNDMTB	D9J280000	9301086	46	1.0	11/07/09 17:00		
44	LNDMTC	D9J280000	9301086	46	1.0	11/07/09 17:02		
45	LM8E2	D9J230373-1	9301086	46	1.0	11/07/09 17:05		
46	LM8E2P5	D9J230373	9301086	1	5.0	11/07/09 17:08	· · · · · · · · · · · · · · · · · · ·	
47	LM8E2Z	D9J230373-1	9301086	4	1.0	11/07/09 17:11		
48	LM8E2S	D9J230373-1	9301086	46	1.0	11/07/09 17:13		

RUN SUMMARY

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Markadicoco (ICD/MC)		Poportod: 11/00/00 10:00:EE
Method: 6020 (ICP/MS)	ICPMS 024 (024)	Reported: 11/09/09 10:00:55
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File II	D: AG110	709				Ana	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16		
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19		
51	CCV				1.0	11/07/09 17:22		
52	ССВ		1		1.0	11/07/09 17:24		
53	RLCV				1.0	11/07/09 17:27		
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30		
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33		
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35		
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38		
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41		
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44		
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47		
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51		
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53		
63	CCV				1.0	11/07/09 17:56		
64	ССВ				1.0	11/07/09 17:59		
65	RLCV				1.0	11/07/09 18:02		
66	LNNVDB	D9K020000	9806332	94	2.5	11/07/00 18:04	WI 1/9/09 Did notuse.	
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07		
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10		
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13		
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16		
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18		
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21		
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24		
74	CCV				1.0	11/07/09 18:27		
75	CCB				1.0	11/07/09 18:29		
76	RLCV				1.0	11/07/09 18:32		
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35	·	
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38		
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40		
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43		
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46		
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49		
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51		
84	CCV				1.0	11/07/09 18:54		
85	ССВ				1.0	11/07/09 18:57		
86	RLCV					11/07/09 19:00		
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03		
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05		
89	LM8DL	D9J230370-11	9301083	46		11/07/09 19:08		
90	LM8DN	D9J230370-12	9301083	46		11/07/09 19:11		
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14		
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17		- □
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19		
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22		

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File II	D: AG110	709				Ana	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
95	CCV			T	1.0	11/07/09 19:25	***************************************	
96	ССВ				1.0	11/07/09 19:28		
97	RLCV				1.0	11/07/09 19:30		
98	ICSA			1	1.0	11/07/09 19:33		
99	ICSAB				1.0	11/07/09 19:36		
100	WASH				1.0	11/07/09 19:39		╗
101	CCV				1.0	11/07/09 19:41		
102	ССВ				1.0	11/07/09 19:44		
103	RLCV				1.0	11/07/09 19:47		
104	LNPKXBQ	D9K030000	9307099	U1	1.0	11/07/09 19:50		╗
105	LNPKXCQ	D9K030000	9307099	U1	1.0	11/07/09 19:52		
106	LNN4FQ	D9K020448-1	9307099	U1	1.0	11/07/09 19:55		
107	LNN4FP5Q	D9K020448	9307099		5.0	11/07/09 19:58		
108	LNN4FZQ	D9K020448-1	9307099		1.0	11/07/09 20:01		
109	LNN4FSQ	D9K020448-1	9307099	U1	1.0	11/07/09 20:03		
110	LNN4FDQ	D9K020448-1	9307099	U1	1.0	11/07/09 20:06		
111	CCV				1.0	11/07/09 20:09		
112	ССВ				1.0	11/07/09 20:12	·	
113	RLCV		<u> </u>		1.0	11/07/09 20:14		
114	LNNVDB	D9K020000	9306332	04	2.5	11/07/09 20:17		
115	LNNVDC	D9K020000	9306332	04	2.5	11/07/09_20:20		
116	LNKT9	D9J300258-1	9306332	04	2.5	14/07/09 20:23		
117	LNKT9S	D9J300258-1	9306332	04	2.5	11/07/09 20:25		
118	LNKT9D	D9J300258-1	9306332	04	2.5	11/07/09 20:28		
119	CCV				1.0	11/07/09 20:31		
120	ССВ				1.0	11/07/09 20:34		
121	RLCV				1.0	11/07/09 20:36		
122	RINSE				1.0	11/07/09 20:39		
123	RINSE				1.0	11/07/09 20:42		
124	Gal Blank			-	1.0	11/07/09 20:45	1/2 11/9/9 Did notuse.	
125	Cal Blank				1.0	11/07/09 20:47		╗
126	100 ppb				1.0	11/07/09 20:50		╗
127	CCV				1.0	11/07/09 20:53		╗
128	ССВ				1.0	11/07/09 20:56		
129	RLCV				1.0	11/07/09 20:58		
130	LNNQ5BF	D9K020000	9306285	MD	1.0	11/07/09-21:01	•	
131	LNNQ5CF	D9K020000	9306285	MD	1.0	11/07/09 21:04	·	
132	LNLGXF 2X	D9J300326-1	9306285	MD	2.0	11/07/09 21:07		
133	LNLG3F	D9J300326-2	9306285	MD	كصلر	11/07/09 21:10		
134	LNLG4F	D9J300326-3	9306285	МВ	1.0	11/07/09 21:12		
135	LNLHHF	D9J300329-1	9306285	MD	1.0	11/07/09 21:15	·	
136	LNLHMF	D9J300329-2	9306285	MD	1.0	11/07/09 21:18		
137	CCV				1.0	11/07/09 21:21		
138	CCB		I		1.0	11/07/09 21:23		
139	RLCV				1.0	11/07/09 21:26	~11) 1 ×	
140	LMCHPF	D9J300329-3	9306285	MD	1.0	11/07/09 21:29	- 11/9/09 Did notuse.	

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID:	AG110709	Analyst: TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	<u>tnljj</u> F	D9J300340-1	9306285	MD	1.0	- -11/07/09 -21:32		
142	LNLJJP5F	D9J300340	9306285	IVID	5.0	11/07/09 21:35		
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37		
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40		
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43		
146	LNLIME	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	11/9/2 Pidnotuse	
147	CCV				1.0	11/07/09 21:48	77 77 7 7 10 710 700 7	
148	ССВ			+	1.0	11/07/09 21:51		
149	RLCV			1 1	1.0	11/07/09 21:54		
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57		
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59		
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02		
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05		
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08		
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	:	
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13		
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16		
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19		
159	CCV				1.0	11/07/09 22:21		
160	CCB				1.0	11/07/09 22:24		
161	RLCV				1.0	11/07/09 22:27		
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30		
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32		
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35		
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38		
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41		
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43		
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46		
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49		
170	CCV				1.0	11/07/09 22:52		
171	ССВ				1.0	11/07/09 22:54		
172	RLCV				1.0	11/07/09 22:57		
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00		
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03		
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06		
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08		
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11		
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14		
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17		
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19		
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22		
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25		
183	CCV				1.0	11/07/09 23:28		
184	CCB				1.0	11/07/09 23:30		
185	RLCV				1.0	11/07/09 23:33		
186	RINSE				1.0	11/07/09 23:36	:	
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RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709 Analyst: TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date		Con	nment	Q
187	RINSE				1.0	11/07/00 23:30	- ,		A .	
188	Cal-Blank			1	1.0	11/07/09 23:41	WI	11/9/09	Didnotuse.	
189	Cal Blank				1.0	11/07/09 23:44		777		
190	100 ppb				1.0	11/07/09 23:47				
191	CCV				1.0	11/07/09 23:50				
192	ССВ				1.0	11/07/09 23:52				
193	RLCV				1.0	11/07/09 23:55			:	
194	LNEMRZF	D9J280200-5	9302146		1.0	11/07/09 23:58				
195	LNEMRSF	D9J280200-5	9302146	MD	1.0	11/08/09 00:01				
196	LNEMRDF	D9J280200-5	9302146	MD	1.0	11/08/09 00:03				
197	LNEMWF	D9J280200-6	9302146	MD	1.0	11/08/09 00:06				
198	LNEMOF	D9J280200-7	9302146	MD	1.0	11/08/09 00:09				
199	LNEM3F	D9J280200-8	9302146	MD	1.0	11/08/09 00:12				
200	LNEM4F	D9J280200-9	9302146	MD	1.0	11/08/09 00:15				
201	LNEM7F	D9J280200-10	9302146	MD	1.0	11/08/09 00:17				
202	CCV				1.0	11/08/09 00:20				
203	CCB				1.0	11/08/09 00:23				
204	RLCV				1.0	11/08/09 00:26				
205	LN0N2B	D9K060000	9310060	04	2.5	11/08/09 00:28				
206	LN0N2C	D9K060000	9310060	04	2.5	11/08/09 00:31				
207	LNW5P	D9K050485-2	9310060	04	2.5	11/08/09 00:34	T			
208	LNW55	D9K050485-4	9310060	04	2.5	11/08/09 00:37				
209	LNW6E	D9K050485-6	9310060	04	2.5	11/08/09 00:40				
210	LNW6ES	D9K050485-6	9310060	04	2.5	11/08/09 00:42				
211	LNW6ED	D9K050485-6	9310060	04	2.5	11/08/09 00:45				
212	CCV				1.0	11/08/09 00:48			:	
213	CCB				1.0	11/08/09 00:51				
214	RLCV				1.0	11/08/09 00:53				
215	LNF42B	D9J290000	9302121	MS	1.0	11/08/09 00:56				
216	LNF42C	D9J290000	9302121	MS	1.0	11/08/09 00:59				
217	LNE4T	D9J280246-1	9302121	MS	1.0	11/08/09 01:02				
218	LNE40 10X	D9J280246-2	9302121	MS	10.0	11/08/09 01:05				
219	LNE41 5X	D9J280246-3	9302121	MS	5.0	11/08/09 01:07				
220	LNE41P25	D9J280246	9302121		25.0	11/08/09 01:10				
221	CCV				1.0	11/08/09 01:13				
222	ССВ				1.0	11/08/09 01:16				
223	RLCV				1.0	11/08/09 01:19				
224	LNE41Z	D9J280246-3	9302121		1.0	11/08/09 01:21				
225	LNE41S 5X	D9J280246-3	9302121	MS	5.0	11/08/09 01:24				
226	LNE41D 5X	D9J280246-3	9302121	MS	5.0	11/08/09 01:27				
227	LNE44 5X	D9J280246-4	9302121	MS	5.0	11/08/09 01:30	<u> </u>			
228	LNE47 2X	D9J280246-5	9302121	MS	2.0	11/08/09 01:32				
229	LNE5A 2X	D9J280246-6	9302121	MS	2.0	11/08/09 01:35				
230	CCV				1.0	11/08/09 01:38				
231	ССВ				1.0	11/08/09 01:41				
232	RLCV				1.0	11/08/09 01:44				

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709	Analyst: TEL
File ID. Adi 10703	Alaivst. ILL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46		
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49	-	
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52		
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55		
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58		
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00		
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03		
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06		
241	CCV				1.0	11/08/09 02:09		
242	ССВ				1.0	11/08/09 02:11		
243	RLCV				1.0	11/08/09 02:14		
244	RINSE				1.0	11/08/09 02:17		
245	RINSE				1.0	11/08/09 02:20		
246 -	Cal Blank				1.0	-11/08/00 02:22	-NJU1969 Pidnotuse	
247	Cal Blank			ļ	1.0	11/08/09 02:25	:	
248	100 ppb				1.0	11/08/09 02:28		
249	CCV				1.0	11/08/09 02:31		
250	CCB				1.0	11/08/09 02:33		
251	RLCV			1	1.0	11/08/09 02:36		
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39		
253	LNJNVC	D9J300000	9303185	MS	1.0	11/08/09 02:42		_
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44		
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47		
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50		
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53		
258	CCV				1.0	11/08/09 02:56		
259	ССВ			11	1.0	11/08/09 02:58		
260	RLCV		ļ		1.0	11/08/09 03:01		
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04		
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07		
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09		
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12		
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15		_□
266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18		
267	CCV			 	1.0	11/08/09 03:21		
268	ССВ				1.0	11/08/09 03:23		⊣ □
269	RLCV				1.0	11/08/09 03:26		
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29		
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32		
272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34		
273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37		
274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40		
275	LNHRP	D9J290285-4	9303310	04	1.0	11/08/09 03:43		
276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:46		
277	CCV			 	1.0	11/08/09 03:48		
278	CCB		L	11	1.0	11/08/09 03:51	<u> </u>	

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File II	D: AG110	709				Ana	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
279	RLCV				1.0	11/08/09 03:54		
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57		
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59	:	
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02		
283	LNHRTS	D9J290285-6	9303310	04	1.0	11/08/09 04:05		
284	LNHRTD	D9J290285-6	9303310	04	1.0	11/08/09 04:08		
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10		
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13		
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16		
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19		
289	CCV				1.0	11/08/09 04:21		
290	ССВ				1.0	11/08/09 04:24		
291	RLCV	-			1.0	11/08/09 04:27		
292	Cal Blank				1.0	11/08/09 04:30	Wf 11/9/19 Pid notuse.	
293	Cal Blank				1.0	11/08/09 04:32		
294	100 ppb				1.0	11/08/09 04:35		
295	CCV				1.0	11/08/09 04:38		
296	CCB				1.0	11/08/09 04:41		
297	RLCV				1.0	11/08/09 04:43		
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46		
299	CCV				1.0	11/08/09 04:49		
300	ССВ				1.0	11/08/09 04:52		
301	RLCV				1.0	11/08/09 04:54		
302	LNNV0B	D9K020000	9300340	04	1.0	11/08/09 04:57		
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:90		
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 \$6:03		
305	LNJ05	D9J300168-1	9306340	04	1.0	11/08/09 05:05		
306	LNJ1A	D9J300168-2	9306340	04	1.0	11/98/09 05:08		
307	LNJ1C	D9J300168-3	9306340	04	1.0	1/08/09 05:11		
308	LNJ1D	D9J300168-4	9306340	04	1.9	11/08/09 05:14		
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16		
310	CCV				1.0	11/08/09 05:19		
311	CCB				1.0	11/08/09 05:22		
312	RLCV				1.0	11/08/09 05:25		
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27		<u></u> □
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30		
315	LNJ44	D9J300188-3	2306340	04	1.0	11/08/09 05:33		
316	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36		
317	LNMA5 5X	D9J310124-1	9306340	04	5.0	11/08/09 05:38		
318	LNMCH	D9J310127-1	9306340	04	1.0	11/08/09 05:41		
319	CCV				1.0	11/08/09 05:44		
320	CCB				1.0	11/08/09 05:47		
321	RLCV				1.0	11/08/09 05:49		
322	LNMCN	D9J310127-2	9306340	04	1.0	11/08/09 05:52		
323	LNMONP5	D9J310127	9306340		5.0	11/08/09 05:55		
324	LMMCNZ	D9J310127-2	9306340		10	11/08/09 05:58	- 64 11/9/09 pid not use.	

329 CCV

CCB

331 BLCV

330

RUN SUMMARY

Met	Method: 6020 (ICP/MS)		PMS	_024 (0	24)	Reported: 11/09/09 10	0:00:55	
File I	D: AG110)709				Analys	t: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
325	LNMCNS	D9J310127-2	9306340	04	1.0	11/08/09 06:00		
326	LNMCND	D9J310127-2	9306340	04	1.0	11/08/09 06:03		
327	LNMCP	D9J310127-3	9306340	04	1.0	11/08/09 06:06		
328	LNMCQ	D9J310127-4	9306340	04	1.0	11/08/09 06:09		

1.0

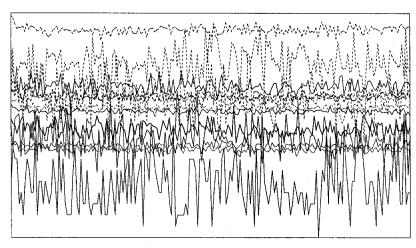
1.0

11/08/09 06:11

11/08/09 06:14

11/08/09 06:17

Tune File : NORM.U Comment : AG110709

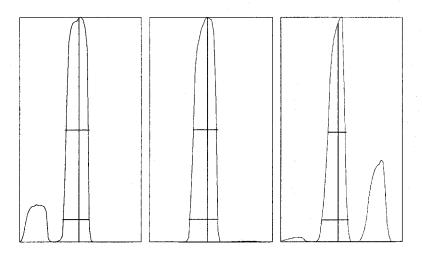


Integration Time: 0.1000 sec Sampling Period: 1.5300 sec

200 n:

Oxide: 156/140 1.612% Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
. 6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
₩-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec Acquisition Time: 22.7600 sec

Y axis : Linear

Page: 1

Generated: Nov 07, 2009 14:09:07 Printed: Nov 07, 2009 14:09:09

Tune Report

Tune File : NORM.U Comment : AG110709

Tuning Paramet	ers									
===Plasma Condi	tion	===		===Ion Lenses==	=		===Q-Pole Param	ete	ers===	
RF Power	:	1600	W	Extract 1	:	0 V	AMU Gain	:	134	
RF Matching	:	1.7	V	Extract 2	:	-170 V	AMU Offset	:	125	
Smpl Depth	:	8	mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007	
Torch-H	:	-0.8	mm	Omega Lens-ce	:	1.4 V	Axis Offset	:	-0.03	
Torch-V	:	-0.3	mm	Cell Entrance	:	-30 V	QP Bias	:	-3 V	
Carrier Gas	:	0.81	L/min	QP Focus	:	7 V				
Makeup Gas	:	0.23	L/min	Cell Exit	:	-30 V	===Detector Par	ame	eters===	
Optional Gas	:		용				Discriminator	:	8 mV	7
Nebulizer Pump	:	0.1	rps	===Octopole Par	ame	ters===	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 Cel	1===									
Reaction Mode	:	OFF								
H2 Gas	:	0	mL/min	He Gas	:	0 mL/min	Optional Gas	:	%	

Page: 2

Generated : Nov 07, 2009 14:09:07 Printed : Nov 07, 2009 14:09:12

P/A Factor Tuning Report

Acquired:Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor		
6	Li	0.054257		
7 9	(Li) Be	Sensitivity 0.059350	too	TOM
23	Na	0.063944		
24	Mg	0.064875		
27	Αĺ	0.065819		
39	K	0.066026		
43	Ca	Sensitivity	too	low
45	Sc	0.066849		
51 52	V Cr	0.067403 0.068152		
53	(Cr)	Sensitivity	too	low
55 55	Mn	0.068773	200	TOW
57	Fe	Sensitivity	too	low
59	Co	0.069652		
60	Ni	Sensitivity	too	low
63	Cu	0.069964		
66	Zn	0.070153		,
72 75	Ge	Sensitivity		low
73 77	As (Se)	Sensitivity Sensitivity		low low
78	Se	Sensitivity	too	low
82	(Se)	Sensitivity	too	low
83	(Se)	Sensitivity		
93	Nb	Sensitivity	too	low
95	Мо	0.072052		
98	(Mo)	0.071277		
99 105	(Mo)	Sensitivity 0.071221	too	TOM
106	Pd (Cd)	0.070815		
107	Aq	Sensitivity	too	low
108	(Cd)	0.071381	-	10"
111	Cd	0.070975		
115	In	0.070220		
118	Sn	0.070317		
121	Sb	0.070422		
137 165	Ba	Sensitivity	too	
182	Ho W	Sensitivity Sensitivity	too too	low low
195	Pt.	Sensitivity	too	low
205	Tl	0.071611		
206	(Pb)	0.070464		
207	(Pb)	0.070565		
208	Pb	0.069648		
232	Th	0.069671		
238	Ū	0.069782		

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

TestAmerica

200.8 QC Tune Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D

Date Acquired:

Nov 7 2009 03:04 pm

Acq. Method:

tun_isis.M

Operator:

TEL

Sample Name:

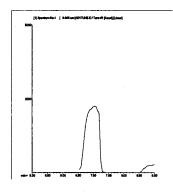
200.8 TUNE

Misc Info:

Vial Number: Current Method:

C:\ICPCHEM\1\METHODS\tun_isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



7 Li

Mass Calib.

Actual: 7.00

7.10 Required: 6.90

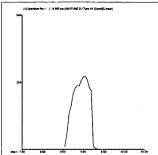
Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:



9 Be

Mass Calib.

Actual: 9.00

Required:8.90 9.10

Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:

[1] (decamentus 8.96 has;) HTV-26. D. Primo 44 (Shurri (Brimo)) 2009	24 Mg		
	Mass Calib.		
	Actual: 24.00		
	Required:23.90	-	24.10
1500-	Flag:		
	Peak Width		
	Actual: 0.60		
	Required:0.90		
m4>2359 2639 2659 2550 2550 2650 2650	Flag:		
(1) flowstern file 2 8.945 sec[001TLRE D./Ture 41 [Count]	59 Co		
	Mass Calib.		
	Actual: 59.00		
	Required: 58.90	-	59.10
500	Flag:		
	Peak Width		
	Actual: 0.55		
	Required: 0.90		
min 57.50 \$1.00 \$11.00 \$11.00 \$1.00 \$0.00 \$0.00	Flag:		
[1] Spectrum No. 1 8.005 sec)(or TILBE D./Ture 41 (Count) (Manuar)	115 In		
2984	Mass Calib.		
	Actual: 115.00		
	Required: 114.90	-	115.10
	Flag:		113.10
1984	Peak Width		
	Actual: 0.60		
	Required: 0.90		
	Flag:		
max-913.50 166.60 1M50 115.00 115.50 116.00 116.00			
[1] Sea officer (in): [0.955 sec)501TLME(D/Ture 61 [Count)[B.Invert]	208 Pb		
	Mass Calib.		
	Actual: 207.95		
/\	Required: 207.90	-	208.10
/ \	Flag:		
	Peak Width		
	Actual: 0.55		
	Required: 0.90		
mat->100 500 30d 80 30d 93 301/00 301/00 301/00 304/00 308/00 508 00	Flag:		
·			
[1] Sendon He. 1 9.865 exc)501 TARE 0 / Tym 4) (Count) E-hourt (500)	238 U		
	Magg Calih		

(i) in the man () and we special hand (c) from () fro

Pass

C:\ICPCHEM\1\RPTTMP\2008tn.qct

Actual: 237.95 Required: 237.90 -

Flag:

Actual: 0.55 Required: 0.90 Flag:

Peak Width

238.10

Page 2 of 2

/ 11

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#

Date Acquired: Nov 7 2009 03:07 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

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

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

			· · · · · · · · · · · · · · · · · · ·		abubla	~
QC E	lement	:s	`		yound	7
Elem	ent	IS Ref	Tune	OPS Mean	RSD(%)	
9	Вe	6	1	0	0.00	
51	V	72	1	130	55.47	
52	Cr	72	1	2920	1.23	
55	Mn	72	1	487	11.32	
59	Co	72	1	43	35.25	
60	Ni	72	1	67	56.79	
63	Cu	72	1	247	1 6.39	
66	Zn	72	1	177	1.72	
75	As	72	1	38	36.84	
78	Se	72	1	290	18.25	
95	Mo	72	1	17	69.28	
107	Ag	115	1	17	91.65	· No.
111	Cd	115	1	6	90.67	
118	Sn	115	1	120	25.00	
121	Sb	115	1	. 7	0.00	
137	Ba	115	1	11	17.32	* Soliton
205	Tl	165	1	53	12.50	No. of the second
208	Pb	165	1	250	7.42	
232	Th	165	1	93	59.01	
238	U	165	1	83	36.66	
		Standard				
Elem			Tune	CPS Mean	RSD(%)	. 3
6	Li		1	450969	0.62	
45	Sc		1	1353461	1.72	
72	Ge		1	599452	0.37	
115	In		1	1813996	0.92	
165	Но		1	3291682	1.21	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Date Acquired: Nov 7 2009 03:09 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

QC Elements

Eleme	nt	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	107	14.32
52	\mathtt{Cr}	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	T1	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Но	1	3253654	1.35

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#

Date Acquired: Nov 7 2009 03:12 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:10 pm

Sample Type: ICAL

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)	
9	Вe	6	1 .	52398	1.41	
51	V.	72	1	764367	2.20	
52	Cr	72	1	771475	1.19	
55	Mn	72	1	912002	1.09	
59	Co	72	1	914930	2.11	
60	Ni	72	1	193364	2.37	
63	Cu	72	1	465989	1.20	
66	Zn	72	1	112029	1.18	
75	As	72	1	90135	1.29	
78	Se	72	1	18683	1.97	
95	Mo	72	1	260394	0.61	
107	Ag	115	1	765784	1.36	
111	Cd	115	1	157700	1.34	
118	Sn	115	1	441054	2.17	
121	Sb	115	1	510967	1.02	
137	Вa	115	1	213858	1.06	
205	Tl	165	1	1838240	1.05	
208	Pb	165	1	2519619	0.58	
232	Th	165	1	2643067	0.57	
238	U	165	1	2792671	0.69	

ISTD Elements

Elemen	nt	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120	
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120	
72	Ge	1	575467	1.00	598490	96.2	30 - 120	
115	In	1	1781328	1.07	1797032	99.1	30 - 120	
165	Но	1	3275522	1.43	3253654	100.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0:Element Failures 0
0:ISTD Failures 0

11/7/09 3:13 PM

D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\005 ICV.D\005 ICV.D#

Date Acquired: Nov 7 2009 03:15 pm

Operator: TEL QC Summary:
Sample Name: ICV Analytes: Pass
Misc Info: ISTD: Pass

Misc Info: Vial Number: 2103

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICV
Total Dil Factor: 1.00

QC :	Eleme	nts								
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	40.37	ppb	1.43	40	100.9	90 - 110	
51	V	72	1	38.46	ppb	0.46	40	96.2	90 - 110	
52	Cr	72	1	39.20	ppb	1.19	40	98.0	90 - 110	
55	Mn	72	1	39.82	ppb	0.12	40	99.6	90 - 110	
59	Co	72	1	38.88	ppb	0.70	40	97.2	90 - 110	
60	Ni	72	1	40.10	ppb	0.16	40	100.3	90 - 110	
63	Cu	72	1	39.43	ppb	0.82	40	98.6	90 - 110	
66	Zn	72	1	40.09	ppb	0.20	40	100.2	90 - 110	
75	As	72	1	39.44	ppb	0.27	40	98.6	90 - 110	
78	Se	72	1	38.96	ppb	4.82	40	97.4	90 - 110	
95	Mo	72	1	39.50	ppb	0.72	40	98.8	90 - 110	
107	Ag	115	1	38.87	ppb	1.47	40	97.2	90 - 110	
111	Cd	115	1	39.30	ppb	0.98	40	98.3	90 - 110	
118	Sn	115	1	39.04	ppb	1.08	40	97.6	90 - 110	
121	Sb	115	1	39.64	ppb	1.29	40	99.1	90 - 110	
137	Ва	115	1	38.76	ppb	1.35	40	96.9	90 - 110	
205	Tl	165	1	39.29	ppb	2.05	40	98.2	90 - 110	
208	Pb	165	1	40.72	ppb	2.07	40	101.8	90 - 110	
232	Th	165	1	41.00	ppb	0.86	40	102.5	90 - 110	
238	U	165	1	40.29	ppb	1.06	40	100.7	90 - 110	
IST	D Ele	ments								
Ele	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	448116		0.63	455621	98.4	30 - 120	

TOIL	rtements							
Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	448116	0.63	455621	98.4	30 - 120	
45	Sc	1	1362171	0.61	1356727	100.4	30 - 120	
72	Ge	1	576140	0.97	598490	96.3	30 - 120	
115	In	1	1802991	1.36	1797032	100.3	30 - 120	
165	Но	1	3291704	0.83	3253654	101.2	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D\#

Date Acquired: Nov 7 2009 03:18 pm

Operator: TEL QC Summary:
Sample Name: RLIV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements	ıts
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	_
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

Initial Calibration Blank (ICB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\007 ICB.D\007 ICB.D#

Date Acquired: Nov 7 2009 03:20 pm QC Summary:
Operator: TEL Analytes: Pass
Sample Name: ICB ISTD: Pass

Misc Info:

Vial Number: 2104

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	. 6	1	0.00	ppb	0.00	1.00	
51 V	72	1	0.01	ppb	78.95	1.00	
52 Cr	72	1	0.00	ppb	801.07	1.00	
55 Mn	72	1	0.00	ppb	167.97	1.00	
59 Co	72	1	0.00	ppb	88.12	1.00	
60 Ni	72	1	0.00	ppb	330.87	1.00	
63 Cu	72	1	-0.02	ppb	18.87	1.00	
66 Zn	72	1	-0.08	ppb	16.28	1.00	
75 As	72	1	0.00	ppb	320.71	1.00	
78 Se	72	1	-0.34	ppb	104.80	1.00	
95 Mo	72	1	0.03	ppb	28.62	1.00	
107 Ag	115	1	0.01	ppb	75.43	1.00	
111 Cd	115	1	0.01	ppb	156.14	1.00	
118 Sn	115	1	0.05	ppb	28.25	1.00	
121 Sb	115	1	0.08	ppb	20.91	1.00	
137 Ba	115	1	-0.02	ppb	26.22	1.00	
205 Tl	165	1	0.04	ppb	12.74	1.00	
208 Pb	165	1	0.00	ppb	28.23	1.00	
232 Th	165	1	0.02	ppb	38.30	1.00	
238 U	165	1	0.00	ppb	35.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

D:\ICPCHEM\1\RPTTMP\6020ICB.qct

ISTD:

Pass

RL STD QC Report

QC Elements

Data File: C:\ICPCHEM\1\DATA\AG110709.B\008RLST.D\008RLST.D#

Date Acquired: Nov 7 2009 03:23 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: RL STD

Misc Info: Vial Number: 2105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: RLSTD Total Dil Factor: 1.00

QC.	n Teme	II CS								
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	1.03	ppb	7.07	1	102.9	50 - 150	
51	V	72	1	0.95	ppb	2.40	1	94.6	50 - 150	
52	Cr	72	1	0.95	ppb	9.15	1	94.9	50 - 150	
55	Mn	72	1	0.98	ppb	3.40	1	97.8	50 - 150	
59	Co	72	1	0.99	ppb	1.20	1	99.3	50 - 150	
60	Ni	72	1	0.99	ppb	1.44	1	98.7	50 - 150	
63	Cu	72	1	0.97	ppb	3.25	1	96.6	50 - 150	
66	Zn	72	1	9.84	ppb	1.62	10	98.4	50 - 150	
75	As	72	1	1.01	ppb	1.47	1	100.9	50 - 150	
78	Se	72	1	0.85	ppb	29.55	1	85.1	50 - 150	
95	Mo	72	1	0.98	ppb	3.69	1	98.3	50 - 150	
107	Ag	115	1	0.98	ppb	6.91	1	98.4	50 - 150	
111	Cd	115	1	0.98	ppb	2.94	1	97.7	50 - 150	
118	Sn	115	1	9.90	ppb	3.50	10	99.0	50 - 150	
121	Sb	115	1	1.06	ppb	2.89	1	105.8	50 - 150	
137	Ba	115	1	0.93	ppb	4.92	1	92.9	50 - 150	
205	Tl	165	1	1.05	ppb	1.24	1	104.9	50 - 150	
208	Pb	165	1	1.05	ppb	0.65	1	104.5	50 - 150	
232	Th	165	1	1.07	ppb	0.78	1	106.6	50 - 150	
238	U	165	1	1.09	ppb	0.98	1	109.3	50 - 150	
IST	D Ele	ments								
Ele	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	452942		1.17	455621	99.4	30 - 120	
45	Sc		1	1350845		0.67	1356727	99.6	30 - 120	
72	Ge		1	590050		0.39	598490	98.6	30 - 120	

ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
Li	1	452942	1.17	455621	99.4	30 - 120	
Sc	1	1350845	0.67	1356727	99.6	30 - 120	
Ge	1	590050	0.39	598490	98.6	30 - 120	
In	1	1791700	1.48	1797032	99.7	30 - 120	
Но	1	3276677	0.55	3253654	100.7	30 - 120	
	Li Sc Ge In	Li 1 Sc 1 Ge 1 In 1	Li 1 452942 Sc 1 1350845 Ge 1 590050 In 1 1791700	Li 1 452942 1.17 Sc 1 1350845 0.67 Ge 1 590050 0.39 In 1 1791700 1.48	Li 1 452942 1.17 455621 Sc 1 1350845 0.67 1356727 Ge 1 590050 0.39 598490 In 1 1791700 1.48 1797032	Li 1 452942 1.17 455621 99.4 Sc 1 1350845 0.67 1356727 99.6 Ge 1 590050 0.39 598490 98.6 In 1 1791700 1.48 1797032 99.7	Li 1 452942 1.17 455621 99.4 30 - 120 Sc 1 1350845 0.67 1356727 99.6 30 - 120 Ge 1 590050 0.39 598490 98.6 30 - 120 In 1 1791700 1.48 1797032 99.7 30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#

Date Acquired: Nov 7 2009 03:26 pm

Operator: TEL QC Summary: Sample Name: AFCEE RL Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 2106

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL Total Dil Factor: 1.00

QC Elem	ents								
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.18	ppb	4.87	0	85.7	80 - 120	,
51 V	72	1	0.19	ppb	1.60	0	98.1	80 - 120	
52 Cr	72	1	0.17	ppb	19.24	0	88.9	80 - 120	
55 Mn	72	1	0.24	ppb	0.90	0	122.4	80 - 120	
59 Co	72	1	0.21	ppb	2.54	0	105.0	80 - 120	
60 Ni	72	1	0.19	ppb	33.14	0	95.0	80 - 120	
63 Cu	72	1	0.19	ppb	26.00	0	96.8	80 - 120	
66 Zn	72	1	1.99	ppb	0.59	2	101.2	80 - 120	
75 As	72	1	0.22	ppb	3.49	0	111.1	80 - 120	
78 Se	72	1	-0.03	ppb	493.20	0	-19.4	80 - 120	
95 Mo	72	1	0.20	ppb	10.11	0	102.9	80 - 120	
107 Ag	115	1	0.19	ppb	9.51	0	98.0	80 - 120	
111 Cd	115	1	0.20	ppb	6.38	Ó	102.8	80 - 120	
118 Sn	115	1	1.96	ppb	1.89	2	99.1	80 - 120	
121 Sb	115	1	0.22	ppb	4.04	0	104.0	80 - 120	
137 Ba	115	1	0.19	ppb	4.99	0	101.2	80 - 120	
205 Tl	165	1	0.21	ppb	2.78	0	101.1	80 - 120	
208 Pb	165	1	0.21	ppb	2.60	0	100.1	80 - 120	
232 Th	165	1	0.21	ppb	3.95	0	98.4	80 - 120	
238 U	165	1	0.21	ppb	3.63	0	98.0	80 - 120	
ISTD El	.ements								
Element	:	Tune	CPS Mean		RSD(१)	Ref Value	Rec(%)	QC Range(%)	Flag

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453567	1.29	455621	99.5	30 - 120	
45 Sc	1	1337172	0.83	1356727	98.6	30 - 120	
72 Ge	1	590407	0.86	598490	98.6	30 - 120	
115 In	1	1781901	0.99	1797032	99.2	30 - 120	
165 Ho	1	3288568	1.80	3253654	101.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D\#

Date Acquired: Nov 7 2009 03:29 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: ALTSe ISTD: Pass

Misc Info: 2 ppb Vial Number: 2107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

El∈	ment	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.00	0.00	ppb	0.00	3600	
51	V	72	1	0.00	0.00	ppb	62.04	3600	
52	Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55	Mn	72	1	0.00	0.00	ppb	140.46	3600	
59	Co	72	1	0.00	0.00	ppb	189.04	3600	
60	Ni	72	1	0.00	0.00	ppb	522.21	3600	
63	Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66	Zn	72	1	0.05	0.05	ppb	55.06	3600	
75	As	72	1	0.00	0.00	ppb	1812.70	3600	
78	Se	72	1	2.16	2.16	ppb	11.88	3600	
95	Mo	72	1	0.00	0.00	ppb	222.57	3600	
107	' Ag	115	1	0.01	0.01	ppb	10.07	3600	
111	Cd	115	1	0.00	0.00	ppb	89.77	3600	
118	Sn	115	1	0.00	0.00	ppb	293.54	3600	
121	Sb	115	1	0.02	0.02	ppb	23.95	3600	
137	Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205	Tl	165	1	0.01	0.01	ppb	2.14	3600	
208	Pb	165	1	0.00	0.00	ppb	39.67	3600	
232	Th	165	1	0.00	0.00	ppb	17.19	1000	
238	Ü	165	1	0.00	0.00	ppb	388.10	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D\

Date Acquired: Nov 7 2009 03:31 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name:

Misc Info: Vial Number:

2108

ICSA

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA
Dilution Factor: 1.00

QC	Elements
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Eler	ment IS Ref Tune Conc.		RSD(%)	High Limit ppb	Flag		
9	Вe	6	1	0.00 ppb	0.00	1.00	
51	V	72	1	2.45 ppb	8.60	1.00	
52	\mathtt{Cr}	72	1	1.86 ppb	3.80	1.00	
55	Mn	72	1	3.11 ppb	0.88	1.00	
59	Co	72	1	0.12 ppb	10.19	1.00	
60	Ni	72	1	1.23 ppb	9.98	1.00	
63	Cu	72	1	0.56 ppb	5.58	1.00	
66	Zn	72	1	4.20 ppb	1.79	10.00	
75	As	72	1	0.35 ppb	13.35	1.00	
78	Se	72	1	0.47 ppb	67.55	1.00	
95	Мо	72	1	2055.00 ppb	1.11	2000.00	
107	Ag	115	1	0.03 ppb	8.56	1.00	
111	Cd	115	1	0.40 ppb	30.97	1.00	
118	Sn	115	1	0.93 ppb	18.89	10.00	
121	Sb	115	1	0.95 ppb	3.56	1.00	
137	Ва	115	1	0.00 ppb	326.02	1.00	
205	Tl	165	1	0.04 ppb	20.03	1.00	
208	Pb	165	1	1.04 ppb	2.03	1.00	
232	Th	165	1	0.02 ppb	5.48	1.00	
238	U	165	1	0.00 ppb	14.89	1.00	

ISTD Elements

Elem	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120	
45	Sc	1	939322	1.85	1356727	69.2	30 - 120	
72	Ge	1	429449	0.82	598490	71.8	30 - 120	
115	In	1	1325081	0.92	1797032	73.7	30 - 120	
165	Но	1	2485688	0.47	3253654	76.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D#

Date Acquired: Nov 7 2009 03:34 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: ICSAB ISTD: Pass

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSAB
Dilution Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	108.90	0.75	100	108.9	80 - 120	
51 V	72	1	92.27	0.38	100	92.3	80 - 120	
52 Cr	72	1	90.40	0.96	100	90.4	80 - 120	
55 Mn	72	1	92.59	1.18	100	92.6	80 - 120	
59 Co	72	1	88.85	0.30	100	88.9	80 - 120	
60 Ni	72	1	89.72	0.28	100	89.7	80 - 120	
63 Cu	72	1	85.14	0.90	100	85.1	80 - 120	
66 Zn	72	1	95.65	0.49	100	95.7	80 - 120	
75 As	72	1	99.50	0.47	100	99.5	80 - 120	
78 Se	72	1	105.90	0.80	100	105.9	80 - 120	
95 Mo	72	1	2149.00	1.99	2100	102.3	80 - 120	
107 Ag	115	1	84.00	7.96	100	84.0	80 - 120	
111 Cd	115	1	93.62	2.89	100	93.6	80 - 120	
118 Sn	115	1	96.78	1.78	100	96.8	80 - 120	
121 Sb	115	1	100.10	2.32	100	100.1	80 - 120	
137 Ba	115	1	96.82	2.12	100	96.8	80 - 120	
205 Tl	165	1	94.83	0.67	100	94.8	80 - 120	
208 Pb	165	1	93.97	0.82	100	94.0	80 - 120	
232 Th	165	1	101.90	0.67	100	101.9	80 - 120	
238 U	165	1	100.20	0.45	100	100.2	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272241	2.18	455621	59.8	30 - 120	
45 Sc	1	935334	1.15	1356727	68.9	30 - 120	
72 Ge	1	419509	1.32	598490	70.1	30 - 120	
115 In	1	1327038	1.55	1797032	73.8	30 - 120	
165 Ho	1	2524289	0.15	3253654	77.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

ISTD:

Pass

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

Date Acquired: Nov 7 2009 03:37 pm

Operator: TEL QC Summary: Sample Name: RINSE Analytes: Pass

Misc Info: Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL Total Dil Factor: 1.00

00	127	ements
OC.	ЕТ	ements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.00	ppb	0.00	0	0.0	80 - 120	
51	V	72	1	0.06	ppb	15.15	0	29.2	80 - 120	
52	Cr	72	1	0.00	ppb	941.54	0	-2.5	80 - 120	
55	Mn	72	1	0.00	ppb	87.90	0	-2.5	80 - 120	
59	Co	72	1	0.00	ppb	138.19	0	-0.5	80 - 120	
60	Ni	72	1	-0.01	ppb	79.76	0	-6.6	80 - 120	
63	Cu	72	1	-0.02	ppb	11.32	0	-10.3	80 - 120	
66	Zn	72	1	-0.12	ppb	4.66	2	-6.1	80 - 120	
75	As	72	1	0.00	ppb	172.97	0	2.3	80 - 120	
78	Se	72	1	0.18	ppb	157.63	0	105.8	80 - 120	
95	Mo	72	1	0.92	ppb	26.25	0	470.1	80 - 120	
107	Ag	115	1	0.01	ppb	38.83	0	5.1	80 - 120	
111	Cd	115	1	0.00	ppb	268.01	0	2.2	80 - 120	
118	Sn	115	1	-0.03	ppb	57.94	2	-1.3	80 - 120	
121	Sb	115	1	0.13	ppb	22.58	0	60.8	80 - 120	
137	Ba	115	1	-0.03	ppb	10.98	0	-13.6	80 - 120	
205	Tl	165	1	0.00	ppb	35.28	0	1.1	80 - 120	
208	Pb	165	1	0.00	ppb	109.50	0	-0.7	80 - 120	
232	Th	165	1	0.03	ppb	14.09	0	14.5	80 - 120	
238	U	165	1	0.02	ppb	14.78	0	7.9	80 - 120	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120	
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120	
72	Ge	1	563469	0.48	598490	94.1	30 - 120	
115	In	1	1720438	0.38	1797032	95.7	30 - 120	
165	Но	1	3228952	0.84	3253654	99.2	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014 LR.D\014 LR.D#

Date Acquired: Nov 7 2009 03:40 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass Sample Name: LR1 ISTD: Pass

Misc Info:

Vial Number: 2110

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: LR
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 T1	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 но	1	3245351	1.45	3253654	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#

Date Acquired: Nov 7 2009 03:42 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass Sample Name: RINSE ISTD: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	- 6	1	0.01	0.01	ppb	173.22	3600	
51 V	72	1	0.03	0.03	ppb	5.05	3600	
52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
59 Co	72	1	0.00	0.00	ppb	73.71	3600	
60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
75 As	72	1	0.03	0.03	ppb	18.58	3600	
78 Se	72	1	0.26	0.26	ppb	60.51	3600	
95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
232 Th	165	1	0.12	0.12	ppb	15.82	1000	
238 U	165	1	0.14	0.14	ppb	23.45	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\016 CCV.D\016 CCV.D\

Date Acquired: Nov 7 2009 03:45 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Conc.

Last Cal Update: Nov 07 2009 03:13 pm

Tune

1

1

1

Sample Type: CCV
Total Dil Factor: 1.00

QC Elements
Element IS Ref

205 Tl

208 Pb

232 Th

238 U

165

165

165

165

9	Ве	6	1	50.82	ppb	0.98	50	101.6	90 - 110	
51	V	72	1	47.69	ppb	0.85	50	95.4	90 - 110	
52	Cr	72	1	47.81	ppb	0.72	50	95.6	90 - 110	
55	Mn	72	1	47.91	ppb	0.63	50	95.8	90 - 110	
59	Co	72	1	48.31	ppb	1.05	50	96.6	90 - 110	
60	Νi	72	1	49.87	ppb	0.51	50	99.7	90 - 110	
63	Cu	72	1	48.27	ppb	0.97	50	96.5	90 - 110	
66	Zn	72	1	49.24	ppb	0.51	50	98.5	90 - 110	
75	As	72	1	49.61	ppb	0.57	50	99.2	90 - 110	
78	Se	72	. 1	51.34	ppb	3.01	50	102.7	90 - 110	
95	Мо	72	1	49.43	ppb	1.34	50	98.9	90 - 110	
107	Ag	115	1	48.77	ppb	0.60	50	97.5	90 - 110	
111	Cd	115	1	49.46	ppb	1.05	50	98.9	90 - 110	
118	Sn	115	1	49.42	ppb	0.94	50	98.8	90 - 110	
121	Sb	115	1	49.48	ppb	0.82	50	99.0	90 - 110	
137	Ва	115	1	48.65	ppb	1.08	50	97.3	90 - 110	

1.20

2.15

1.41

0.97

49.98 ppb

50.63 ppb

50.61 ppb

50.58 ppb

RSD(%)

Expected

50

50

50

50

Rec(%)

100.0

101.3

101.2

101.2

QC Range(%)

90 - 110

90 - 110

90 - 110

90 - 110

Flag

I	STD Elements							
E	lement	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	424171	1.07	455621	93.1	30 - 120	
4	5 Sc	1	1298607	1.88	1356727	95.7	30 - 120	
7	2 Ge	1	570018	0.80	598490	95.2	30 - 120	
1	15 In	1	1777686	0.76	1797032	98.9	30 - 120	
1	65 Ho	1	3306431	1.43	3253654	101.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\017 CCB.D\017 CCB.D#

Date Acquired:

Nov 7 2009 03:48 pm

Operator:

TEL

QC Summary:

Sample Name:

Analytes: Pass

Misc Info:

CCB

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 03:13 pm

Sample Type:

CCB

Total Dil Factor:

1.00

QC Elements

9 Be 6 1 0.000 ppb 0.00 1.00 51 V 72 1 0.018 ppb 26.29 1.00 52 Cr 72 1 0.021 ppb 89.72 1.00 55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 111 Cd 115 1 0.011 ppb 38.12 <t< th=""><th>Element</th><th>IS Ref</th><th>Tune</th><th>Conc.</th><th></th><th>RSD(%)</th><th>High Limit</th><th>Flag</th></t<>	Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
52 Cr 72 1 0.021 ppb 89.72 1.00 55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba	9 Be	6	1	0.000	ppb	0.00	1.00	
55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.026 ppb 8.86 1.00 208 Pb	51 V	72	1	0.018	ppb	26.29	1.00	
59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44	52 Cr	72	1	0.021	ppb	89.72	1.00	
60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 18.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	55 Mn	72	1	-0.002	ppb	258.47	1.00	
63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 16.25 1.00 205 Tl 165 1 0.001 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	59 Co	72	1	0.000	ppb	7.74	1.00	
66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	60 Ni	72	1	-0.003	ppb	365.53	1.00	
75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	63 Cu	72	1	-0.006	ppb	212.36	1.00	
78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	66 Zn	72	1	-0.070	ppb	18.30	1.00	
95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	75 As	72	1	0.022	ppb	32.72	1.00	
107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	78 Se	72	1	0.156	ppb	92.00	1.00	
111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	95 Mo	72	1	0.115	ppb	30.30	1.00	
118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	107 Ag	115	1	0.011	ppb	38.12	1.00	
121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	111 Cd	115	1	0.002	ppb	113.82	1.00	
137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	118 Sn	115	1	0.224	ppb	27.67	1.00	
205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	121 Sb	115	1	0.348	ppb	18.44	1.00	
208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	137 Ba	115	1	-0.026	ppb	8.86	1.00	
232 Th 165 1 0.056 ppb 20.03 1.00	205 Tl	165	1	0.021	ppb	16.25	1.00	
**	208 Pb	165	1	0.000	ppb	463.86	1.00	
238 U 165 1 0.020 ppb 23.07 1.00	232 Th	165	1	0.056	ppb	20.03	1.00	
	238 U	165	1	0.020	ppb	23.07	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

11/7/09 3:48 PM

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Page 1 of 1

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#

Date Acquired: Nov 7 2009 03:50 pm

Operator: TEL QC Summary:
Sample Name: RLCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	. 6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

ISTD Elements

6 Li 1 443603 0.24 455621 97.4 30 - 120	
45 Sc 1 1335995 1.35 1356727 98.5 30 - 120	
72 Ge 1 596206 0.64 598490 99.6 30 - 120	
115 In 1 1804793 1.75 1797032 100.4 30 - 120	
165 Ho 1 3324168 1.02 3253654 102.2 30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095 CCV.D\095 CCV.D#

Date Acquired: Nov 7 2009 07:25 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	50.00	ppb	3.68	50	100.0	90 - 110	
51	V .	72	1	49.46	ppb	0.96	50	98.9	90 - 110	
52	Cr	72	1	49.13	ppb	0.63	50	98.3	90 - 110	
55	Mn	72	1	48.00	ppb	0.58	50	96.0	90 - 110	
59	Co	72	1	49.88	ppb	1.19	50	99.8	90 - 110	
60	Ni	72	1	52.70	ppb	0.96	50	105.4	90 - 110	
63	Cu	72	1	50.75	ppb	0.19	50	101.5	90 - 110	
66	Zn	72	1	48.83	ppb	0.18	50	97.7	90 - 110	
75	As	72	1	50.85	ppb	1.33	50°	101.7	90 - 110	
78	Se	72	1	50.97	ppb	2.08	50	101.9	90 - 110	
95	Mo	72	1 .	49.28	ppb	0.59	50	98.6	90 - 110	
107	Ag	115	1	48.69	ppb	1.80	50	97.4	90 - 110	
111	Cd	115	1	48.20	ppb	1.31	50	96.4	90 - 110	
118	Sn	115	. 1	47.65	ppb	1.87	50	95.3	90 - 110	
121	Sb	115	1	47.61	ppb	2.17	50	95.2	90 - 110	
137	Ba	115	1	48.23	ppb	1.87	50	96.5	90 - 110	
205	Tl	165	1	49.17	ppb	1.01	50	98.3	90 - 110	
208	Pb	165	1	50.08	ppb	1.74	50	100.2	90 - 110	
232	Th	165	1	49.66	ppb	0.53	50	99.3	90 - 110	
238	Ū	165	1	49.60	ppb	0.64	50	99.2	90 - 110	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120	
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120	
72	Ge	1	557000	0.87	598490	93.1	30 - 120	
115	In	1	1717369	0.76	1797032	95.6	30 - 120	
165	Но	1	3017615	0.61	3253654	92.7	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096 CCB.D\096 CCB.D#

Date Acquired: Nov 7 2009 07:28 pm

Operator: TEL QC Summary:
Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Be	6	1	0.000	ppb	0.00	1.00	
51	V	72	1	-0.006	ppb	24.61	1.00	
52	Cr	72	1	0.005	ppb	16.13	1.00	
55	Mn	72	1	0.012	ppb	40.48	1.00	
59	Co	72	1	0.003	ppb	90.18	1.00	
60	Ni	72	1	0.005	ppb	115.47	1.00	
63	Cu	72	1	-0.001	ppb	1434.90	1.00	
66	Zn	72	1	0.040	ppb	39.82	1.00	
75	As	72	1	-0.001	ppb	689.47	1.00	
78	Se	72	1	0.203	ppb	119.68	1.00	
95	Mo	72	1	0.030	ppb	15.19	1.00	
107	Ag	115	1	0.009	ppb	17.39	1.00	
111	Cd	115	1	0.008	ppb	214.98	1.00	
118	Sn	115	1	0.033	ppb	87.07	1.00	
121	Sb	115	1,	0.133	ppb	16.18	1.00	
137	Ba	115	1	-0.005	ppb	66.27	1.00	
205	Tl	165	1	0.010	ppb	5.85	1.00	
208	Pb	165	1	0.007	ppb	10.03	1.00	
232	Th	165	1	0.031	ppb	21.92	1.00	
238	U	165	1	0.010	ppb	23.45	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#

Date Acquired: Nov 7 2009 07:30 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

ISTD: Misc Info: Pass

Vial Number: 1204

C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	. 72	1	2.031 ppb	2.60	2.60	
66 Zn	. 72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

ISTD Elements

Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
1	448328	0.34	455621	98.4	30 - 120	
1	1294487	0.37	1356727	95.4	30 - 120	
1	577791	0.38	598490	96.5	30 - 120	
1	1706897	0.23	1797032	95.0	30 - 120	
1	3033777	0.64	3253654	93.2	30 - 120	
	Tune 1 1 1 1	1 448328 1 1294487 1 577791 1 1706897	1 448328 0.34 1 1294487 0.37 1 577791 0.38 1 1706897 0.23	1 448328 0.34 455621 1 1294487 0.37 1356727 1 577791 0.38 598490 1 1706897 0.23 1797032	1 448328 0.34 455621 98.4 1 1294487 0.37 1356727 95.4 1 577791 0.38 598490 96.5 1 1706897 0.23 1797032 95.0	1 448328 0.34 455621 98.4 30 - 120 1 1294487 0.37 1356727 95.4 30 - 120 1 577791 0.38 598490 96.5 30 - 120 1 1706897 0.23 1797032 95.0 30 - 120

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D\#

Date Acquired: Nov 7 2009 07:33 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

ICSA

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA Dilution Factor: 1.00

QC	Elements

Eler	nent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	0.01 ppb	173.15	1.00	-
51	٧	72	1	2.34 ppb	2.35	1.00	
52	Cr	72	1	1.89 ppb	3.80	1.00	
55	Mn	72	1	3.08 ppb	1.35	1.00	
59	Co	72	1	0.13 ppb	9.32	1.00	
60	Ni	72	1	1.54 ppb	6.59	1.00	
63	Cu	72	1	0.62 ppb	13.41	1.00	
66	Zn	72	1	4.36 ppb	1.67	10.00	
75	As	72	1	0.31 ppb	11.37	1.00	
78	Se	72	1	-0.18 ppb	17.27	1.00	
95	Mo	72	1	2024.00 ppb	0.75	2000.00	
107	Ag	115	1	0.04 ppb	30.78	1.00	
111	Cd	115	1	0.44 ppb	34.74	1.00	
118	Sn	115	1	0.41 ppb	9.39	10.00	
121	Sb	115	1	0.94 ppb	2.45	1.00	
137	Ba	115	1	0.02 ppb	61.87	1.00	
205	Tl	165	1	0.04 ppb	26.87	1.00	
208	Pb	165	1	1.05 ppb	0.68	1.00	
232	Th	165	1	0.02 ppb	35.17	1.00	
238	U	165	1	0.01 ppb	14.16	1.00	

ISTD Elements

Eler	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120	
45	Sc	1	945462	1.56	1356727	69.7	30 - 120	
72	Ge	1	429131	0.94	598490	71.7	30 - 120	
115	In	1	1251973	0.62	1797032	69.7	30 - 120	
165	Но	1	2302241	0.67	3253654	70.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#

Date Acquired:

Nov 7 2009 07:36 pm

Acq. Method:

NormISIS.M

QC Summary:

Operator:

TEL

Analytes: Pass

Sample Name:

ICSAB

ISTD: Pass

Misc Info:

Vial Number:

2109

Current Method:

C:\ICPCHEM\1\METHODS\NormISIS.M

Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Sample Type:

Last Cal. Update: Nov 07 2009 03:13 pm

ICSAB

Dilution Factor:

1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	101.10	0.81	100	101.1	80 - 120	
51 V	72	1	96.26	0.64	100	96.3	80 - 120	
52 Cr	72	1 ,	92.97	0.53	100	93.0	80 - 120	
55 Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59 Co	72	1	90.72	0.50	100	90.7	80 - 120	
60 Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63 Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66 Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75 As	72	1	101.10	0.38	100	101.1	80 - 120	
78 Se	72	1	105.10	1.94	100	105.1	80 - 120	
95 Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107 Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111 Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118 Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121 Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137 Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205 Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208 Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232 Th	165	1	98.27	1.03	100	98.3	80 - 120	
238 U	165	1	97.38	0.98	100	97.4	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	298307	2.13	455621	65.5	30 - 120	
45 Sc	1	951400	0.73	1356727	70.1	30 - 120	
72 Ge	1	417924	0.89	598490	69.8	30 - 120	
115 In	1	1269948	0.83	1797032	70.7	30 - 120	
165 Ho	1	2339416	0.71	3253654	71.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#

Date Acquired: Nov 7 2009 07:39 pm

Operator: TEL QC Summary: Sample Name: WASH Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	_
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	. 1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

ISTD:

Pass

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CCV.D\101 CCV.D#

Date Acquired: Nov 7 2009 07:41 pm

Operator: TEL QC Summary: Sample Name: CCV Analytes: Pass

Misc Info: Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

ÕС	Elements
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Eler	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.02	ppb	3.60	50	102.0	90 - 110	
51	V	72	1	49.10	ppb	0.68	50	98.2	90 - 110	
52	Cr	72	1	48.80	ppb	0.79	50	97.6	90 - 110	
55	Mn	72	1	48.00	ppb	0.60	50	96.0	90 - 110	
59	Co	72	1	49.55	ppb	0.61	50	99.1	90 - 110	
60	Ni	72	1	52.06	ppb	1.46	50	104.1	90 - 110	
63	Cu	72	1	50.22	ppb	0.56	50	100.4	90 - 110	
66	Zn	72	1	48.51	ppb	1.13	50	97.0	90 - 110	
75	As	72	1	50.95	ppb	0.50	50	101.9	90 - 110	
78	Se	72	1	49.38	ppb	4.19	50	98.8	90 - 110	
95	Mo	. 72	1	50.11	ppb	1.38	50	100.2	90 - 110	
107	Ag	115	1	49.66	ppb	0.85	50	99.3	90 - 110	
111	Cd	115	1	49.01	ppb	1.42	50	98.0	90 - 110	
118	Sn	115	1	48.68	ppb	1.81	50	97.4	90 - 110	
121	Sb	115	1	48.87	ppb	1.17	50	97.7	90 - 110	
137	Ва	115	1	49.35	ppb	1.09	50	98.7	90 - 110	
205	Tl	165	1	49.79	ppb	1.41	50	99.6	90 - 110	
208	Pb	165	1	49.95	ppb	1.13	50	99.9	90 - 110	
232	Th	165	1	49.72	ppb	0.91	50	99.4	90 - 110	
238	U .	165	1	49.59	ppb	1.94	50	99.2	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120	
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120	
72	Ge	1	546607	0.97	598490	91.3	30 - 120	
115	In	1	1673358	0.50	1797032	93.1	30 - 120	
165	Но	1	3013021	0.51	3253654	92.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102 CCB.D\102 CCB.D#

Date Acquired: Nov 7 2009 07:44 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.18	1.00	
51 V	72	1	0.072	ppb	11.11	1.00	
52 Cr	72	1	0.002	ppb	1427.90	1.00	
55 Mn	72	1	-0.002	ppb	998.74	1.00	
59 Co	72	1	0.004	ppb	62.33	1.00	
60 Ni	72	1	0.095	ppb	21.31	1.00	
63 Cu	72	1	0.001	ppb	1376.50	1.00	
66 Zn	72	1	0.050	ppb	67.37	1.00	
75 As	72	1	0.009	ppb	154.12	1.00	
78 Se	72	1	0.133	ppb	315.07	1.00	
95 Mo	72	1	0.099	ppb	50.63	1.00	
107 Ag	115	1	0.009	ppb	39.54	1.00	
111 Cd	115	1	0.005	ppb	103.50	1.00	
118 Sn	115	1	0.062	ppb	107.54	-1.00	
121 Sb	115	1	0.138	ppb	16.19	1.00	
137 Ba	115	1	-0.017	ppb	52.66	1.00	
205 Tl	165	1	0.016	ppb	15.17	1.00	
208 Pb	165	1	0.005	ppb	21.11	1.00	
232 Th	165	1	0.033	ppb	24.50	1.00	
238 U	165	1	0.010	ppb	34.21	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\

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

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#

Date Acquired: Nov 7 2009 07:47 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	_
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	. 72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
	\02/06	
Date:	11100109	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

Date Acquired: Nov 7 2009 08:47 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:45 pm

Sample Type: CalBlk

QC Elements

Eleme	nt	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	٧	72	1	1013	6.79
52	\mathtt{Cr}	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ва	115	1	74	17.43
205	T1	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)	
6	Li	1	398155	0.17	
45	Sc	1	1273788	1.37	
72	Ge	1	577640	0.30	
115	In	1	1726730	0.64	
165	Но	1	3039108	1.07	

Tune File# 1 c:\icpchem\1\7500\he.u

Tune File# 2 C:\ICPCHEM\1\7500\

Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#

Date Acquired: Nov 7 2009 08:50 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:48 pm

Sample Type: ICAL

QC Elements

ıt	IS Ref	Tune	CPS Mean	RSD(%)
Ве	6	1	47883	0.67
A	72	1	747976	1.49
\mathtt{Cr}	72	1	754628	1.13
Mn	72	1	865964	0.71
Co	72	1	889724	1.22
Ni	72	1	191586	1.40
Cu	72	1	456036	0.95
Zn	72	1	106780	0.65
As	72	1	89192	0.61
Se	72	1	18229	1.26
Mo	72	1	254493	1.19
Ag	115	1	752402	0.75
Cd	115	1	150239	1.10
Sn	115	1	420016	0.73
Sb	115	1	483973	0.74
Ba	115	1	204383	0.51
Tl	165	1	1701616	0.60
Pb	165	1	2338107	2.25
Th	165	1	2413552	1.92
U	165	1	2559276	1.77
	Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sn Sb Ba Tl Pb Th	Be 6 V 72 Cr 72 Mn 72 Co 72 Ni 72 Cu 72 As 72 Se 72 Mo 72 Ag 115 Cd 115 Sn 115 Sb 115 Ba 115 Tl 165 Pb 165 Th 165	Be 6 1 V 72 1 Cr 72 1 Mn 72 1 Co 72 1 Ni 72 1 Cu 72 1 Zn 72 1 As 72 1 Se 72 1 Mo 72 1 Ag 115 1 Cd 115 1 Sn 115 1 Sb 115 1 Ba 115 1 Tl 165 1 Pb 165 1 Th 165 1	Be 6 1 47883 V 72 1 747976 Cr 72 1 754628 Mn 72 1 865964 Co 72 1 889724 Ni 72 1 191586 Cu 72 1 456036 Zn 72 1 106780 As 72 1 89192 Se 72 1 18229 Mo 72 1 254493 Ag 115 1 752402 Cd 115 1 150239 Sn 115 1 483973 Ba 115 1 204383 Tl 165 1 1701616 Pb 165 1 2338107 Th 165 1 2413552

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC R	ange(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30	- 120	
45	Sc	1	1260434	1.10	1273788	99.0	30	- 120	
72	Ge	1	556836	0.86	577640	96.4	30	- 120	
115	In	1	1704167	0.61	1726730	98.7	30	- 120	
165	Но	1	3052265	1.25	3039108	100.4	30	- 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

11/7/09 8:51 PM D:\ICPCHEM\1\RPTTMP\calstd.qct

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Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127 CCV.D\127 CCV.D#

Date Acquired: Nov 7 2009 08:53 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemen	nts
Fla	ment	TC

Ele	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Вe	6	1	50.43	ppb	3.83	50	100.9	90 - 110	
51	V.	72	1	48.44	ppb	0.77	50	96.9	90 - 110	
52	Cr	72	1	48.00	ppb	0.40	50	96.0	90 - 110	
55	Mn	72	1	48.98	ppb	0.83	50	98.0	90 - 110	
59	Co	72	1	49.19	ppb	0.88	50	98.4	90 - 110	
60	Ni	72	1	51.00	ppb	2.25	50	102.0	90 - 110	
63	Cu	72	1	50.40	ppb	1.04	50	100.8	90 - 110	
66	Zn	72	1	49.66	ppb	0.82	50	99.3	90 - 110	
75	As	72	1	49.96	ppb	1.36	50	99.9	90 - 110	
78	Se	72	1	50.40	ppb	4.89	50	100.8	90 - 110	
95	Mo	72	1	49.49	ppb	0.61	50	99.0	90 - 110	
107	Ag	115	1	48.04	ppb	0.50	50	96.1	90 - 110	
111	Cd	115	1	48.84	ppb	0.25	50	97.7	90 - 110	
118	Sn	115	1	48.90	ppb	0.50	50	97.8	90 - 110	
121	Sb	115	1	49.44	ppb	0.72	50	98.9	90 - 110	
137	Ва	115	1	49.58	ppb	0.98	50	99.2	90 - 110	
205	Tl	165	1	50.08	ppb	0.23	50	100.2	90 - 110	
208	Pb	165	1	49.87	ppb	2.65	50	99.7	90 - 110	
232	Th	165	1	50.94	ppb	1.78	50	101.9	90 - 110	
238	U	165	1	50.49	ppb	2.18	50	101.0	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	401327	1.29	398155	100.8	30 - 120	
45	Sc	1	1286634	0.38	1273788	101.0	30 - 120	
72	Ge	1	558660	0.70	577640	96.7	30 - 120	
115	In	1	1725819	0.46	1726730	99.9	30 - 120	
165	Но	1	3087824	1.47	3039108	101.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128 CCB.D\128 CCB.D#

Date Acquired: Nov 7 2009 08:56 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Eleme	nt IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	e 6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.043	ppb	23.48	1.00	
52 Cr	72	1	0.013	ppb	34.25	1.00	
55 Mr	n 72	1	0.004	ppb	271.40	1.00	
59 Cc	72	1	0.003	ppb	58.98	1.00	
60 Ni	L 72	1	0.013	ppb	122.65	1.00	
63 Ct	ı 72	1	-0.010	ppb	116.03	1.00	
66 Zr	n 72	1	-0.311	ppb	3.85	1.00	
75 As	3 72	1	0.007	ppb	208.78	1.00	
78 Se	e 72	1	0.060	ppb	542.70	1.00	
95 Mc	72	1	0.010	ppb	195.90	1.00	
107 A	g 115	1	0.008	ppb	34.15	1.00	
111 Cc	i 115	1	-0.003	ppb	158.97	1.00	
118 Sr	n 115	1	0.071	ppb	72.17	1.00	
121 Sk	115	1	0.186	ppb	24.43	1.00	
137 Ba	a 115	1	-0.019	ppb	41.26	1.00	
205 TI	L 165	1	0.019	ppb	3.88	1.00	
208 Pb	165	1	0.007	ppb	24.82	1.00	
232 Th	n 165	1	0.050	ppb	27.19	1.00	
238 U	165	1	0.014	ppb	24.25	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D\#

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Page 1 of 1

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#

Date Acquired: Nov 7 2009 08:58 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: RLCV

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Date Acquired: Nov 7 2009 11:44 pm

Acq. Method: NormISIS.M

Operator: TEL
Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:42 pm

Sample Type: CalBlk

QC Elements

Elem	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	. 72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	Ü	165	1	122	7.26

Internal Standard Elements

Elem	ent	Tune	CPS Mean	RSD(%)
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Но	1	2681412	0.51

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#

Date Acquired: Nov 7 2009 11:47 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Nov 07 2009 11:45 pm Calibration File:

Last Cal. Update:

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	45518	1.54
51	V	72	1	700879	1.29
52	Cr	. 72	1	693042	2.18
55	Mn	72	1	795858	1.60
59	Co	72	1	850264	1.89
60	Ni	72	1	181428	0.41
63	Cu	72	1	431089	0.73
66	Zn	72	1	95751	0.48
75	As	72	1	84617	1.05
78	Se	72	1	17278	1.91
95	Mo	72	1	230286	0.80
107	Ag	115	1	661266	1.42
111	Cd	115	1	131853	1.14
118	Sn	115	1	371875	2.20
121	Sb	115	1	432362	1.85
137	Ba	115	1	187475	1.78
205	Tl	165	1	1498644	1.03
208	Pb	165	1	2042776	1.12
232	Th	165	1	2142976	0.23
238	U	165	1	2200342	0.40

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120	
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120	
72	Ge	1	507906	1.25	533218	95.3	30 - 120	
115	In	1	1532161	1.02	1552104	98.7	30 - 120	
165	Но	1	2672323	0.90	2681412	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures 0 0 :ISTD Failures

D:\ICPCHEM\1\RPTTMP\calstd.qct 11/7/09 11:48 PM

Page 1 of 1

ISTD:

Pass

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191 CCV.D\191 CCV.D#

Date Acquired: Nov 7 2009 11:50 pm

Operator: TEL QC Summary: Sample Name: CCV Analytes: Pass

Misc Info: Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Eleme	nts		
D1.		TC	D-£	m.

Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	49.23	ppb	3.26	50	98.5	90 - 110	
51	V	72	1	48.52	ppb	1.74	50	97.0	90 - 110	
52	Cr	72	1	48.49	ppb	0.29	50	97.0	90 - 110	
55	Mn	72	1	48.47	ppb	1.24	50	96.9	90 - 110	
59	Co	72	1	48.02	ppb	0.67	50	96.0	90 - 110	
60	Ni	72	1	49.69	ppb	1.50	50	99.4	90 - 110	
63	Cu	72	1	49.62	ppb	0.90	50	99.2	90 - 110	
66	Zn	72	1	48.96	ppb	1.42	50	97.9	90 - 110	
75	As	72	1	49.10	ppb	0.76	50	98.2	90 - 110	
78	Se	72	1	48.52	ppb	4.63	50	97.0	90 - 110	
95	Mo	72	1	49.23	ppb	0.82	50	98.5	90 - 110	
107	Ag	115	1	49.55	ppb	1.37	50	99.1	90 - 110	
111	Cd	115	1	49.69	ppb	1.93	50	99.4	90 - 110	
118	Sn	115	1	49.87	ppb	1.50	50	99.7	90 - 110	
121	Sb	115	1	49.85	ppb	1.58	50	99.7	90 - 110	
137	Ва	115	1	49.38	ppb	1.63	50	98.8	90 - 110	
205	Tl	165	1	50.07	ppb	0.63	50	100.1	90 - 110	
208	Pb	165	1	50.67	ppb	1.87	50	101.3	90 - 110	
232	Th	165	1	50.33	ppb	1.25	50	100.7	90 - 110	
238	U	165	1	51.37	ppb	0.78	50	102.7	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	391774	1.28	401411	97.6	30 - 120	
45	Sc	1	1173327	0.14	1190683	98.5	30 - 120	
72	Ge	1	511730	0.36	533218	96.0	30 - 120	
115	In	1	1536232	0.41	1552104	99.0	30 - 120	
165	Но	1	2663987	0.61	2681412	99.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\192 CCB.D\192 CCB.D#

Date Acquired:

Nov 7 2009 11:52 pm

Operator:

TEL

QC Summary:

Sample Name:

Analytes: **Pass**

Misc Info:

CCB

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 11:48 pm

Sample Type:

CCB

Total Dil Factor:

1.00

QC Elements

Elemen	t IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.021	ppb	99.86	1.00	
51 V	72	1	-0.024	ppb	36.47	1.00	
52 Cr	72	1	0.015	ppb	57.14	1.00	
55 Mn	72	1	0.032	ppb	9.94	1.00	
59 Co	72	1	0.000	ppb	241.41	1.00	
60 Ni	72	1	-0.008	ppb	160.82	1.00	
63 Cu	72	1	-0.035	ppb	57.76	1.00	
66 Zn	72	1	-0.363	ppb	4.76	1.00	
75 As	72	1	0.004	ppb	177.30	1.00	
78 Se	72	1	0.169	ppb	283.55	1.00	
95 Mo	72	1	-0.009	ppb	169.70	1.00	
107 Ag	115	1	0.008	ppb	60.74	1.00	
111 Cd	115	1	0.009	ppb	130.00	1.00	
118 Sn	115	1	0.105	ppb	79.70	1.00	
121 Sb	115	1	0.172	ppb	19.79	1.00	
137 Ba	115	1	-0.007	ppb	70.67	1.00	
205 Tl	165	1	0.024	ppb	16.62	1.00	
208 Pb	165	1	0.009	ppb	31.16	1.00	
232 Th	165	1	0.066	ppb	21.79	1.00	
238 U	165	1	0.019	ppb	10.85	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#

Date Acquired: Nov 7 2009 11:55 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements	
-------------	--

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 но	1	2673393	1.59	2681412	99.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Date Acquired: Nov 8 2009 02:25 am

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:23 am

Sample Type: CalBlk

QC Elements

ent	IS Ref	Tune	CPS Mean	RSD(%)
Вe	- 6	1	3	173.21
V	72	1	620	12.63
Cr	72	1	2680	1.78
Mn	72	1	813	8.79
Co	72	1	67	30.95
Ni	72	1	113	13.08
Cu	72	1	490	11.82
Zn	72	1	656	6.46
As	72	1	45	17.63
Se	72	1	333	20.05
Mo	72	1	257	16.03
Ag	115	1	40	74.94
Cd	115	1	11	116.88
Sn	115	1	477	0.80
Sb	115	1	156	24.28
Ba	115	1	152	14.20
Tl	165	1	96	21.83
Pb	165	1	372	9.02
Th	165	1.	160	32.65
U	165	1	140	10.99
	Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sn Sb Ba Tl Pb Th	Be 6 V 72 Cr 72 Mn 72 Co 72 Ni 72 Cu 72 Zn 72 As 72 Se 72 Mo 72 Ag 115 Cd 115 Sn 115 Sb 115 Ba 115 Tl 165 Pb 165 Th 165	Be 6 1 V 72 1 Cr 72 1 Mn 72 1 Co 72 1 Ni 72 1 Cu 72 1 Zn 72 1 As 72 1 Se 72 1 Mo 72 1 Ag 115 1 Cd 115 1 Sn 115 1 Sb 115 1 Ba 115 1 Tl 165 1 Pb 165 1 Th 165 1	Be 6 1 3 V 72 1 620 Cr 72 1 2680 Mn 72 1 813 Co 72 1 67 Ni 72 1 113 Cu 72 1 490 Zn 72 1 45 Se 72 1 333 Mo 72 1 257 Ag 115 1 40 Cd 115 1 11 Sn 115 1 477 Sb 115 1 156 Ba 115 1 152 Tl 165 1 96 Pb 165 1 372 Th 165 1 160

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)	
6	Li	1	376079	0.79	
45	Sc	1	1186897	1.34	
72	Ge	1	539567	0.45	
115	In	1	1576174	1.52	
165	Но	1	2717767	0.30	

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#

Date Acquired: Nov 8 2009 02:28 am

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:26 am

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	42446	1.21
51	Λ.	72	1	684937	3.17
52	Cr	72	1	670667	0.81
55	Mn	72	1	787843	0.97
59	Co	72	1	839400	0.67
60	Ni	72	1	178958	0.70
63	Cu	72	1	424705	0.79
66	Zn	72	1	94491	0.73
75	As	72	. 1	84032	1.05
78	Se	72	1	16841	1.85
95	Mo.	72	1	231498	1.15
107	Ag	115	1	664263	0.80
111	Cd	115	1	132542	1.42
118	Sn	115	1	376743	0.98
121	Sb	115	1	435060	0.49
137	Ba	115	1	188704	0.74
205	Tl	165	1	1479617	0.97
208	Pb	165	1	2033413	0.75
232	Th	165	1	2126721	0.55
238	Ū	165	1	2198988	0.53

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120	
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120	
72	Ge	1	510601	1.68	539567	94.6	30 - 120	
115	In	1	1555316	0.82	1576174	98.7	30 - 120	
165	Но	1	2687981	0.46	2717767	98.9	30 - 120	

0

0

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0 :ISTD Failures

11/8/09 2:28 AM D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CCV.D\249 CCV.D#

Date Acquired: Nov 8 2009 02:31 am

Operator: QC Summary: TEL Analytes: Sample Name: CCV Pass ISTD: Pass Misc Info:

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Calibration File:

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV Total Dil Factor: 1.00

QC	Eleme	nts
Ele	ement	IS

20.										
Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	. 1	50.21	ppb	0.59	50	100.4	90 - 110	
51	V	72	1	49.66	ppb	0.22	50	99.3	90 - 110	
52	Cr	72	1	50.51	ppb	0.78	50	101.0	90 - 110	
55	Mn	72	1	49.52	ppb	0.42	50	99.0	90 - 110	
59	Co	72	1	48.78	ppb	0.64	50	97.6	90 - 110	
60	Ni	72	1	50.96	ppb	0.39	50	101.9	90 - 110	
63	Cu	72	1	50.45	ppb	0.98	50	100.9	90 - 110	
66	Zn	72	1	51.04	ppb	1.32	50	102.1	90 - 110	
75	As	72	1	50.22	ppb	0.79	50	100.4	90 - 110	
78	Se	72	1	52.93	ppb	2.64	50	105.9	90 - 110	
95	Mo	72	1	50.88	ppb	0.45	50	101.8	90 - 110	
107	Ag	115	1	50.92	ppb	2.20	50	101.8	90 - 110	
111	Cd	115	1	51.72	ppb	2.62	50	103.4	90 - 110	
118	Sn	115	1	51.06	ppb	2.41	50	102.1	90 - 110	
121	Sb	115	1	51.12	ppb	1.48	50	102.2	90 - 110	
137	Ва	115	1	50.77	ppb	1.68	50	101.5	90 - 110	
205	Tl	165	1	51.85	ppb	1.16	50	103.7	90 - 110	
208	Pb	165	1	51.54	ppb	2.32	50	103.1	90 - 110	
232	Th	165	1	51.27	ppb	1.18	50	102.5	90 - 110	
238	U	165	1	51.61	ppb	0.90	50	103.2	90 - 110	

ISTD Elements

Element	Tur	e CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	360601	1.23	376079	95.9	30 - 120	
45 Sc	1	1152210	0.10	1186897	97.1	30 - 120	
72 Ge	1	506331	0.64	539567	93.8	30 - 120	
115 In	. 1	1532589	0.89	1576174	97.2	30 - 120	
165 Ho	1	2667156	1.17	2717767	98.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250 CCB.D\250 CCB.D#

Date Acquired: Nov 8 2009 02:33 am

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Ве	6	1	0.016	ppb	147.29	1.00	_
51	V	72	1	-0.021	ppb	31.34	1.00	
52	Cr	72	1	0.037	ppb	45.39	1.00	
55	Mn	72	1	-0.003	ppb	461.47	1.00	
59	Co	72	1	0.004	ppb	46.27	1.00	
60	Ni	72	1	-0.025	ppb	13.04	1.00	
63	Cu	72	1	-0.035	ppb	22.37	1.00	
66	Zn	72	1	-0.398	ppb	5.33	1.00	
75	As	72	1	0.015	ppb	70.97	1.00	
78	Se	72	1	-0.320	ppb	40.38	1.00	
95	Mo	72	1	-0.054	ppb	35.32	1.00	
107	Ag	115	1	0.008	ppb	9.23	1.00	
111	Cd	115	1	0.005	ppb	52.43	1.00	
118	Sn	115	1	0.107	ppb	31.44	1.00	
121	Sb	115	1	0.188	ppb	20.19	1.00	
137	Ba	115	1	-0.042	ppb	4.94	1.00	
205	Tl	165	1	0.020	ppb	20.00	1.00	
208	Pb	165	1	-0.001	ppb	65.74	1.00	
232	Th	165	1	0.055	ppb	6.90	1.00	
238	U	165	1	0.016	ppb	10.74	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1 .	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D\#

Date Acquired: Nov 8 2009 02:36 am

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	. 72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252 BLK.D\252 BLK.D#

Date Acquired: Nov 8 2009 02:39 am

Operator: QC Summary: TEL Sample Name: LNJNVB Analytes: Pass ISTD: Pass Misc Info: BLANK 9303185 6020

Vial Number: 4402

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 08 2009 02:28 am

Sample Type: BLK Total Dil Factor: 1.00

QC Element	s
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	. 72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Ho	1	2647917	1.14	2717767	97.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Pass

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253 LCS.D\253 LCS.D#

Date Acquired: Nov 8 2009 02:42 am

NormISIS.M Acq. Method: QC Summary: Analytes: Pass Operator: ISTD:

Sample Name: LNJNVC Misc Info: LCS 4403 Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: LCS Prep Dil. Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

Analyte	Elements
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Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Ra	nge(%)	Flag
9 Be	6	1	35.70	1.01	40	89.3	80	- 120	
51 V	72	- 1	35.52	0.20	40	88.8	80	- 120	
52 Cr	72	1	36.08	0.50	40	90.2	80	- 120	
55 Mn	72	1	35.14	0.07	40	87.9	80	- 120	
59 Co	72	1	34.82	0.49	40	87.1	. 80	- 120	
60 Ni	72	1	36.40	0.69	40	91.0	80	- 120	
63 Cu	72	1	35.92	0.24	40	89.8	80	- 120	
66 Zn	72	1	35.76	1.51	40	89.4	80	- 120	
75 As	. 72	1	34.71	0.72	40	86.8	80	- 120	
78 Se	72	1	35.62	2.21	40	89.1	80	- 120	
95 Mo	72	1	32.10	0.70	40	80.3	80	- 120	
107 Ag	115	1	35.79	2.12	40	89.5	80	- 120	
111 Cd	115	1	35.37	1.53	40	88.4	80	- 120	
118 Sn	115	1	0.02	168.39	40	0.0	80	- 120	
121 Sb	115	1	32.20	2.07	40	80.5	80	- 120	
137 Ba	115	1	35.77	2.20	40	89.4	80	- 120	
205 T1	165	1	36.57	2.09	40	91.4	80	- 120	
208 Pb	165	1	36.87	2.16	40	92.2	80	- 120	
232 Th	165	1	36.61	1.54	40	91.5	80	- 120	
238 U	165	1	36.97	1.94	40	92.4	80	- 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358195	0.31	376079	95.2	30 - 120	
45 Sc	1	1130666	0.47	1186897	95.3	30 - 120	
72 Ge	1	497032	0.74	539567	92.1	30 - 120	
115 In	1	1523173	1.15	1576174	96.6	30 - 120	
165 Ho	1	2638001	1.37	2717767	97.1	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

Date Acquired: Nov 8 2009 02:44 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7F 5X ISTD: Pass

Misc Info: D9J270261
Vial Number: 4404

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: AllRef
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.02	ppb	140.55	3600	
51 V	72	1	58.25	11.65	ppb	0.99	3600	
52 Cr	72	1	96.60	19.32	ppb	0.56	3600	
55 Mn	72	1	20.01	4.00	ppb	1.83	3600	
59 Co	72	1	0.41	0.08	ppb	18.64	3600	
60 Ni	72	1	2.50	0.50	ppb	10.52	3600	
63 Cu	72	1	0.61	0.12	ppb	13.42	3600	
66 Zn	72	1	18.56	3.71	ppb	2.43	3600	
75 As	72	1	190.75	38.15	ppb	0.69	3600	
78 Se	72	1	1.93	0.39	ppb	57.06	3600	
95 Mo	72	1	26.48	5.30	ppb	2.72	3600	
107 Ag	115	1	0.03	0.01	ppb	125.97	3600	
111 Cd	115	1	0.02	0.00	ppb	229.82	3600	
118 Sn	115	1	0.25	0.05	ppb	45.32	3600	
121 Sb	115	1	0.30	0.06	ppb	29.45	3600	
137 Ba	115	1	23.70	4.74	ppb	1.34	3600	
205 Tl	165	1	0.23	0.05	ppb	17.38	3600	
208 Pb	165	1	0.18	0.04	ppb	14.05	3600	
232 Th	165	1	0.24	0.05	ppb	4.71	1000	
238 U	165	1	13.31	2.66	ppb	1.53	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	333341	1.09	376079	88.6	30 - 120	
45 Sc	1	1062523	0.59	1186897	89.5	30 - 120	
72 Ge	1	462502	0.27	539567	85.7	30 - 120	
115 In	1	1375002	1.04	1576174	87.2	30 - 120	
165 Ho	1	2471361	0.80	2717767	90.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#

Date Acquired: Nov 8 2009 02:47 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNC7FP25

Misc Info: SERIAL DILUTION

Vial Number: 4405

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SDIL Dilution Factor: 5.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D\#

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QC	eт	еше	ш	ÇŞ.

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC	Rang	e(%)	Flag
9 Be	6	1	0.02	ppb	0.57	0.00	458.7	90	_	110	_
51 V	72	1	2.26	ppb	2.18	2.33	97.2	90	-	110	
52 Cr	72	1	3.94	ppb	1.55	3.86	101.9	90	-	110	
55 Mn	72	1	0.83	ppb	10.87	0.80	103.6	90	-	110	
59 Co	72	. 1	0.02	ppb	18.64	0.02	109.5	90	-	110	
60 Ni	72	1	0.11	ppb	52.76	0.10	106.7	90	_	110	
63 Cu	72	1	0.01	ppb	230.36	0.02	26.5	90	-	110	
66 Zn	72	1	0.47	ppb	7.87	0.74	62.8	90	-	110	
75 As	7,2	1	7.52	ppb	0.96	7.63	98.5	90	-	110	
78 Se	. 72	1	-0.04	ppb	1143.50	0.08	-52.9	90	-	110	
95 Mo	72	1	0.94	ppb	9.86	1.06	88.3	90	-	110	
107 Ag	115	1	0.00	ppb	99.28	0.00	-232.5	90	-	110	
111 Cd	115	1	-0.01	ppb	100.17	0.00	-679.0	90	-	110	
118 Sn	115	1	0.09	ppb	4.94	0.01	892.4	90	-	110	
121 Sb	115	1	0.01	ppb	131.02	0.01	58.5	90	_	110	
137 Ba	115	1	0.94	ppb	4.03	0.95	99.3	90	-	110	
205 Tl	165	1	0.01	ppb	8.96	0.01	141.7	90	-	110	
208 Pb	165	1	0.01	ppb	18.12	0.01	165.2	90	-	110	
232 Th	165	1	0.01	ppb	22.37	0.01	123.4	90	-	110	
238 U	165	1	0.53	ppb	1.52	0.53	100.3	90	_	110	

ISTD elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Ra	ange(%)	Flag
6	Li	1	355060	0.39	376079	94.4	30	- 120	
45	Sc	1	1125653	0.19	1186897	94.8	30	- 120	
72	Ge	1	502164	0.65	539567	93.1	30	- 120	
115	In	1	1479317	0.60	1576174	93.9	30	- 120	
165	Но	1	2614578	1.08	2717767	96.2	30	- 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS)	ICPMS_024	led B	Reported: 11/09/0	9 10:02:46
Department: 090 (Metals)			Source:	Spreadshee
Sample: LNC7FP25	Serial Dilution:	25.00	Sample Dilution:	5.00
Instrument: Agilent7500	Channel 272			
File: AG110709 # 255	Method 6020_			
Acquired: 11/08/2009 02:47:00	ICPMS_024		Matrix: AQUEO	DUS
Calibrated: 11/08/2009 02:25:00			Units: ug/L	

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	10	0.41625	0.09076	359		*	
7440-62-2	Vanadium	51	15823	56.600	58.240	2.82		*	
7440-47-3	Chromium	52	28379	98.450	96.590	1.93		*	
7439-96-5	Manganese	55	7172	20.725	20.010	3.57		*	
7440-48-4	Cobalt	59	210	0.44850	0.40970	9.47		*	
7440-02-0	Nickel	60	293	2.6645	2.4980	6.67		*	
7440-50-8	Copper	63	483	0.16105	0.60710	73.5		*	
7440-66-6	Zinc	66	1041	11.650	18.550	37.2		*	
7440-38-2	Arsenic	75	6250	187.85	190.70	1.49	0.21	1.5	\square
7782-49-2	Selenium	78	303	-1.0210	1.9300	153	0.70	NC	
7439-98-7	Molybdenum	95	2367	23.385	26.470	11.7		*	
7440-22-4	Silver	107	20	-0.06975	0.02999	333		*	
7440-43-9	Cadmium	111	3	-0.14365	0.02116	779		*	
7440-31 - 5	Tin	118	770	2.2540	0.25260	792		*	
7440-36-0	Antimony	121	176	0.17570	0.30050	41.5		*	
7440-39-3	Barium	137	1831	23.535	23.690	0.654			
7440-28-0	Thallium	205	281	0.32890	0.23210	41.7		*	
7439-92-1	Lead	208	597	0.30195	0.18290	65.1		*	
7440-61-1	Uranium	238	11545	13.340	13.300	0.301		*	
7440-29-1	Thorium	232	403	0.30120	0.24410	23.4		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			0			*	

^{*} Analyte not requested for this batch, no MDL NC : Serial dilution concentration < 100 X MDL E : Difference greater than Limit (10%)

Reviewed by: Date:

IDB Reports TestAmerica, Inc. Version: 6.02.068

View Page 1 of 1

ISTD:

Pass

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D\#

Date Acquired: Nov 8 2009 02:50 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL Sample Name: LNC7FZ

Misc Info: POST DIGESTION SPIKE

Vial Number: 4406

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: PDS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: ---

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Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	. 72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	. 1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 U	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Denver

SAMPLE SPIKE

Method; 6020 (ICP/MS) ICPMS_024 Reported: 11/09/09 10:02:49

Department: 090 (Metals) Source: Spreadsheet

Sample: LNC7FZ Spike Dilution: 1.00 Sample Dilution: 5.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 256 Method 6020_

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		$ \overline{\mathbf{V}} $
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		abla
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		\square
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		\checkmark
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

	Reviewed by:	Date:
IDB Reports	TestAmerica, Inc.	Version: 6.02.068

ISTD:

Pass

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257_MS.D\257_MS.D#

Date Acquired: Nov 8 2009 02:53 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL

Sample Name: LNC7FS 5X Misc Info: MATRIX SPIKE

Vial Number: 4407

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MS
Prep Dil. Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150
51 V	. 72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150
66 Zn	. 72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150
205 Tl	165	1	7.17	0.05	ppb	1.41	40	17.9	50 - 150
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150
238 ປັ	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120
72 Ge	1	462138	0.38	539567	85.6	30 - 120
115 In	1	1389102	1.17	1576174	88.1	30 - 120
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\258 CCV.D\258 CCV.D#

Date Acquired: Nov 8 2009 02:56 am

Operator: TEL QC Summary: Sample Name: Analytes: CCV Pass Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV Total Dil Factor: 1.00

Element	I	S R	e i

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.17	ppb	1.68	50	102.3	90 - 110	
51	V	72	1	49.76	ppb	0.58	50	99.5	90 - 110	
52	Cr	72	1	50.23	ppb	0.59	50	100.5	90 - 110	
55	Mn	72	1	49.80	ppb	0.45	50	99.6	90 - 110	
59	Co	72	1	48.86	ppb	0.97	50	97.7	90 - 110	
60	Ni	72	1	51.09	ppb	0.38	50	102.2	90 - 110	
63	Cu	72	1	50.55	ppb	1.39	50	101.1	90 - 110	
66	Zn	72	1	51.57	ppb	0.26	50	103.1	90 - 110	
75	As	72	1	50.59	ppb	0.46	50	101.2	90 - 110	
78	Se	72	1	51.92	ppb	0.28	50	103.8	90 - 110	
95	Mo	72	1	50.29	ppb	1.00	50	100.6	90 - 110	
107	Ag	115	1	51.22	ppb	2.07	50	102.4	90 - 110	
111	Cd	115	1	51.60	ppb	0.81	50	103.2	90 - 110	
118	Sn	115	1	50.56	ppb	0.85	50	101.1	90 - 110	
121	Sb	115	1	51.03	ppb	1.10	50	102.1	90 - 110	
137	Ва	115	1	50.92	ppb	1.12	50	101.8	90 - 110	
205	Tl	165	1	52.43	ppb	1.68	50	104.9	90 - 110	
208	Pb	165	1	52.24	ppb	2.12	50	104.5	90 - 110	
232	Th	165	1	51.78	ppb	2.94	50	103.6	90 - 110	
238	U	165	1	52.22	ppb	2.20	50	104.4	90 - 110	

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	366110	0.29	376079	97.3	30 - 120	
45	Sc	1	1169831	1.16	1186897	98.6	30 - 120	
72	Ge	1	507682	1.25	539567	94.1	30 - 120	
115	In	1	1542474	0.57	1576174	97.9	30 - 120	
165	Но	1	2664119	1.36	2717767	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

340

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259 CCB.D\259 CCB.D#

Date Acquired: Nov 8 2009 02:58 am

QC Summary: Operator: TEL

Sample Name: Analytes: Pass CCB

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB Total Dil Factor: 1.00

QC Elements

Elemen	t IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	_
51 V	72	1	-0.025	ppb	31.75	1.00	
52 Cr	72	1	0.015	ppb	240.08	1.00	
55 Mn	72	1	-0.003	ppb	454.38	1.00	
59 Co	72	1	0.007	ppb	19.00	1.00	
60 Ni	72	1	-0.021	ppb	92.00	1.00	
63 Cu	72	1	-0.023	ppb	91.13	1.00	
66 Zn	72	1	-0.387	ppb	12.46	1.00	
75 As	72	1	0.025	ppb	95.41	1.00	
78 Se	72	1	-0.065	ppb	394.03	1.00	
95 Mo	72	1	-0.040	ppb	70.76	1.00	
107 Ag	115	1	0.007	ppb	79.32	1.00	
111 Cd	115	1	0.012	ppb	73.39	1.00	
118 Sn	115	1	0.112	ppb	71.47	1.00	
121 Sb	115	1	0.150	ppb	17.00	1.00	
137 Ba	115	1	-0.041	ppb	5.14	1.00	
205 Tl	165	1	0.021	ppb	28.23	1.00	
208 Pb	165	1	0.003	ppb	8.31	1.00	
232 Th	165	1	0.048	ppb	25.86	1.00	
238 U	165	1	0.018	ppb	13.31	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%) E	Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120	
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120	
72 Ge	1	519534	0.26	539567	96.3	30 - 120	
115 In	1	1546385	0.40	1576174	98.1	30 - 120	
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#

Date Acquired: Nov 8 2009 03:01 am

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass ISTD: Pass

Misc Info:

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

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Ос втеше	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

ISTD Elements

Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
1	367841	0.83	376079	97.8	30 - 120	
1	1154162	0.97	1186897	97.2	30 - 120	
1	516753	0.66	539567	95.8	30 - 120	
1	1524519	0.33	1576174	96.7	30 - 120	
1	2680772	0.38	2717767	98.6	30 - 120	
	Tune 1 1 1 1 1	1 367841 1 1154162 1 516753 1 1524519	1 367841 0.83 1 1154162 0.97 1 516753 0.66 1 1524519 0.33	1 367841 0.83 376079 1 1154162 0.97 1186897 1 516753 0.66 539567 1 1524519 0.33 1576174	1 367841 0.83 376079 97.8 1 1154162 0.97 1186897 97.2 1 516753 0.66 539567 95.8 1 1524519 0.33 1576174 96.7	1 367841 0.83 376079 97.8 30 - 120 1 1154162 0.97 1186897 97.2 30 - 120 1 516753 0.66 539567 95.8 30 - 120 1 1524519 0.33 1576174 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\AG110709.B\247CALB.D\247CALB.D#

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

0 :Max. Number of ISTD Failures Allowed

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\261 MSD.D\261 MSD.D\#

Date Acquired: Nov 8 2009 03:04 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNC7FD 5X

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 4408

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MSD Dilution Factor: 5.00

208 Pb 165 1

165

1

1

232 Th 165

238 U

QC Elements

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\257 MS.D\257 MS.D\#

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Ве	6	1	7.15	ppb	4.97	7.56	5.64	20	
51	V	72	1	19.44	ppb	0.87	19.50	0.31	20	
52	Cr	72	1	27.63	ppb	0.44	27.55	0.29	20	
55	Mn	72	1	11.89	ppb	0.71	11.53	3.07	20	
59	Co	72	1	6.96	ppb	0.22	6.92	0.55	20	
60	Ni	72	1	7.63	ppb	4.71	7.47	2.13	20	
63	Cu	72	1	6.96	ppb	2.26	6.92	0.55	20	
66	Zn	. 72	1	11.24	ppb	0.91	12.20	8.19	20	
75	As	72	1	47.18	ppb	1.02	47.40	0.47	20	
78	Se	72	1	8.49	ppb	8.60	8.21	3.34	20	
95	Mo	72	1	12.08	ppb	2.93	12.33	2.05	20	
107	Ag	115	1	6.86	ppb	1.67	6.98	1.81	20	
111	Cd	115	1	7.38	ppb	2.12	7.47	1.12	20	
118	Sn	115	1	0.11	ppb	30.03	0.39	111.83	20	
121	Sb	115	1	6.82	ppb	2.78	6.89	1.02	20	
137	Ba	115	1	12.78	ppb	1.44	12.69	0.71	20	
205	Tl	165	1	7.29	ppb	1.19	7.17	1.61	20	

ISTD Elements							
Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329103	0.78	376079	87.5	30 - 120	
45 Sc	1	1057955	1.12	1186897	89.1	30 - 120	
72 Ge	1	456662	0.47	539567	84.6	30 - 120	
115 In	1	1365390	0.56	1576174	86.6	30 - 120	
165 Ho	1	2474617	1.07	2717767	91.1	30 - 120	

2.55

7.25 0.51

7.88 0.08

10.53 0.19

20

20

20

7.29 ppb 2.38

10.55 ppb 1.44

7.89 ppb

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

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#

Date Acquired: Nov 8 2009 03:07 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: LNC7L 5X ISTD: Pass

Misc Info: D9J270263
Vial Number: 4409

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Ele	ment	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Ве	6	1	0.05	0.01	ppb	157.59	3600	
51	V	72	1	46.85	9.37	ppb	1.89	3600	
52	Cr	72	1	12.39	2.48	ppb	5.61	3600	
55	Mn	72	. 1	171.35	34.27	ppb	1.07	3600	
59	Co	72	1	264.35	52.87	ppb	1.02	3600	
60	Ni	72	1	102.35	20.47	ppb	3.34	3600	
63	Cu	72	1	53.95	10.79	ppb	1.03	3600	
66	Zn	72	1	17.02	3.40	ppb	3.85	3600	
75	As	72	1	69.40	13.88	ppb	0.45	3600	
78	Se	72	1	3.99	0.80	ppb	47.95	3600	
95	Mo	72	1	6.46	1.29	ppb	6.25	3600	
107	Ag	115	1	0.02	0.00	ppb	159.25	3600	
111	Cd	115	1	0.13	0.03	ppb	54.73	3600	
118	Sn	115	1	0.20	0.04	ppb	29.32	3600	
121	Sb	115	1	0.23	0.05	ppb	27.91	3600	
137	Ba	115	1	43.61	8.72	ppb	1.89	3600	
205	T1	165	1	0.08	0.02	ppb	8.14	3600	
208	Pb	165	1	1.84	0.37	ppb	5.27	3600	
232	Th	165	1	0.14	0.03	ppb	17.77	1000	
238	U	165	1	38.02	7.60	ppb	1.66	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	343401	0.74	376079	91.3	30 - 120	
45 Sc	1	1089536	0.75	1186897	91.8	30 - 120	
72 Ge	1	479909	1.11	539567	88.9	30 - 120	
115 In	1	1451981	1.22	1576174	92.1	30 - 120	
165 Ho	1	2546093	0.95	2717767	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#

Date Acquired: Nov 8 2009 03:09 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: LNFGD 5X ISTD: Pass

Misc Info: D9J280280 Vial Number: 4410

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	. 1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	. 1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	. 1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#

Date Acquired: Nov 8 2009 03:12 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNFG2 5X
Misc Info: D9J280283

ISTD: Pass

Vial Number: 4411

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	. 72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1 .	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D#

Date Acquired: Nov 8 2009 03:15 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2J 5X
Misc Info: D9J290310

Vial Number: 4412

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57,70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#

Date Acquired: Nov 8 2009 03:18 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2K 5X ISTD: Pass Misc Info: D9J290310

Vial Number: 4501

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267 CCV.D\267 CCV.D#

Date Acquired: Nov 8 2009 03:21 am

Operator: QC Summary: TEL Sample Name: CCV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV Total Dil Factor: 1.00

QC Eleme	nts								
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	51.22	ppb	2.08	50	102.4	90 - 110	
51 V	72	1	49.65	ppb	0.54	50	99.3	90 - 110	
52 Cr	72	1	50.22	ppb	0.76	50	100.4	90 - 110	
55 Mn	72	1	49.57	ppb	0.78	50	99.1	90 - 110	
59 Co	72	1	48.62	ppb	0.28	50	97.2	90 - 110	
60 Ni	72	1	50.60	ppb	1.48	50	101.2	90 - 110	
63 Cu	72	1	50.08	ppb	0.86	50	100.2	90 - 110	
66 Zn	72	1	52.09	ppb	0.68	50	104.2	90 - 110	
75 As	72	1	50.33	ppb	0.35	50	100.7	90 - 110	
78 Se	72	1	50.70	ppb	1.91	50	101.4	90 - 110	
95 Mo	72	1	50.34	ppb	1.97	50	100.7	90 - 110	
107 Ag	115	1	50.13	ppb	2.37	50	100.3	90 - 110	
111 Cd	115	1	50.15	ppb	1.77	50	100.3	90 - 110	
118 Sn	115	. 1	49.99	ppb	1.62	50	100.0	90 - 110	
121 Sb	115	1	50.52	ppb	2.60	50	101.0	90 - 110	
137 Ba	115	1	50.62	ppb	1.41	50	101.2	90 - 110	
205 Tl	165	1	51.11	ppb	0.42	50	102.2	90 - 110	
208 Pb	165	1	51.54	ppb	1.74	50	103.1	90 - 110	
232 Th	165	1	51.26	ppb	1.28	50	102.5	90 - 110	
238 U	165	1	51.53	ppb	0.94	50	103.1	90 - 110	
ISTD Ele	ments								
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	360685		1.10	376079	95.9	30 - 120	,
45 Sc		1	1157595		0.85		97.5	30 - 120	
72 Ge		1	507944		1.20	539567	94.1	30 - 120	
115 In		1	1559749		0.93	1576174	99.0	30 - 120	
165 Ho		1	2711611		1.14	2717767	99.8	30 - 120	

Element	Tune	CPS Mean	RSD(%)	kei value	Rec(%)	QC Range(%)	£.⊤ag
6 Li	1	360685	1.10	376079	95.9	30 - 120	
45 Sc	1	1157595	0.85	1186897	97.5	30 - 120	
72 Ge	1	507944	1.20	539567	94.1	30 - 120	
115 In	1	1559749	0.93	1576174	99.0	30 - 120	
165 Ho	1	2711611	1.14	2717767	99.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268 CCB.D\268 CCB.D#

Date Acquired: Nov 8 2009 03:23 am

Operator: TEL QC Summary:
Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	
51 V	72	1	-0.025	ppb	19.15	1.00	
52 Cr	72	1	-0.002	ppb	789.67	1.00	
55 Mn	72	1	-0.001	ppb	1184.70	1.00	
59 Co	72	1	0.000	ppb	707.73	1.00	
60 Ni	72	1	-0.014	ppb	130.22	1.00	
63 Cu	72	1	-0.051	ppb	28.29	1.00	
66 Zn	. 72	1	-0.413	ppb	3.98	1.00	
75 As	72	1	0.005	ppb	390.64	1.00	
78 Se	72	1	0.068	ppb	260.94	1.00	
95 Mo	72	1	-0.051	ppb	12.59	1.00	
107 Ag	115	1	0.003	ppb	126.88	1.00	
111 Cd	115	1	0.000	ppb	7618.50	1.00	
118 Sn	115	1	0.047	ppb	150.30	1.00	
121 Sb	115	1	0.138	ppb	23.66	1.00	
137 Ba	115	1	-0.038	ppb	11.83	1.00	
205 Tl	165	1	0.021	ppb	17.52	1.00	
208 Pb	165	1	0.003	ppb	111.74	1.00	
232 Th	165	1	0.051	ppb	16.07	1.00	
238 U	165	1	0.016	ppb	14.92	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#

Date Acquired: Nov 8 2009 03:26 am

Operator: TEL QC Summary: Sample Name: Analytes: Pass RLCV

Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9	Ве	6	1	0.901 ppb	17.96	1.30	
51	V	72	1	4.935 ppb	2.34	6.50	
52	Cr	72	1	2.001 ppb	2.44	2.60	
55	Mn	72	1	1.030 ppb	4.04	1.30	
59	Co	72	1	0.990 ppb	2.41	1.30	
60	Ni	72	1	2.129 ppb	7.48	2.60	
63	Cu	72	1	1.903 ppb	4.00	2.60	
66	Zn	72	1	9.748 ppb	0.16	13.00	
75	As	72	1	4.893 ppb	4.12	6.50	
78	Se	72	1	5.130 ppb	8.01	6.50	
95	Mo	72	1	1.974 ppb	8.49	2.60	
107	Ag	115	1	5.301 ppb	1.96	6.50	
111	. Cd	115	1	1.056 ppb	7.93	1.30	
118	Sn	115	1	10.460 ppb	2.46	13.00	
121	Sb	115	1	2.083 ppb	0.79	2.60	
137	Ba	115	1	1.029 ppb	5.53	1.30	
205	Tl	165	1	1.089 ppb	0.37	1.30	
208	Pb	165	1	1.075 ppb	0.39	1.30	
232	Th	165	1	2.216 ppb	0.39	2.60	
238	U	165	1	1.111 ppb	0.42	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: 195270263	
Client: Northgate Environmental	
Batch(es) #: 9303185	
Associated Samples:	
I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.	
Signature/Date: 11/9/09	

TestAmerica

352

Metals Raw Data RoadMap

LotID	LotID Metal		Metal WorkOrder		e TestDesc	Batch	File Id	Instr
D9J270263	1	SE	LNC7L1AC	20091108	6020TOTA	9303185	AG110709	024
D9J270263	1	AS	LNC7L1AA	20091108	6020TOTA	9303185	AG110709	024

METALS PREPARATION LOGS ICP-MS



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 354

Batch Number:

9303185

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By: 1 AM

Prep Date:

11/09/09

Lot	Work Order		Due Date: 11/0		eight/Volume
D9J300000 Water	LNJNV	В	Due Date: SDG:	<u>50 mL</u>	
D9J300000 Water	LNJNV	С	Due Date: SDG:	<u>50 mL</u>	
D9J270261 Water	LNC7F Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>	
D9J270261 Water	LNC7F Total	S	Due Date: 11/09/09 SDG:	<u>50 mL</u>	
D9J270261 Water	LNC7F Total	D	Due Date: 11/09/09 SDG:	<u>50 mL</u>	
D9J270263 Water	LNC7L Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>	
D9J280280 Water	LNFGD Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>	
D9J280283 Water	LNFG2 Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>	
D9J290310 Water	LNH2J Total		Due Date: 11/10/09 SDG:	<u>50 mL</u>	
D9J290310 Water	LNH2K Total		Due Date: 11/10/09 SDG:	<u>50 mL</u>	

Comments:

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

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

METALS PREP SHEET

SOP: DEN-IP-0014



TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH #	9303185	KS		
PREP DATE:	11/2/2009	DIGES	JRW	
CONSUMABLES	JSED			
Digestion Cups:	Manufacturer:	Environmental Expres	s Lot #:	A901LS268
One or more samples	were filtered prior to an	nalysis at the instrume	nt. Yes	No
If "yes", then the metho	d blank and the LCS wer	e also filtered in the san	ne manner using the sam	ne type of filter
			Analyst(s) Initials:	
STANDARDS USE	:D			
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	. 15
2008Cal-2	STD-5356-09	1/10/10	100uL	15
			12.5 12.5 13.5 13.5 13.5 13.5 13.5 13.5 13.5 13	
REAGENTS USED)			
Reagent	Manufacturer	Lot #	Volume Used (mL)	
HNO₃	JT Baker	H14024	3	
TEMPERATURE C	CYCLES			
Thermometer ID:	4082	Block &	& Cup # : 4 2	
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	95	1845	45
HNO3	1900	45	1 430	43
HNO3				
Samples and QC re	volumed to:	50mL	JAN	
COMMENTS:				· · · · · · · · · · · · · · · · · · ·

COMMENTS:

I certify that all information above is correct and complete.

Signature: $A_{\eta} \omega_{\iota} t$

Date: 11/2/04

356 TestAmerica

METALS SAMPLE DATA ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 357

G:\Metals\Hidden\Forms\MassSpec\ICP-MS Std and Spike True Values.doc

ICP-MS Standard and Spike True Values

í	Post	Digestion	Spike	200	200	200	200	200	200	200	200	200	200	200	200	200	200	50	200	200	200	200	700		
	Матлх Spike	Sample and	Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	ry for the	ICSAB.
•	Laboratory	Control Sample	and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	ution, the % recove	the ICSA from the
,	Interterence	Check	Sample AB	1	100	100	100	100	100	100	100	100	100	1	100	100	100	100	100	100	100	100	100	in the ICSA solı	ng the levels in
	Interference Check	Sample A		100,000 Aluminum	100,000 Calcium	100,000 Iron	100,000 Magnesium	100,000 Sodium	100,000 Phosphorus	100,000 Potassium	100,000 Sulfur	200,000 Carbon	1,000,000 Chloride	2000 Molybdenum	2000 Titanium									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
	Continuing	Calibration	Standard	20	20	20	50	20	20	50	50	50	50	20	20	20	50	50	20	50	50	20	20	to the presence	SAB solution is
	Initial	Calibration	Standard	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40		
-	Cal.	Std.	100 ppb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	All units are	I/gu
Ē	Element			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc		

Quality Control Standards

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

CCB = Continuing Calibration Blank ICB = Initial Calibration Blank

TestAmerica Denver

Standards Preparation Logbook Record

Nov-09-2009

Analyst: trudelll

Logbook: \Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Lot No.: B2-SE02003

Vendor's Expiration Date: 12-01-2009

Solvent: 2% HNO3

Date Prep./Opened: 11-25-2008

Vendor: Inorganic Ventures

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)

Analyst: trudelll

Se

1,000.0

1,000.0

STD1198-09, 1000 mg/L Sn 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

rinary st.

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 Initial Conc (mg/L)

Final Conc (mg/L)

Se

Component

1,000.0

•

1.0000

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STD2483-09, 1000 Zn (Inorganic Ventures)

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

Solvent: 5% HNO3 Lot No.: H14024

Analyst: DIAZL Volume (ml): 250.00

Analyst: trudelll

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

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

Solvent: 5% HNO3 Lot

Lot No.: H14024

Volume (ml): 50.000

Analyst: DIAZL

Analyst: DIAZL

Analyst: LILLT

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

STD6795-09, ICP-MS ICSA

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000

Date Prep./Opened: 11-05-2009

Date Expires(1): 12-05-2009 (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

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

STD6836-09, ICP-MS BLANK

Solvent: Water Volume (ml): 1,000.0

Date Prep./Opened: 11-07-2009

Date Expires(1): 05-07-2010 (6 Months)

Date Expires(2): 05-07-2010 (6 Months)

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

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Parent Std No.: STD6835-09, NITRIC ACID	Aliquot Amount (ml): 50.000
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Component	Initial Conc (%)	Final Conc (%)
HNO3	100.00	5.0000

STD6837-09, ICP-MS HIGH CAL STD Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

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

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	Aliquo	t Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	t Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000

2,000.0

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Na

10.000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
TD6838-09, ICP-MS HIGH CCV STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 100.00
Date Prep./Opened: 11-07-2009		
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Aliqu	ot 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	Aliqu	ot Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliqu	ot Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000
1718	۷,000.0	5.0000

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Na	2,000.0	5.0000
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Aliqu	ot Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
STD6839-09, ICP-MS HIGH RL STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		volume (mr): 10.000
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn	Aliau	ot Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2):	•	()
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn 1000 7	1.0000	0.0090 0.0090
1000 Zn	1.0000	
Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD	Aliqu	ot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

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Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
\mathbf{W}_{\cdot}	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

EE RL STD Analyst: LILLT Lot No.: H14024 Volume (ml): 10.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Solvent: 5% HNO3

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD Aliquot Amount (ml): 2.0000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
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
\mathbf{V}	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002
Al	0.1000	0.0200
Ca	0.1000	0.0200
Fe	0.1000	0.0200
K	0.1000	0.0200
Mg	0.1000	0.0200
Na	0.1000	0.0200
Nb	0.0020	0.0004
Pd	0.0010	0.0002
Pt	0.0010	0.0002
W	0.0010	0.0002
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018

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STD6841-09, ICP-MS HIGH ICSAB

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

Analyst: LILLT

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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

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): 0.0	
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquot Amount (ml): 0.5	
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Aliquo	Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

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W	20.000	1.0000
Parent Std No.: STD4542-09, ICPMS Interferent Check Star	ndard Aliqu	ot Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010 Parent Date Expires(2)	2): 08-01-2010	
Component	Initial Conc (ug/ml)	Final Conc (mg/L
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000
D6842-09, ICP-MS HIGH LR STD1		Analyst: LILL7
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		· oranio (ini). Torou
<u> </u>		
Date Expires(1): 11-08-2009 (1 Day)		
Description of Top Mc CAI CED 1	A 1:	- t A (1) . O 5000
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Anqu	ot 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	Aliqu	ot Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	1.0000
Ch	20.000	1.0000

20.000 20.000

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Sb Sn 1.0000 1.0000

STD6843-09, ICP-MS HIGH ICV STD

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000

Analyst: LILLT

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA IC		quot Amount (ml): 0.1000
	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	
Co	20.000	
Cr	20.000	
Cu	20.000	
Mn	20.000	
Ni	20.000	
Pb	20.000	
Se	20.000	
Th	20.000	
Tl	20.000	
U	20.000	
V	20.000	
Zn	20.000	0.0400
	Date Expires(2): 04-21-2010	quot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0400
Mo	20.000	
Sb	20.000	
Sn	20.000	0.0400
Parent Std No.: STD3115-09, ICP-MS TA IC		quot Amount (ml): 0.1000
•	Date Expires(2): 04-21-2010	Einel Cons (mag)
Component	Initial Conc (mg/L)	
Al	2,000.0	
<u>Ca</u>	2,000.0	
Fe	2,000.0	
K	2,000.0	
Mg	2,000.0	
Na	2,000.0	4.0000
	'V BRC Alic	quot Amount (ml): 0.1000
Parent Std No.: STD3116-09, ICP-MS TA IC Parent Date Expires(1): 04-21-2010 Parent		1
Parent Date Expires(1): 04-21-2010 Parent	Date Expires(2): 04-21-2010	
Parent Date Expires(1): 04-21-2010 Parent Component	Date Expires(2): 04-21-2010 Initial Conc (mg/L)	Final Conc (mg/L)
Parent Date Expires(1): 04-21-2010 Parent	Date Expires(2): 04-21-2010	Final Conc (mg/L) 0.0800

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20.000 0.0400 W

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (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) 1.0000 0.0020 Se

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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	Al	iquot Amount (ml): 1.0000

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000
Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1	Aliquot	Amount (ml): 1.0000
Component	Initial Conc (mg/L)	Final Conc (ug/L)
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

Reviewed By: 11/9/09

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File II	File ID: AG110709 Analyst: TEL									
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q		
3	Cal Blank			T	1.0	11/07/09 15:09				
4	100 ppb		*	1	1.0	11/07/09 15:12				
5	ICV				1.0	11/07/09 15:15				
6	RLIV				1.0	11/07/09 15:18				
7	ICB			1-1	1.0	11/07/09 15:20				
8	RL STD				1.0	11/07/09 15:23				
9	AFCEE RL				1.0	11/07/09 15:26				
10	ALTSe				1.0	11/07/09 15:29				
11	ICSA			1	1.0	11/07/09 15:31				
12	ICSAB				1.0	11/07/09 15:34				
13	RINSE				1.0	11/07/09 15:37				
14	LR1				1.0	11/07/09 15:40				
15	RINSE				1.0	11/07/09 15:42				
16	CCV				1.0	11/07/09 15:45				
17	ССВ	·		1	1.0	11/07/09 15:48				
18	RLCV				1.0	11/07/09 15:50				
19	LNDMKB	D9J280000	9301081	46	1.0	11/07/09 15:53				
20	LNDMKC	D9J280000	9301081	46	1.0	11/07/09 15:56				
21	LM9FJ	D9J240188-1	9301081	46	1.0	11/07/09 15:59				
22	LM9FJP5	D9J240188	9301081	1	5.0	11/07/09 16:01				
23	LM9FJZ	D9J240188-1	9301081	$\dagger = \dagger$	1.0	11/07/09 16:04				
24	LM9FJS	D9J240188-1	9301081	46	1.0	11/07/09 16:07				
25	LM9FJD	D9J240188-1	9301081	46	1.0	11/07/09 16:09				
26	LM9FK	D9J240188-2	9301081	46	1.0	11/07/09 16:12				
27	CCV				1.0	11/07/09 16:15	A CONTRACTOR OF THE PROPERTY O			
28	ССВ				1.0	11/07/09 16:18				
29	RLCV			1	1.0	11/07/09 16:20	,			
30	LNJT4B	D9J300000	9303213	мѕ	1.0	11/07/09 16:23	,			
31	LNJT4C	D9J300000	9303213	мѕ	1.0	11/07/09 16:26				
32	LM8A7	D9J230367-1	9303213	MS	1.0	11/07/09 16:29				
33	LM8CG	D9J230367-2	9303213	мѕ	1.0	11/07/09 16:32				
34	LM8CV	D9J230367-3	9303213	мѕ	1.0	11/07/09 16:34				
35	LM8C1	D9J230367-4	9303213	мѕ	1.0	11/07/09 16:37				
36	LM8C1P5	D9J230367	9303213		5.0	11/07/09 16:40				
37	LM8C1Z	D9J230367-4	9303213		1.0	11/07/09 16:43				
38	LM8C1S	D9J230367-4	9303213	мѕ	1.0	11/07/09 16:45				
39	LM8C1D	D9J230367-4	9303213	мѕ	1.0	11/07/09 16:48				
40	CCV				1.0	11/07/09 16:51				
41	CCB				1.0	11/07/09 16:53				
42	RLCV				1.0	11/07/09 16:57				
43	LNDMTB	D9J280000	9301086	46	1.0	11/07/09 17:00				
44	LNDMTC	D9J280000	9301086	46	1.0	11/07/09 17:02				
45	LM8E2	D9J230373-1	9301086	46	1.0	11/07/09 17:05				
46	LM8E2P5	D9J230373	9301086		5.0	11/07/09 17:08				
47	LM8E2Z	D9J230373-1	9301086		1.0	11/07/09 17:11				
48	LM8E2S	D9J230373-1	9301086	46	1.0	11/07/09 17:13				

RUN SUMMARY

File II	D: AG110	709			Analyst: TEL					
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q		
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16				
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19				
51	CCV				1.0	11/07/09 17:22				
52	ССВ				1.0	11/07/09 17:24				
53	RLCV				1.0	11/07/09 17:27				
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30				
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33				
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35				
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38				
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41				
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44				
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47				
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51				
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53				
63	CCV				1.0	11/07/09 17:56				
64	CCB				1.0	11/07/09 17:59				
65	RLCV				1.0	11/07/09 18:02				
66	LNNVDB	D9K020000	9306332	04	2.5	11/07/00-18:04	WI 1/9/09 Did notuse.			
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07				
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10				
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13				
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16				
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18				
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21				
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24				
74	CCV				1.0	11/07/09 18:27				
75	ССВ				1.0	11/07/09 18:29				
76	RLCV				1.0	11/07/09 18:32				
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35				
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38				
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40				
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43				
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46				
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49				
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51				
84	CCV				1.0	11/07/09 18:54				
85	CCB				1.0	11/07/09 18:57				
86	RLCV				1.0	11/07/09 19:00				
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03				
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05				
89	LM8DL	D9J230370-11	9301083	46	1.0	11/07/09 19:08				
90	LM8DN	D9J230370-12	9301083	46	1.0	11/07/09 19:11				
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14				
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17] 🗆		
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19				
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22				

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File II	D: AG110	709				Anal	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
95	CCV				1.0	11/07/09 19:25		
96	ССВ				1.0	11/07/09 19:28		
97	RLCV				1.0	11/07/09 19:30		
98	ICSA				1.0	11/07/09 19:33		
99	ICSAB				1.0	11/07/09 19:36		
100	WASH				1.0	11/07/09 19:39		
101	CCV				1.0	11/07/09 19:41		
102	ССВ				1.0	11/07/09 19:44		
103	RLCV				1.0	11/07/09 19:47		
104	LNPKXBQ	D9K030000	9307099	U1	1.0	11/07/09 19:50		
105	LNPKXCQ	D9K030000	9307099	U1	1.0	11/07/09 19:52		
106	LNN4FQ	D9K020448-1	9307099	U1	1.0	11/07/09 19:55		
107	LNN4FP5Q	D9K020448	9307099		5.0	11/07/09 19:58		
108	LNN4FZQ	D9K020448-1	9307099		1.0	11/07/09 20:01		
109	LNN4FSQ	D9K020448-1	9307099	U1	1.0	11/07/09 20:03		
110	LNN4FDQ	D9K020448-1	9307099	U1	1.0	11/07/09 20:06		
111	CCV				1.0	11/07/09 20:09		
112	ССВ				1.0	11/07/09 20:12		
113	RLCV				1.0	11/07/09 20:14		
114	LNNVDB	D9K050000	9306332	04	2.5	11/07/09 20:17		
115	LNNVDC	D9K020000	9306332	04	2.5	11/07/09 20:20		
116	LNKT9	D9J300258-1	9306332	04	2.5	14/07/09 20:23		
117	LNKT9S	D9J300258-1	9306332	04	2.5	11/07/09 20:25		
118	LNKT9D	D9J300258-1	9306332	04	2.5	11/07/09 20:28		
119	ccv				1.0	11/07/09 20:31		
120	CCB				1.0	11/07/09 20:34		
121	RLCV				1.0	11/07/09 20:36		
122	RINSE	<u> </u>			1.0	11/07/09 20:39		
123	RINSE				1.0	11/07/09 20:42	11 who - 1 +	
124	Gal Blank				1.0	11/07/09 20:45	- At 11/9/19 Did notuse.	
125	Cal Blank				1.0	11/07/09 20:47		
126 127	100 ppb				1.0	11/07/09 20:50		
128	CCV				1.0	11/07/09 20:53		
129	RLCV				1.0	11/07/09 20:56 11/07/09 20:58		
130	LNNQ5BF	D9K020000	000000		1.0			
131	LNNQ5CF	D9K020000	9306285 9306285	MD MD	1.0	11/07/09 21:01 11/07/09 21:04		
132	LNLGXF 2X	D9J300326-1	9306285	MD	2.0	11/07/09 21:07	<u> </u>	
133	LNLG3F	D9J300326-2	9306285	MD	2.0 مبلہ	11/07/09 21:10		
134	LNLG4F	D9J300326-3	9306285	MB	1.0	11/07/09 21:12	<u> </u>	
135	LNLHHF	D9J300329-1	9306285	MD	1.0	11/07/09 21:12		
136	LNLHMF	D9J300329-2	9306285	MD	1.0	11/07/09 21:18		
137	CCV	2505000202	2000200	1,5,0	1.0	11/07/09 21:21		
138	CCB		<u> </u>		1.0	11/07/09 21:23		
139	RLCV			$\vdash \vdash$	1.0	11/07/09 21:26		
140	LMCHPF	D9J300329-3	9306285	MD	1.0	11/07/09 21:29	- Ktulyba pid notuse.	
							TIME YOUR	_

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	<u>tnljj</u> F	D9J300340-1	9306285	MD	1.0	- -11/07/09 -21:32		
142	LNLJJP5F	D9J300340	9306285	IVID	5.0	11/07/09 21:35		
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37		
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40		
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43		
146	LNLIME	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	11/9/2 Pidnotuse	
147	CCV				1.0	11/07/09 21:48	77 77 7 7 10 710 700 7	
148	ССВ			+	1.0	11/07/09 21:51		
149	RLCV			1 1	1.0	11/07/09 21:54		
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57		
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59		
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02		
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05		
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08		
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	:	
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13		
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16		
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19		
159	CCV				1.0	11/07/09 22:21		
160	CCB				1.0	11/07/09 22:24		
161	RLCV				1.0	11/07/09 22:27		
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30		
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32		
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35		
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38		
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41		
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43		
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46		
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49		
170	CCV				1.0	11/07/09 22:52		
171	ССВ				1.0	11/07/09 22:54		
172	RLCV				1.0	11/07/09 22:57		
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00		
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03		
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06		
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08		
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11		
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14		
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17		
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19		
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22		
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25		
183	CCV				1.0	11/07/09 23:28		
184	CCB				1.0	11/07/09 23:30		
185	RLCV				1.0	11/07/09 23:33		
186	RINSE				1.0	11/07/09 23:36	:	
								J

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709 Analyst: TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed	Date		Com	nment	Q
187	RINSE				1.0	11/07/00	33·30			A	
188	Cal-Blank				1.0	11/07/09	23:41	NI	11/9/09	Didnotuse.	
189	Cal Blank				1.0	11/07/09	23:44		77		
190	100 ppb				1.0	11/07/09	23:47				
191	CCV				1.0	11/07/09	23:50				
192	ССВ				1.0	11/07/09	23:52				
193	RLCV				1.0	11/07/09	23:55				
194	LNEMRZF	D9J280200-5	9302146		1.0	11/07/09	23:58				
195	LNEMRSF	D9J280200-5	9302146	MD	1.0	11/08/09	00:01				
196	LNEMRDF	D9J280200-5	9302146	MD	1.0	11/08/09	00:03				
197	LNEMWF	D9J280200-6	9302146	MD	1.0	11/08/09	00:06				
198	LNEMOF	D9J280200-7	9302146	MD	1.0	11/08/09	00:09				
199	LNEM3F	D9J280200-8	9302146	MD	1.0	11/08/09	00:12				
200	LNEM4F	D9J280200-9	9302146	MD	1.0	11/08/09	00:15				
201	LNEM7F	D9J280200-10	9302146	MD	1.0	11/08/09	00:17				
202	CCV				1.0	11/08/09	00:20				
203	CCB				1.0	11/08/09	00:23				
204	RLCV				1.0	11/08/09	00:26				
205	LN0N2B	D9K060000	9310060	04	2.5	11/08/09	00:28				
206	LN0N2C	D9K060000	9310060	04	2.5	11/08/09	00:31				
207	LNW5P	D9K050485-2	9310060	04	2.5	11/08/09	00:34				
208	LNW55	D9K050485-4	9310060	04	2.5	11/08/09	00:37				
209	LNW6E	D9K050485-6	9310060	04	2.5	11/08/09	00:40				
210	LNW6ES	D9K050485-6	9310060	04	2.5	11/08/09	00:42				
211	LNW6ED	D9K050485-6	9310060	04	2.5	11/08/09	00:45				
212	CCV				1.0	11/08/09	00:48			:	
213	CCB				1.0	11/08/09	00:51				
214	RLCV				1.0	11/08/09	00:53				
215	LNF42B	D9J290000	9302121	MS	1.0	11/08/09	00:56			·	
216	LNF42C	D9J290000	9302121	MS	1.0	11/08/09	00:59				
217	LNE4T	D9J280246-1	9302121	MS	1.0	11/08/09	01:02				
218	LNE40 10X	D9J280246-2	9302121	MS	10.0	11/08/09	01:05				
219	LNE41 5X	D9J280246-3	9302121	MS	5.0	11/08/09	01:07				
220	LNE41P25	D9J280246	9302121		25.0	11/08/09	01:10				
221	CCV				1.0	11/08/09					
222	CCB				1.0	11/08/09	01:16				
223	RLCV				1.0	11/08/09	01:19				
224	LNE41Z	D9J280246-3	9302121		1.0	11/08/09	01:21				
225	LNE41S 5X	D9J280246-3	9302121	MS	5.0	11/08/09	01:24				
226	LNE41D 5X	D9J280246-3	9302121	MS	5.0	11/08/09	01:27				
227	LNE44 5X	D9J280246-4	9302121	MS	5.0	11/08/09	01:30			.,	
228	LNE47 2X	D9J280246-5	9302121	MS	2.0	11/08/09	01:32				
229	LNE5A 2X	D9J280246-6	9302121	MS	2.0	11/08/09	01:35				
230	CCV				1.0	11/08/09	01:38				
231	ССВ				1.0	11/08/09	01:41				
232	RLCV		1		1.0	11/08/09	01:44				

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID:	AG110709				Analyst: TEL
# 60	mple ID	Lot No	Ratab	DE	Analyzed Date

LININSEF D9J300000 9303187 MD 1.0 11/08/09 01:46	#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
NameCr	233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46		
Link Link				_ 				· · · · · · · · · · · · · · · · · · ·	-
Child Chil	235		D9J290310-3		MD	2.0			
Limital	236					10.0	11/08/09 01:55		
Line Line	237	LNH2LZF		 		1.0	11/08/09 01:58		⊣
Line Line	238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00		_
CCV	239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03		-
CCB	240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06		
Page Page	241	CCV				1.0	11/08/09 02:09		
A	242	ССВ				1.0	11/08/09 02:11		
245 RINSE	243	RLCV				1.0	11/08/09 02:14		
Cal Blank	244	RINSE				1.0	11/08/09 02:47		
247 Cal Blank 1.0 11/08/09 02:25 □ 248 100 ppb 1.0 11/08/09 02:23 □ 250 CCB 1.0 11/08/09 02:33 □ 251 RLCV 1.0 11/08/09 02:36 □ 252 LNJNVB D9J300000 9303185 MS 1.0 11/08/09 02:36 253 LNJNVC D9J300000 9303185 MS 1.0 11/08/09 02:42 □ 254 LNC7F 5X D9J270261 9303185 MS 5.0 11/08/09 02:44 □ 255 LNC7F 5X D9J270261 9303185 1.0 11/08/09 02:47 □ 256 LNC7F 2 D9J270261-1 9303185 1.0 11/08/09 02:50 □ 257 LNC7F 5 X D9J270261-1 9303185 MS 5.0 11/08/09 02:55 □ 269 CCB 1.0 11/08/09 03:01 <	245	RINSE				1.0	11/08/09 02:20		
247 Cal Blank 1.0 11/08/09 02:25 □ 248 100 ppb 1.0 11/08/09 02:23 □ 249 CCV 1.0 11/08/09 02:33 □ 250 CCB 1.0 11/08/09 02:33 □ 251 RLCV 1.0 11/08/09 02:36 □ 252 LNJNVB D9J300000 9303185 MS 1.0 11/08/09 02:39 □ 253 LNJNVC D9J300000 9303185 MS 1.0 11/08/09 02:42 □ 254 LNC7F 5X D9J270261 1 9303185 MS 5.0 11/08/09 02:44 □ 255 LNC7F2D D9J270261 1 9303185 1.0 11/08/09 02:56 □ 256 LNC7F2 D9J270261 1 9303185 MS 5.0 11/08/09 02:56 □ 257 LNC7F 5 X D9J270261 1 9303185 MS 5.0 11/08/09 02:56 □ 258 CCW 1.0 11/08/09 02:56 □	246_	Gel Blank				1.0	11/08/00 02:22	-NFUIAPA Pidnotuse	
249 CCV	247	Cal Blank				1.0	11/08/09 02:25	:	
250 CCB	248	100 ppb		· .		1.0	11/08/09 02:28		
251 RLCV	249	CCV				1.0	11/08/09 02:31		
252 LNJNVB	250	ССВ				1.0	11/08/09 02:33		
253 LNJNVC D9J300000 9303185 MS 1.0 11/08/09 02:42	251	RLCV				1.0	11/08/09 02:36	:	
LNC7F 5X D9J270261-1 9303185 MS 5.0 11/08/09 02:44	252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39		
255 LNC7FP25 D9J270261 9303185 25.0 11/08/09 02:47	253	LNJNVC	D9J300000	9303185	MS	1.0	11/08/09 02:42		
256	254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44		
257 LNC7FS 5X D9J270261-1 9303185 MS 5.0 11/08/09 02:53	255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47		
258 CCV	256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50		
CCB	257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53		
RLCV	258	CCV				1.0	11/08/09 02:56		
261 LNC7FD 5X D9J270261-1 9303185 MS 5.0 11/08/09 03:04 □ 262 LNC7L 5X D9J270263-1 9303185 MS 5.0 11/08/09 03:07 □ 263 LNFGD 5X D9J280280-1 9303185 MS 5.0 11/08/09 03:09 □ 264 LNFG2 5X D9J280283-1 9303185 MS 5.0 11/08/09 03:12 □ 265 LNH2J 5X D9J290310-1 9303185 MS 5.0 11/08/09 03:15 □ 266 LNH2K 5X D9J290310-2 9303185 MS 5.0 11/08/09 03:18 □ 267 CCV 1.0 11/08/09 03:21 □ 268 CCB 1.0 11/08/09 03:23 □ 270 LNJ3HB D9J300000 9303310 04 1.0 11/08/09 03:32 □ 271 LNHRC D9J290285-1 9303310 04 1.0 </td <td>259</td> <td>CCB</td> <td></td> <td></td> <td></td> <td>1.0</td> <td>11/08/09 02:58</td> <td></td> <td></td>	259	CCB				1.0	11/08/09 02:58		
262 LNC7L 5X D9J270263-1 9303185 MS 5.0 11/08/09 03:07 □ 263 LNFGD 5X D9J280280-1 9303185 MS 5.0 11/08/09 03:09 □ 264 LNFG2 5X D9J280283-1 9303185 MS 5.0 11/08/09 03:12 □ 265 LNH2J 5X D9J290310-2 9303185 MS 5.0 11/08/09 03:15 □ 266 LNH2K 5X D9J290310-2 9303185 MS 5.0 11/08/09 03:18 □ 267 CCV 1.0 11/08/09 03:21 □ □ 268 CCB 1.0 11/08/09 03:23 □ 269 RLCV 1.0 11/08/09 03:26 □ 270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:32 □ 271 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0	260	RLCV				1.0	11/08/09 03:01		
263 LNFGD 5X D9J280280-1 9303185 MS 5.0 11/08/09 03:09 □ 264 LNFG2 5X D9J280283-1 9303185 MS 5.0 11/08/09 03:12 □ 265 LNH2J 5X D9J290310-1 9303185 MS 5.0 11/08/09 03:15 □ 266 LNH2K 5X D9J290310-2 9303185 MS 5.0 11/08/09 03:18 □ 267 CCV 1.0 11/08/09 03:21 □ □ 268 CCB 1.0 11/08/09 03:23 □ 270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:29 □ 271 LNJ8HC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:43 □ 274 LNHRP D9J290285-3<	261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04		
264 LNFG2 5X D9J280283-1 9303185 MS 5.0 11/08/09 03:12 □ 265 LNH2J 5X D9J290310-1 9303185 MS 5.0 11/08/09 03:15 □ 266 LNH2K 5X D9J290310-2 9303185 MS 5.0 11/08/09 03:18 □ 267 CCV 1.0 11/08/09 03:21 □ 268 CCB 1.0 11/08/09 03:23 □ 269 RLCV 1.0 11/08/09 03:26 □ 270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:29 □ 271 LNJBHC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:40 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:4	262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07		
265 LNH2J 5X D9J290310-1 9303185 MS 5.0 11/08/09 03:15 □ 266 LNH2K 5X D9J290310-2 9303185 MS 5.0 11/08/09 03:18 □ 267 CCV 1.0 11/08/09 03:21 □ □ 268 CCB 1.0 11/08/09 03:23 □ □ 269 RLCV 1.0 11/08/09 03:26 □ □ 270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:29 □ 271 LNJBHC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:40 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:43 □ 275 LNHRR D9J290285-5 9303310 0	263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09		
266 LNH2K 5X D9J290310-2 9303185 MS 5.0 11/08/09 03:18 □ 267 CCV 1.0 11/08/09 03:21 □ 268 CCB 1.0 11/08/09 03:23 □ 269 RLCV 1.0 11/08/09 03:26 □ 270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:29 □ 271 LNJ8HC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:40 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:43 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:46 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:48 □	264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12		
267 CCV 1.0 11/08/09 03:21 □ 268 CCB 1.0 11/08/09 03:23 □ 269 RLCV 1.0 11/08/09 03:26 □ 270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:29 □ 271 LNJ8HC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:40 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:43 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:46 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15		
268 CCB 1.0 11/08/09 03:23 □ 269 RLCV 1.0 11/08/09 03:26 □ 270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:29 □ 271 LNJ8HC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:40 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:43 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:43 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18		
269 RLCV 1.0 11/08/09 03:26 □ 270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:29 □ 271 LNJ8HC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:40 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:40 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:43 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	267	CCV				1.0	11/08/09 03:21		
270 LNJ8HB D9J300000 9303310 04 1.0 11/08/09 03:29 □ 271 LNJ8HC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:37 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:40 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:43 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	268	ССВ				1.0	11/08/09 03:23		
271 LNJ8HC D9J300000 9303310 04 1.0 11/08/09 03:32 □ 272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:37 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:40 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:43 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	269	RLCV				1.0	11/08/09 03:26		
272 LNHRC D9J290285-1 9303310 04 1.0 11/08/09 03:34 □ 273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:37 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:40 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:43 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29		
273 LNHRK D9J290285-2 9303310 04 1.0 11/08/09 03:37 □ 274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:40 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:43 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32		
274 LNHRN D9J290285-3 9303310 04 1.0 11/08/09 03:40 □ 275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:43 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34		
275 LNHRP D9J290285-4 9303310 04 1.0 11/08/09 03:43 □ 276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46 □ 277 CCV 1.0 11/08/09 03:48 □	273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37		
276 LNHRR D9J290285-5 9303310 04 1.0 11/08/09 03:46	274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40		
277 CCV 1.0 11/08/09 03:48	275	LNHRP	D9J290285-4	9303310	04	1.0	11/08/09 03:43		
	276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:46		
278 CCB 1.0 11/08/09 03:51	277	CCV				1.0	11/08/09 03:48		
	278	CCB				1.0	11/08/09 03:51		

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

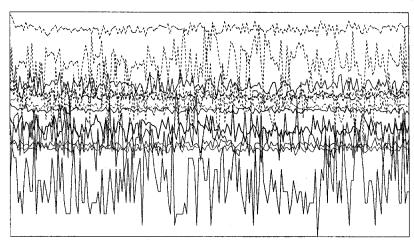
File II	D: AG110	709			Analyst: TEL					
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	C	Comment	Q	
279	RLCV				1.0	11/08/09 03:54				
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57				
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59		:		
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02				
283	LNHRTS	D9J290285-6	9303310	04	1.0	11/08/09 04:05				
284	LNHRTD	D9J290285-6	9303310	04	1.0	11/08/09 04:08				
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10				
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13				
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16			🗆	
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19				
289	CCV				1.0	11/08/09 04:21				
290	ССВ				1.0	11/08/09 04:24				
291	RLCV				1.0	11/08/09 04:27		· · · · · · · · · · · · · · · · · · ·		
292	Cal Blank				1.0	11/08/09 04:30	NJ 11/9/19	Did notuse.		
293	Cal Blank				1.0	11/08/09 04:32				
294	100 ppb				1.0	11/08/09 04:35				
295	CCV				1.0	11/08/09 04:38				
296	ССВ				1.0	11/08/09 04:41				
297	RLCV				1.0	11/08/09 04:43				
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46				
299	CCV				1.0	11/08/09 04:49				
300	CCB				1.0	11/08/09 04:52				
301	RLCV	Dolfooooo	0000010		1.0	11/08/09 04:54				
302	LNNVOD	D9K020000	9300340	04	1.0	11/08/09 04.57	<u> </u>			
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:00				
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 05:03				
305 306	LNJ05 LNJ1A	D9J300168-1	9306340 9306340	04 04	1.0	11/08/09 05:05 11/08/09 05:08				
307	LNJ1C	D9J300168-2 D9J300168-3	9306340	04	1.0	1/08/09 05:08				
308	LNJ1D	D9J300168-4	9306340	04	1.0	11/08/09 05:14				
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16				
310	CCV	D00000100 0	0000040	0-1	1.0	11/08/09 05:19				
311	ССВ				1.0	11/08/09 05:22			$\neg \Box$	
312	RLCV				1.0	11/08/09 05:25		· · · · · · · · · · · · · · · · · · ·		
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27				
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30				
315	LNJ44	D9J300188-3	2306340	04	1.0	11/08/09 05:33				
	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36				
317	LNMA5 5X	D9J310124	9306340	04	5.0	11/08/09 05:38		,		
318	LNMCH	D9J3101/27-1	9306340	04	1.0	11/08/09 05:41				
319	CCV				1.0	11/08/09 05:44				
320	ССВ				1.0	11/08/09 05:47		······································		
321	RLCV				1.0	11/08/09 05:49				
322	LNMCN	D9J310127-2	9306340	04	1.0	11/08/09 05:52	_			
323	LNMONP5	D9J310127	9306340		5.0	11/08/09 05:55	1			
324	LMMCNZ	D9J310127-2	9306340		1.0	11/08/09_05:58	-6/1/1/9	69 pid notust	4 . \Box	

									10:00:	
		?/MS)		CPMS						

RUN SUMMARY

le II	D: AG110	709			Analyst: TEL							
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment					
25	LNMCNS	D9J310127-2	9306340	04	1.0	11/08/09 06:00	•					
6	LNMCND	D9J310127-2	9306340	04	1.0	11/08 /09 06:03						
7	LNMCP	D9J310127-3	9306340	04	1.0	11/08/09 06:06						
8	LNMCQ	D9J310127-4	9306340	04	1.0	11/08/09 06:09						
9	CCV				1.0	11/08/09 06:11						
0	ССВ				1.0	11/08/09 06:14						
1	BLCV				1.0	11/08/09 06:17	NI 11/9/09 Dil not use.					

Tune File : NORM.U Comment : AG110709

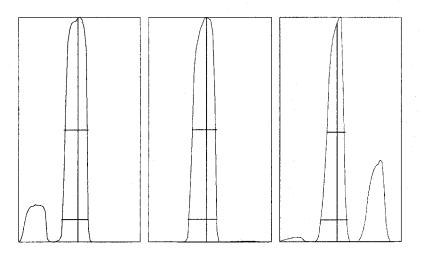


Integration Time: 0.1000 sec Sampling Period: 1.5300 sec

n: 200

Oxide: 156/140 1.612% Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
. 6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7 :	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
₩-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec Acquisition Time: 22.7600 sec

Y axis : Linear

Page: 1

Generated: Nov 07, 2009 14:09:07 Printed: Nov 07, 2009 14:09:09

Tune Report

Tune File

: NORM.U

Comment

: AG110709

Tuning Paramet	ore										
===Plasma Condi				===Ion Lenses==	=		===Q-Pole Parameters===				
RF Power	:	1600	W	Extract 1	:	0 V	AMU Gain	:	134		
RF Matching	:	1.7	V	Extract 2	:	-170 V	AMU Offset	:	125		
Smpl Depth	:	8	mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007		
Torch-H	:	-0.8	mm	Omega Lens-ce	:	1.4 V	Axis Offset	:	-0.03		
Torch-V	:	-0.3	mm	Cell Entrance	:	-30 V	QP Bias	:	-3	v	
Carrier Gas	:	0.81	L/min	QP Focus	:	7 V					
Makeup Gas	:	0.23	L/min	Cell Exit	:	-30 V	===Detector Par	ame	eters==	=	
Optional Gas	:		용				Discriminator	:	8	mV	
Nebulizer Pump	:	0.1	rps	===Octopole Par	ame	ters===	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 Cel	1===										
Reaction Mode	:	OFF									
H2 Gas	:	0	mL/min	He Gas	:	0 mL/min	Optional Gas	:		ક	

Page: 2

Generated : Nov 07, 2009 14:09:07 Printed : Nov 07, 2009 14:09:12

P/A Factor Tuning Report

Acquired:Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor		
6	Li	0.054257		
7 9	(Li)	Sensitivity	too	low
23	Be Na	0.059350 0.063944		
24	Mg	0.064875		
27	Al	0.065819		
39	K	0.066026		
43	Ca	Sensitivity	too	low
45	Sc	0.066849		
51	V	0.067403		
52	Cr	0.068152		_
53	(Cr)	Sensitivity	too	low
55 57	Mn Fe	0.068773	٠	1
5 <i>7</i>	Co	Sensitivity 0.069652	too	low
60	Ni	Sensitivity	too	low
63	Cu	0.069964	LOO	10**
66	Zn	0.070153		
72	Ge	Sensitivity	too	low
75	As	Sensitivity		low
77	(Se)	Sensitivity		
78	Se	Sensitivity	too	
82	(Se)	Sensitivity	too	
83 93	(Se)	Sensitivity Sensitivity	too	
95 95	Nb Mo	0.072052	too	low
98	(Mo)	0.071277		
99	(Mo)	Sensitivity	too	low
105	Pd	0.071221		
106	(Cd)	0.070815		
107	Ag	Sensitivity	too	low
108	(Cd)	0.071381		
111	Cd	0.070975		
115	In C-	0.070220		
118 121	Sn Sb	0.070317 0.070422		
137	Ba	Sensitivity	too	low
165	Но	Sensitivity	too	
182	W	Sensitivity	too	
195	Pt	Sensitivity	too	low
205	Tl	0.071611		
206	(Pb)	0.070464		
207	(Pb)	0.070565		
208	Pb	0.069648		
232 238	Th U	0.069671 0.069782		•
230	U	0.009/02		

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

- 1 -

TestAmerica

200.8 QC Tune Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D

Date Acquired:

Nov 7 2009 03:04 pm

Acq. Method:

tun_isis.M

Operator:

TEL

Sample Name:

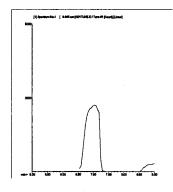
200.8 TUNE

Misc Info:

Vial Number: Current Method:

C:\ICPCHEM\1\METHODS\tun_isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	-
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



7 Li

Mass Calib.

Actual: 7.00

7.10 Required: 6.90

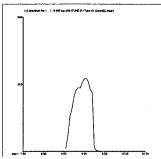
Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:



9 Be

Mass Calib.

Actual: 9.00

Required:8.90 9.10

Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:

[1] Grandwarms. 1 8.96 hat DR TVINE D From \$1 (Smart) (Smart) 2000	24 Mg		
	Mass Calib.		
	Actual: 24.00		
	Required:23.90	_	24.10
	Flag:		
	Peak Width		
	Actual: 0.60		
	Required: 0.90		
ma>2156 24 20 24 50 25 60 25 50 28 50	Flag:		
[1] Secretion No. 1 9.865 sec[501TUNE D./Ture 61 [Crust]] Lever]	59 Co		
	Mass Calib.		
	Actual: 59.00		
	Required: 58.90	-	59.10
540	Flag:		
	Peak Width		
	Actual: 0.55		
	Required: 0.90		
	Flag:		
MOV-57.750 \$4.000 \$4.000 \$58.000 \$69.50 \$69.50	1149.		
[1] Spacetim No. 1 a 405 see] SCHTLINE D./Ture 61 [Court Jahrer]	115 In		
	Mass Calib.		
	Actual: 115.00		
	Required: 114.90	· —	115.10
	Flag:		113.10
	Peak Width		
	Actual: 0.60		
	Required: 0.90		
	Flag:		
	rag.		
[I]Spordbut No.1 0.996.ocg)001TUME.D/Tuto-01 County Elmost	208 Pb		
	Mass Calib.		
	Actual: 207.95		
$ \cdot $	Required: 207.90		208.10
/ \	Flag:		200.10
	Peak Width		
	Actual: 0.55		
	Required: 0.90		
	Flag:		
mat->1095 50 30d6 80 306 90 307:00 307:00 308:00 308:00	1 1 ag.		
(1) Servicion (64.1 9 ME occ) post Tank D / Town 4.5 (Confight over)	238 U		
Soon	Mass Calib.		
	Actual: 237.95		
	Required: 237.90	<u> </u>	238.10
	Flag:		
	Peak Width		

11/7/09 3:05 PM

Tune Result:

Pass

C:\ICPCHEM\1\RPTTMP\2008tn.qct

Actual: 0.55 Required: 0.90 Flag:

Page 2 of 2

/ 11

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#

Date Acquired: Nov 7 2009 03:07 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

			1		abuhla	•
QC E	lement	:s	`		JOHN D	7
Elem	ent	IS Ref	Tune	OPS Mean	RSD(%)	
9	Вe	6	1	\0	0.00	
51	V	72	1	130	55.47	
52	Cr	72	1	2920	1.23	
55	Mn	72	1	487	11.32	
59	Co	72	1	43	35.25	
60	Ni	72	1	67	56.79	
63	Cu	72	1	247	1 6.39	
66	Zn	72	1	177	1.72	
75	As	72	1	38	36.84	
78	Se	72	1	290	18.25	
95	Mo	72	1	17	69.28	
107	Ag	115	1	17	91.65	N. Committee of the Com
111	Cd	115	1	6	90.67	
118	Sn	115	1	120	25.00	
121	Sb	115	1	, 7	0.00	
137	Ba	115	1	11	17.32	***************************************
205	Tl	165	1	53	12.50	
208	Pb	165	1	250	7.42	
232	Th	165	1	93	59.01	\
238	U	165	1	83	36.66	
Inte	rnal S	Standard	Element	ts		
Elem	ent		Tune	CPS Mean	RSD(%)	
6	Li		1	450969	0.62	
45	Sc		1	1353461	1.72	
72	Ge		1	599452	0.37	
115	In		1	1813996	0.92	
165	Но		1	3291682	1.21	

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

Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Date Acquired: Nov 7 2009 03:09 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0 .	0.00
51	V	72	1	107	14.32
52	\mathtt{Cr}	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	T1	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Но	1	3253654	1.35

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#

Date Acquired: Nov 7 2009 03:12 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:10 pm

Sample Type: ICAL

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Вe	6	1	52398	1.41
51	V .	72	1	764367	2.20
52	Cr	72	1	771475	1.19
55	Mn	72	1	912002	1.09
59	Co	72	1	914930	2.11
60	Ni	72	1	193364	2.37
63	Cu	72	1	465989	1.20
66	Zn	72	1	112029	1.18
75	As	72	1	90135	1.29
78	Se	72	1	18683	1.97
95	Mo	72	1	260394	0.61
107	Ag	115	1	765784	1.36
111	Cd	115	1	157700	1.34
118	Sn	115	1	441054	2.17
121	Sb	115	1	510967	1.02
137	Ba	115	1	213858	1.06
205	Tl	165	1	1838240	1.05
208	Pb	165	1	2519619	0.58
232	Th	165	1	2643067	0.57
238	U	165	1	2792671	0.69

ISTD Elements

Element		nt	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
	6	Li	1	449267	0.99	455621	98.6	30 - 120	
	45	Sc	1	1332198	2.77	1356727	98.2	30 - 120	
	72	Ge	1	575467	1.00	598490	96.2	30 - 120	
	115	In	1	1781328	1.07	1797032	99.1	30 - 120	
	165	Но	1	3275522	1.43	3253654	100.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0:Element Failures 0
0:ISTD Failures 0

11/7/09 3:13 PM

D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

ISTD: Pass

Initial Calibration Verification (ICV) QC Report

Data File:

Date Acquired: Nov 7 2009 03:15 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: ICV

Misc Info:

Vial Number: 2103

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Calibration File:

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICV Total Dil Factor: 1.00

QC :	Eleme:	nts								
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	40.37	ppb	1.43	40	100.9	90 - 110	
51	V	72	1	38.46	ppb	0.46	40	96.2	90 - 110	
52	Cr	72	1	39.20	ppb	1.19	40	98.0	90 - 110	
55	Mn	72	1	39.82	ppb	0.12	40	99.6	90 - 110	
59	Co	72	1	38.88	ppb	0.70	40	97.2	90 - 110	
60	Ni	72	1	40.10	ppb	0.16	40	100.3	90 - 110	
63	Cu	72	1	39.43	ppb	0.82	40	98.6	90 - 110	
66	Zn	72	1	40.09	ppb	0.20	40	100.2	90 - 110	
75	As	72	1	39.44	ppb	0.27	40	98.6	90 - 110	
78	Se	72	1	38.96	ppb	4.82	40	97.4	90 - 110	
95	Mo	72	1	39.50	ppb	0.72	40	98.8	90 - 110	
107	Ag	115	1	38.87	ppb	1.47	40	97.2	90 - 110	
111	Cd	115	1	39.30	ppb	0.98	40	98.3	90 - 110	
118	Sn	115	1	39.04	ppb	1.08	40	97.6	90 - 110	
121	Sb	115	1	39.64	ppb	1.29	40	99.1	90 - 110	
137	Ва	115	1	38.76	ppb	1.35	40	96.9	90 - 110	
205	Tl	165	1	39.29	ppb	2.05	40	98.2	90 - 110	
208	Pb	165	1	40.72	ppb	2.07	40	101.8	90 - 110	
232	Th	165	1	41.00	ppb	0.86	40	102.5	90 - 110	
238	U	165	1	40.29	ppb	1.06	40	100.7	90 - 110	
IST	D Ele	ments								
Ele	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	448116		0.63	455621	98.4	30 - 120	
45	Sc		1	1362171		0.61	1356727	100.4	30 - 120	
72	Ge		1	576140		0.97	598490	96.3	30 - 120	
115	In		1	1802991		1.36	1797032	100.3	30 - 120	
165	Но		1	3291704		0.83	3253654	101.2	30 - 120	

	Tune File#	1	c:\icpchem\1\75	00\he.u			
165	Но	1	3291704	0.83	3253654	101.2	30 - 120
115	In	1	1802991	1.36	1797032	100.3	30 - 120
72	Ge	1	576140	0.97	598490	96.3	30 - 120

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D\#

Date Acquired: Nov 7 2009 03:18 pm

Operator: TEL QC Summary:
Sample Name: RLIV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elemen	ts
-----------	----

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	_
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

Initial Calibration Blank (ICB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\007 ICB.D\007 ICB.D#

Date Acquired: Nov 7 2009 03:20 pm QC Summary:
Operator: TEL Analytes: Pass
Sample Name: ICB ISTD: Pass

Misc Info:

Vial Number: 2104

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	. 6	1	0.00	ppb	0.00	1.00	
51 V	72	1	0.01	ppb	78.95	1.00	
52 Cr	72	1	0.00	ppb	801.07	1.00	
55 Mn	72	1	0.00	ppb	167.97	1.00	
59 Co	72	1	0.00	ppb	88.12	1.00	
60 Ni	72	1	0.00	ppb	330.87	1.00	
63 Cu	72	1	-0.02	ppb	18.87	1.00	
66 Zn	72	1	-0.08	ppb	16.28	1.00	
75 As	72	1	0.00	ppb	320.71	1.00	
78 Se	72	1	-0.34	ppb	104.80	1.00	
95 Mo	72	1	0.03	ppb	28.62	1.00	
107 Ag	115	1	0.01	ppb	75.43	1.00	
111 Cd	115	1	0.01	ppb	156.14	1.00	
118 Sn	115	1	0.05	ppb	28.25	1.00	
121 Sb	115	1	0.08	ppb	20.91	1.00	
137 Ba	115	1	-0.02	ppb	26.22	1.00	
205 Tl	165	1	0.04	ppb	12.74	1.00	
208 Pb	165	1	0.00	ppb	28.23	1.00	
232 Th	165	1	0.02	ppb	38.30	1.00	
238 U	165	1	0.00	ppb	35.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

D:\ICPCHEM\1\RPTTMP\6020ICB.qct

ISTD:

Pass

QC Range(%)

50 - 150

50 - 150

50 - 150

50 - 150

50 - 150

50 - 150

30 - 120

Flag

RL STD QC Report

QC Elements

121 Sb

137 Ba

205 Tl

208 Pb

232 Th

238 U

165 Ho

Element IS Ref

Data File: C:\ICPCHEM\1\DATA\AG110709.B\008RLST.D\008RLST.D#

Date Acquired: Nov 7 2009 03:23 pm

Operator: TEL QC Summary: Sample Name: RL STD Analytes: Pass

Misc Info: Vial Number: 2105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Conc.

Last Cal Update: Nov 07 2009 03:13 pm

Tune

1

1

1

1

1

1

1

Sample Type: RLSTD Total Dil Factor: 1.00

115

115

165

165

165

165

									~	
9	Вe	6	1	1.03	ppb	7.07	1	102.9	50 - 150	
51	V	72	1	0.95	ppb	2.40	1	94.6	50 - 150	
52	Cr	72	1	0.95	ppb	9.15	1	94.9	50 - 150	
55	Mn	72	1	0.98	ppb	3.40	1	97.8	50 - 150	
59	Co	72	1	0.99	ppb	1.20	1	99.3	50 - 150	
60	Νi	72	1	0.99	ppb	1.44	1	98.7	50 - 150	
63	Cu	72	1		ppb	3.25	1	96.6	50 - 150	
66	Zn	72	1	9.84	ppb	1.62	10	98.4	50 - 150	
75	As	72	1	1.01	ppb	1.47	1 .	100.9	50 - 150	
78	Se	72	1	0.85	ppb	29.55	1	85.1	50 - 150	
95	Mo	72	1	0.98	ppb	3.69	1	98.3	50 - 150	
107	Ag	115	1	0.98	ppb	6.91	1	98.4	50 - 150	
111	Cd	115	1	0.98	ppb	2.94	1	97.7	50 - 150	
118	Sn	115	1	9.90	ppb	3.50	10	99.0	50 - 150	

2.89

4.92

1.24

0.78

0.98

RSD(%)

Expected

1

1

1

1

1

1

3253654

Rec(%)

105.8

92.9

104.9

104.5

106.6

109.3

100.7

ISTD Elements							
Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	452942	1.17	455621	99.4	30 - 120	
45 Sc	1	1350845	0.67	1356727	99.6	30 - 120	
72 Ge	1	590050	0.39	598490	98.6	30 - 120	
115 In	1	1791700	1.48	1797032	99.7	30 - 120	

0.55

1.06 ppb

0.93 ppb

1.05 ppb

1.07 ppb

1.09 ppb

1.05 ppb 0.65

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

3276677

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

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#

Date Acquired: Nov 7 2009 03:26 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: AFCEE RL

Misc Info: ISTD: Pass

Vial Number: 2106

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Calibration File:

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL Total Dil Factor: 1.00

QC I	Eleme:	nts								
Eler	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	0.18	ppb	4.87	0	85.7	80 - 120	
51	V	72	1	0.19	ppb	1.60	0	98.1	80 - 120	
52	Cr	72	1	0.17	ppb	19.24	0	88.9	80 - 120	
55	Mn	72	1	0.24	ppb	0.90	0	122.4	80 - 120	
59	Co	72	1	0.21	ppb	2.54	0	105.0	80 - 120	
60	Ni	72	1	0.19	ppb	33.14	0	95.0	80 - 120	
63	Cu	72	1	0.19	ppb	26.00	0	96.8	80 - 120	
66	Zn	72	1	1.99	ppb	0.59	2	101.2	80 - 120	
75	As	72	1	0.22	ppb	3.49	0	111.1	80 - 120	
78	Se	72	1	-0.03	ppb	493.20	0	-19.4	80 - 120	
95	Mo	72	1	0.20	ppb	10.11	0	102.9	80 - 120	
107	Ag	115	1	0.19	ppb	9.51	0	98.0	80 - 120	
111	Cd	115	1	0.20	ppb	6.38	Ò	102.8	80 - 120	
118	Sn	115	1	1.96	ppb	1.89	2	99.1	80 - 120	
121	Sb	115	1	0.22	ppb	4.04	0	104.0	80 - 120	
137	Ва	115	1	0.19	ppb	4.99	0	101.2	80 - 120	
205	Tl	165	1	0.21	ppb	2.78	0	101.1	80 - 120	
208	Pb	165	1	0.21	ppb	2.60	0	100.1	80 - 120	
232	Th	165	1	0.21	ppb	3.95	0	98.4	80 - 120	
238	Ū	165	1	0.21	ppb	3.63	0	98.0	80 - 120	
IST	D Ele	ments								
Ele	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	453567		1.29	455621	99.5	30 - 120	
45	Sc		1	1337172		0.83	1356727	98.6	30 - 120	
72	Ge		1	590407		0.86	598490	98.6	30 - 120	

		1 4110	ore mean	1100 (0)	NOT VALUE	1100 (0)	go mange ()	Liug
6	Li	1	453567	1.29	455621	99.5	30 - 120	
45	Sc	1	1337172	0.83	1356727	98.6	30 - 120	
72	Ge	1	590407	0.86	598490	98.6	30 - 120	
115	In	1	1781901	0.99	1797032	99.2	30 - 120	
165	Но	1	3288568	1.80	3253654	101.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D#

Date Acquired: Nov 7 2009 03:29 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass Sample Name: ALTSe ISTD: Pass

Misc Info: 2 ppb Vial Number: 2107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	0.00	0.00	ppb	62.04	3600	
52 Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55 Mn	72	1	0.00	0.00	ppb	140.46	3600	
59 Co	72	1	0.00	0.00	ppb	189.04	3600	
60 Ni	72	1	0.00	0.00	ppb	522.21	3600	
63 Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66 Zn	72	1	0.05	0.05	ppb	55.06	3600	
75 As	72	1	0.00	0.00	ppb	1812.70	3600	
78 Se	72	1	2.16	2.16	ppb	11.88	3600	
95 Mo	72	1	0.00	0.00	ppb	222.57	3600	
107 Ag	115	1	0.01	0.01	ppb	10.07	3600	
111 Cd	115	1	0.00	0.00	ppb	89.77	3600	
118 Sn	115	1	0.00	0.00	ppb	293.54	3600	
121 Sb	115	1	0.02	0.02	ppb	23.95	3600	
137 Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205 Tl	165	1	0.01	0.01	ppb	2.14	3600	
208 Pb	165	1	0.00	0.00	ppb	39.67	3600	
232 Th	165	1	0.00	0.00	ppb	17.19	1000	
238 U	165	1	0.00	0.00	ppb	388.10	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D\

Date Acquired: Nov 7 2009 03:31 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA
Dilution Factor: 1.00

QC	Elements
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Eler	nent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	0.00 ppb	0.00	1.00	_
51	٧	72	1	2.45 ppb	8.60	1.00	
52	\mathtt{Cr}	72	1	1.86 ppb	3.80	1.00	
55	Mn	72	1	3.11 ppb	0.88	1.00	
59	Co	72	1	0.12 ppb	10.19	1.00	
60	Ni	72	1	1.23 ppb	9.98	1.00	
63	Cu	72	1	0.56 ppb	5.58	1.00	
66	Zn	72	1	4.20 ppb	1.79	10.00	
75	As	72	1	0.35 ppb	13.35	1.00	
78	Se	72	1	0.47 ppb	67.55	1.00	
95	Мо	72	1	2055.00 ppb	1.11	2000.00	
107	Ag	115	1	0.03 ppb	8.56	1.00	
111	Cd	115	1	0.40 ppb	30.97	1.00	
118	Sn	115	1	0.93 ppb	18.89	10.00	
121	Sb	115	1	0.95 ppb	3.56	1.00	
137	Ва	115	1	0.00 ppb	326.02	1.00	
205	Tl	165	1	0.04 ppb	20.03	1.00	
208	Pb	165	1	1.04 ppb	2.03	1.00	
232	Th	165	1	0.02 ppb	5.48	1.00	
238	U	165	1	0.00 ppb	14.89	1.00	

ISTD Elements

Elen	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120	
45	Sc	1	939322	1.85	1356727	69.2	30 - 120	
72	Ge	1	429449	0.82	598490	71.8	30 - 120	
115	In	1	1325081	0.92	1797032	73.7	30 - 120	
165	Но	1	2485688	0.47	3253654	76.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D\#

Date Acquired: Nov 7 2009 03:34 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSAB ISTD: Pass

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSAB
Dilution Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	108.90	0.75	100	108.9	80 - 120	
51 V	72	1	92.27	0.38	100	92.3	80 - 120	
52 Cr	72	1	90.40	0.96	100	90.4	80 - 120	
55 Mn	72	1	92.59	1.18	100	92.6	80 - 120	
59 Co	72	1	88.85	0.30	100	88.9	80 - 120	
60 Ni	72	1	89.72	0.28	100	89.7	80 - 120	
63 Cu	72	1	85.14	0.90	100	85.1	80 - 120	
66 Zn	72	1	95.65	0.49	100	95.7	80 - 120	
75 As	72	1	99.50	0.47	100	99.5	80 - 120	
78 Se	72	1	105.90	0.80	100	105.9	80 - 120	
95 Mo	72	1	2149.00	1.99	2100	102.3	80 - 120	
107 Ag	115	1	84.00	7.96	100	84.0	80 - 120	
111 Cd	115	1	93.62	2.89	100	93.6	80 - 120	
118 Sn	115	1	96.78	1.78	100	96.8	80 - 120	
121 Sb	115	1	100.10	2.32	100	100.1	80 - 120	
137 Ba	115	1	96.82	2.12	100	96.8	80 - 120	
205 Tl	165	1	94.83	0.67	100	94.8	80 - 120	
208 Pb	165	1	93.97	0.82	100	94.0	80 - 120	
232 Th	165	1	101.90	0.67	100	101.9	80 - 120	
238 U	165	1	100.20	0.45	100	100.2	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272241	2.18	455621	59.8	30 - 120	
45 Sc	1	935334	1.15	1356727	68.9	30 - 120	
72 Ge	1	419509	1.32	598490	70.1	30 - 120	
115 In	1	1327038	1.55	1797032	73.8	30 - 120	
165 Ho	1	2524289	0.15	3253654	77.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

ISTD:

Pass

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

Date Acquired: Nov 7 2009 03:37 pm

Operator: TEL QC Summary: Sample Name: RINSE Analytes: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL
Total Dil Factor: 1.00

α	177	ements
v		

QC I	Tewe:	nts								
Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	0.00	ppb	0.00	0	0.0	80 - 120	
51	V	72	1	0.06	ppb	15.15	0	29.2	80 - 120	
52	Cr	72	1	0.00	ppb	941.54	0	-2.5	80 - 120	
55	Mn	72	1	0.00	ppb	87.90	0	-2.5	80 - 120	
59	Co	72	1	0.00	ppb	138.19	0	-0.5	80 - 120	
60	Ni	72	1	-0.01	ppb	79.76	0	-6.6	80 - 120	
63	Cu	72	1	-0.02	ppb	11.32	0	-10.3	80 - 120	
66	Zn	72	1	-0.12	ppb	4.66	2	-6.1	80 - 120	
75	As	72	1	0.00	ppb	172.97	0	2.3	80 - 120	
78	Se	72	1	0.18	ppb	157.63	0 -	105.8	80 - 120	
95	Mo	72	1	0.92	ppb	26.25	0	470.1	80 - 120	
107	Ag	115	1	0.01	ppb	38.83	0	5.1	80 - 120	
111	Cd	115	1	0.00	ppb	268.01	0	2.2	80 - 120	
118	Sn	115	1	-0.03	ppb	57.94	2	-1.3	80 - 120	
121	Sb	115	1	0.13	ppb	22.58	0	60.8	80 - 120	
137	Ва	115	1	-0.03	ppb	10.98	0	-13.6	80 - 120	
205	Tl	165	1	0.00	ppb	35.28	0	1.1	80 - 120	
208	Pb	165	1	0.00	ppb	109.50	0	-0.7	80 - 120	
232	Th	165	1	0.03	ppb	14.09	0 -	14.5	80 - 120	
238	U	165	1	0.02	ppb	14.78	0	7.9	80 - 120	
	Eler 9 51 52 55 59 60 63 66 75 78 95 107 111 118 121 137 205 208 232	Element 9 Be 51 V 52 Cr 55 Mn 59 Co 60 Ni 63 Cu 66 Zn 75 As 78 Se	9 Be 6 51 V 72 52 Cr 72 55 Mn 72 59 Co 72 60 Ni 72 63 Cu 72 66 Zn 72 75 As 72 78 Se 72 95 Mo 72 107 Ag 115 111 Cd 115 118 Sn 115 121 Sb 115 121 Sb 115 137 Ba 115 205 Tl 165 208 Pb 165 232 Th 165	Element IS Ref Tune 9 Be 6 1 51 V 72 1 52 Cr 72 1 55 Mn 72 1 59 Co 72 1 60 Ni 72 1 63 Cu 72 1 66 Zn 72 1 75 As 72 1 78 Se 72 1 95 Mo 72 1 107 Ag 115 1 111 Cd 115 1 118 Sn 115 1 119 Sb 115 1 121 Sb 115 1 137 Ba 115 1 208 Pb 165 1 232 Th 165 1	Element IS Ref Tune Conc. 9 Be 6 1 0.00 51 V 72 1 0.06 52 Cr 72 1 0.00 55 Mn 72 1 0.00 59 Co 72 1 0.00 60 Ni 72 1 -0.01 63 Cu 72 1 -0.02 66 Zn 72 1 -0.12 75 As 72 1 0.00 78 Se 72 1 0.18 95 Mo 72 1 0.92 107 Ag 115 1 0.01 111 Cd 115 1 0.01 112 Cd 115 1 0.00 118 Sn 115 1 0.00 118 Sn 115 1 0.03 121 Sb 115 1 0.13 137 Ba 115 1 0.03 205 Tl 165 1 0.00 208 Pb 165 1 0.00	Element IS Ref Tune Conc. 9 Be 6 1 0.00 ppb 51 V 72 1 0.06 ppb 52 Cr 72 1 0.00 ppb 55 Mn 72 1 0.00 ppb 59 Co 72 1 0.00 ppb 60 Ni 72 1 -0.01 ppb 63 Cu 72 1 -0.02 ppb 66 Zn 72 1 -0.12 ppb 75 As 72 1 0.00 ppb 78 Se 72 1 0.00 ppb 95 Mo 72 1 0.18 ppb 95 Mo 72 1 0.92 ppb 107 Ag 115 1 0.01 ppb 111 Cd 115 1 0.01 ppb 118 Sn 115 1 0.00 ppb 118 Sn 115 1 0.00 ppb 121 Sb 115 1 0.13 ppb 137 Ba 115 1 0.03 ppb 205 Tl 165 1 0.00 ppb 208 Pb 165 1 0.00 ppb	Element IS Ref Tune Conc. RSD(%) 9 Be 6 1 0.00 ppb 0.00 51 V 72 1 0.06 ppb 15.15 52 Cr 72 1 0.00 ppb 941.54 55 Mn 72 1 0.00 ppb 87.90 59 Co 72 1 0.00 ppb 138.19 60 Ni 72 1 -0.01 ppb 79.76 63 Cu 72 1 -0.02 ppb 11.32 66 Zn 72 1 -0.12 ppb 4.66 75 As 72 1 0.00 ppb 172.97 78 Se 72 1 0.18 ppb 157.63 95 Mo 72 1 0.92 ppb 26.25 107 Ag 115 1 0.01 ppb 38.83 111 Cd 115 1 0.01 ppb 38.83 111 Cd 115 1 0.00 ppb 57.94 121 Sb 115 1 0.13 ppb 22.58 137 Ba 115 1 0.00 ppb 10.98 205 Tl 165 1 0.00 ppb 109.50 232 Th 165 1 0.00 ppb 109.50	Element IS Ref Tune Conc. RSD(%) Expected 9 Be 6 1 0.00 ppb 0.00 0 51 V 72 1 0.06 ppb 15.15 0 52 Cr 72 1 0.00 ppb 941.54 0 55 Mn 72 1 0.00 ppb 87.90 0 59 Co 72 1 0.00 ppb 138.19 0 60 Ni 72 1 -0.01 ppb 79.76 0 63 Cu 72 1 -0.02 ppb 11.32 0 66 Zn 72 1 -0.12 ppb 4.66 2 75 As 72 1 0.00 ppb 172.97 0 78 Se 72 1 0.18 ppb 157.63 0 95 Mo 72 1 0.92 ppb 26.25 0 107 Ag 115 1 0.01 ppb 38.83 0 111 Cd 115 1 0.01 ppb 38.83 0 111 Cd 115 1 0.00 ppb 57.94 2 121 Sb 115 1 0.13 ppb 22.58 0 137 Ba 115 1 0.03 ppb 10.98 0 208 Pb 165 1 0.00 ppb 109.50 0 232 Th 165 1 0.00 ppb 14.09 0	Element IS Ref Tune Conc. RSD(%) Expected Rec(%) 9 Be 6 1 0.00 ppb 0.00 0 0.0 51 V 72 1 0.06 ppb 15.15 0 29.2 52 Cr 72 1 0.00 ppb 941.54 0 -2.5 55 Mn 72 1 0.00 ppb 87.90 0 -2.5 59 Co 72 1 0.00 ppb 138.19 0 -0.5 60 Ni 72 1 -0.01 ppb 79.76 0 -6.6 63 Cu 72 1 -0.02 ppb 11.32 0 -10.3 66 Zn 72 1 -0.12 ppb 4.66 2 -6.1 75 As 72 1 0.00 ppb 172.97 0 2.3 78 Se 72 1 0.18 ppb 157.63 0 105.8 95 Mo 72 1 0.92 ppb 26.25 0 470.1 107 Ag 115 1 0.01 ppb 38.83 0 5.1 111 Cd 115 1 0.00 ppb 268.01 0 2.2 118 Sn 115 1 0.00 ppb 57.94 2 -1.3 121 Sb 115 1 0.13 ppb 22.58 0 60.8 137 Ba 115 1 0.00 ppb 10.98 0 -13.6 205 Tl 165 1 0.00 ppb 10.95 0 -0.7 232 Th 165 1 0.00 ppb 10.95 0 0 -0.7	Element IS Ref Tune Conc. RSD(%) Expected Rec(%) QC Range(%) 9 Be 6 1 0.00 ppb 0.00 0 0.0 80 - 120 51 V 72 1 0.06 ppb 15.15 0 29.2 80 - 120 52 Cr 72 1 0.00 ppb 941.54 0 -2.5 80 - 120 55 Mn 72 1 0.00 ppb 87.90 0 -2.5 80 - 120 59 Co 72 1 0.00 ppb 138.19 0 -0.5 80 - 120 60 Ni 72 1 -0.01 ppb 79.76 0 -6.6 80 - 120 63 Cu 72 1 -0.02 ppb 11.32 0 -10.3 80 - 120 66 Zn 72 1 -0.12 ppb 4.66 2 -6.1 80 - 120 75 As 72 1 0.00 ppb 172.97 0 2.3 80 - 120 78 Se 72 1 0.18 ppb 157.63 0 105.8 80 - 120 95 Mo 72 1 0.92 ppb 26.25 0 470.1 80 - 120 107 Ag 115 1 0.01 ppb 38.83 0 5.1 80 - 120 111 Cd 115 1 0.00 ppb 268.01 0 2.2 80 - 120 112 Sb 115 1 0.13 ppb 22.58 0 60.8 80 - 120 121 Sb 115 1 0.01 ppb 35.28 0 60.8 80 - 120 122 Sb 115 1 0.00 ppb 10.98 0 -13.6 80 - 120 123 Th 165 1 0.00 ppb 35.28 0 1.1 80 - 120 208 Pb 165 1 0.00 ppb 109.50 0 -0.7 80 - 120 232 Th 165 1 0.00 ppb 109.50 0 -0.7 80 - 120 232 Th 165 1 0.00 ppb 10.950 0 -0.7 80 - 120

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120	
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120	
72	Ge	1	563469	0.48	598490	94.1	30 - 120	
115	In	1	1720438	0.38	1797032	95.7	30 - 120	
165	Но	1	3228952	0.84	3253654	99.2	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014 LR.D\014 LR.D#

Date Acquired: Nov 7 2009 03:40 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass Sample Name: LR1 ISTD: Pass

Misc Info:

Vial Number: 2110

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: LR
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analy	te El	.emen	ts
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Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 T1	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 Ho	1	3245351	1.45	3253654	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#

Date Acquired: Nov 7 2009 03:42 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass Sample Name: RINSE ISTD: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	- 6	1	0.01	0.01	ppb	173.22	3600	
51 V	72	1	0.03	0.03	ppb	5.05	3600	
52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
59 Co	72	1	0.00	0.00	ppb	73.71	3600	
60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
75 As	72	1	0.03	0.03	ppb	18.58	3600	
78 Se	72	1	0.26	0.26	ppb	60.51	3600	
95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
232 Th	165	1	0.12	0.12	ppb	15.82	1000	
238 U	165	1	0.14	0.14	ppb	23.45	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\016 CCV.D\016 CCV.D\

Date Acquired: Nov 7 2009 03:45 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	50.82	ppb	0.98	50	101.6	90 - 110	_
51	V	72	1	47.69	ppb	0.85	50	95.4	90 - 110	
52	Cr	72	1	47.81	ppb	0.72	50	95.6	90 - 110	
55	Mn	72	. 1	47.91	ppb	0.63	50	95.8	90 - 110	
59	Co	72	1	48.31	ppb	1.05	50	96.6	90 - 110	
60	Ni	72	1	49.87	ppb	0.51	50	99.7	90 - 110	
63	Cu	72	1	48.27	ppb	0.97	50	96.5	90 - 110	
66	Zn	72	1	49.24	ppb	0.51	50	98.5	90 - 110	
75	As	72	1	49.61	ppb	0.57	50	99.2	90 - 110	
78	Se	72	1	51.34	ppb	3.01	50	102.7	90 - 110	
95	Mo	72	1	49.43	ppb	1.34	50	98.9	90 - 110	
107	Ag	115	1	48.77	ppb	0.60	50	97.5	90 - 110	
111	Cd	115	1	49.46	ppb	1.05	50	98.9	90 - 110	
118	Sn	115	1	49.42	ppb	0.94	50	98.8	90 - 110	
121	Sb	115	1	49.48	ppb	0.82	50	99.0	90 - 110	
137	Ва	115	1	48.65	ppb	1.08	50	97.3	90 - 110	
205	Tl	165	1	49.98	ppb	1.20	50	100.0	90 - 110	
208	Pb	165	1	50.63	ppb	2.15	50	101.3	90 - 110	
232	Th	165	1	50.61	ppb	1.41	50	101.2	90 - 110	
238	U	165	1	50.58	ppb	0.97	50	101.2	90 - 110	

ISTL	Elements							
Elem	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	424171	1.07	455621	93.1	30 - 120	
45	Sc	1	1298607	1.88	1356727	95.7	30 - 120	
72	Ge	1	570018	0.80	598490	95.2	30 - 120	
115	In	1	1777686	0.76	1797032	98.9	30 - 120	
165	Но	1	3306431	1.43	3253654	101.6	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\017 CCB.D\017 CCB.D#

Date Acquired:

Nov 7 2009 03:48 pm

Operator:

TEL

QC Summary:

Sample Name:

Analytes: Pass

Misc Info:

CCB

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.M
C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 03:13 pm

Sample Type:

CCB

Total Dil Factor:

1.00

QC	El	ements
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Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.000	ppb	0.00	1.00	
51 V	72	1	0.018	ppb	26.29	1.00	
52 Cr	72	1	0.021	ppb	89.72	1.00	
55 Mn	72	1	-0.002	ppb	258.47	1.00	
59 Co	72	1	0.000	ppb	7.74	1.00	
60 Ni	72	1	-0.003	ppb	365.53	1.00	
63 Cu	72	1	-0.006	ppb	212.36	1.00	
66 Zn	72	1	-0.070	ppb	18.30	1.00	
75 As	72	1	0.022	ppb	32.72	1.00	
78 Se	72	1	0.156	ppb	92.00	1.00	
95 Mo	72	1	0.115	ppb	30.30	1.00	
107 Ag	115	1	0.011	ppb	38.12	1.00	
111 Cd	115	1	0.002	ppb	113.82	1.00	
118 Sn	115	1	0.224	ppb	27.6 7	1.00	
121 Sb	115	1	0.348	ppb	18.44	1.00	
137 Ba	115	1	-0.026	ppb	8.86	1.00	
205 Tl	165	1	0.021	ppb	16.25	1.00	
208 Pb	165	1	0.000	ppb	463.86	1.00	
232 Th	165	1	0.056	ppb	20.03	1.00	
238 U	165	1	0.020	ppb	23.07	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#

Date Acquired: Nov 7 2009 03:50 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

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Ас втеще	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	. 6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

ISTD Elements

6 Li 1 443603 0.24 455621 97.4 30 - 120	
45 Sc 1 1335995 1.35 1356727 98.5 30 - 120	
72 Ge 1 596206 0.64 598490 99.6 30 - 120	
115 In 1 1804793 1.75 1797032 100.4 30 - 120	
165 Ho 1 3324168 1.02 3253654 102.2 30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

0 :Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095 CCV.D\095 CCV.D#

Date Acquired: Nov 7 2009 07:25 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elements
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Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.00	ppb	3.68	50	100.0	90 - 110	
51	V .	72	1	49.46	ppb	0.96	50	98.9	90 - 110	
52	Cr	72	1	49.13	ppb	0.63	50	98.3	90 - 110	
55	Mn	72	1	48.00	ppb	0.58	50	96.0	90 - 110	
59	Co	72	1	49.88	ppb	1.19	50	99.8	90 - 110	
60	Ni	72	1	52.70	ppb	0.96	50	105.4	90 - 110	
63	Cu	72	1	50.75	ppb	0.19	50	101.5	90 - 110	
66	Zn	72	1	48.83	ppb	0.18	50	97.7	90 - 110	
75	As	72	1	50.85	ppb	1.33	50°	101.7	90 - 110	
78	Se	72	1	50.97	ppb	2.08	50	101.9	90 - 110	
95	Mo	72	1	49.28	ppb	0.59	50	98.6	90 - 110	
107	Ag	115	1	48.69	ppb	1.80	50	97.4	90 - 110	
111	Cd	115	1	48.20	ppb	1.31	50	96.4	90 - 110	
118	Sn	115	. 1	47.65	ppb	1.87	50	95.3	90 - 110	
121	Sb	115	1	47.61	ppb	2.17	50	95.2	90 - 110	
137	Ва	115	1	48.23	ppb	1.87	50	96.5	90 - 110	
205	Tl	165	1	49.17	ppb	1.01	50	98.3	90 - 110	
208	Pb	165	1	50.08	ppb	1.74	50	100.2	90 - 110	
232	Th	165	1	49.66	ppb	0.53	50	99.3	90 - 110	
238	Ū	165	1	49.60	ppb	0.64	50	99.2	90 - 110	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120	
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120	
72	Ge	1	557000	0.87	598490	93.1	30 - 120	
115	In	1	1717369	0.76	1797032	95.6	30 - 120	
165	Но	1	3017615	0.61	3253654	92.7	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096 CCB.D\096 CCB.D#

Date Acquired: Nov 7 2009 07:28 pm

Operator: TEL QC Summary:
Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.000	ppb	0.00	1.00	
51 V	72	1	-0.006	ppb	24.61	1.00	
52 Cr	72	1	0.005	ppb	16.13	1.00	
55 Mn	72	1	0.012	ppb	40.48	1.00	
59 Co	72	1	0.003	ppb	90.18	1.00	
60 Ni	72	1	0.005	ppb	115.47	1.00	
63 Cu	72	1	-0.001	ppb	1434.90	1.00	
66 Zn	72	1	0.040	ppb	39.82	1.00	
75 As	72	1	-0.001	ppb	689.47	1.00	
78 Se	72	1	0.203	ppb	119.68	1.00	
95 Mo	72	1	0.030	ppb	15.19	1.00	
107 Ag	115	1	0.009	ppb	17.39	1.00	
111 Cd	115	1	0.008	ppb	214.98	1.00	
118 Sn	115	1	0.033	ppb	87.07	1.00	
121 Sb	115	1,	0.133	ppb	16.18	1.00	
137 Ba	115	1	-0.005	ppb	66.27	1.00	
205 Tl	165	1	0.010	ppb	5.85	1.00	
208 Pb	165	1	0.007	ppb	10.03	1.00	
232 Th	165	1	0.031	ppb	21.92	1.00	
238 U	165	1	0.010	ppb	23.45	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

TestAmerica

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#

Date Acquired: Nov 7 2009 07:30 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

ISTD: Misc Info: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	. 72	1	2.031 ppb	2.60	2.60	
66 Zn	72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D\#

Date Acquired: Nov 7 2009 07:33 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA Dilution Factor: 1.00

QC	Elemen	ts
		_

Elemen	t IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9 Be	e 6	1	0.01 ppb	173.15	1.00	-
51 V	72	1	2.34 ppb	2.35	1.00	
52 Cr	72	1	1.89 ppb	3.80	1.00	
55 Mr	n 72	1	3.08 ppb	1.35	1.00	
59 Cc	72	1	0.13 ppb	9.32	1.00	
60 Ni	. 72	1	1.54 ppb	6.59	1.00	
63 Cu	a 72	1	0.62 ppb	13.41	1.00	
66 Zr	n 72	1	4.36 ppb	1.67	10.00	
75 As	s 72	1	0.31 ppb	11.37	1.00	
78 Se	e 72	1	-0.18 ppb	17.27	1.00	
95 Mc	72	1	2024.00 ppb	0.75	2000.00	
107 Aç	115	1	0.04 ppb	30.78	1.00	
111 Cc	115	1	0.44 ppb	34.74	1.00	
118 Sr	ı 115	1	0.41 ppb	9.39	10.00	
121 Sk	115	1	0.94 ppb	2.45	1.00	
137 Ba	115	1	0.02 ppb	61.87	1.00	
205 Tl	. 165	1	0.04 ppb	26.87	1.00	
208 Pb	165	1	1.05 ppb	0.68	1.00	
232 Th	165	1	0.02 ppb	35.17	1.00	
238 U	165	1	0.01 ppb	14.16	1.00	

ISTD Elements

Eler	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120	
45	Sc	1	945462	1.56	1356727	69.7	30 - 120	
72	Ge	1	429131	0.94	598490	71.7	30 - 120	
115	In	1	1251973	0.62	1797032	69.7	30 - 120	
165	Но	1	2302241	0.67	3253654	70.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#

Date Acquired:

Nov 7 2009 07:36 pm

Acq. Method:

NormISIS.M

QC Summary:

Operator:

TEL

Analytes: Pass

Sample Name:

ICSAB

ISTD: Pass

Misc Info:

Vial Number:

2109

Current Method: Calibration File:

C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type:

ICSAB

Dilution Factor:

1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	101.10	0.81	100	101.1	80 - 120	
51 V	72	1	96.26	0.64	100	96.3	80 - 120	
52 Cr	72	1 ,	92.97	0.53	100	93.0	80 - 120	
55 Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59 Co	72	1	90.72	0.50	100	90.7	80 - 120	
60 Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63 Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66 Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75 As	72	1	101.10	0.38	100	101.1	80 - 120	
78 Se	72	1	105.10	1.94	100	105.1	80 - 120	
95 Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107 Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111 Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118 Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121 Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137 Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205 Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208 Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232 Th	165	1	98.27	1.03	100	98.3	80 - 120	
238 U	165	1	97.38	0.98	100	97.4	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298307	2.13	455621	65.5	30 - 120	
45 Sc	1	951400	0.73	1356727	70.1	30 - 120	
72 Ge	1	417924	0.89	598490	69.8	30 - 120	
115 In	1	1269948	0.83	1797032	70.7	30 - 120	
165 Ho	1	2339416	0.71	3253654	71.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#

Date Acquired: Nov 7 2009 07:39 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: WASH

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC	Elemen	ts
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	. 1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CCV.D\101 CCV.D#

Date Acquired: Nov 7 2009 07:41 pm

Operator: TEL QC Summary: Sample Name: CCV Analytes: Pass

Misc Info: ISTD:

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

ÕС	Elements
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Eler	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.02	ppb	3.60	50	102.0	90 - 110	
51	V	72	1	49.10	ppb	0.68	50	98.2	90 - 110	
52	Cr	72	1	48.80	ppb	0.79	50	97.6	90 - 110	
55	Mn	72	1	48.00	ppb	0.60	50	96.0	90 - 110	
59	Co	72	1	49.55	ppb	0.61	50	99.1	90 - 110	
60	Ni	72	1	52.06	ppb	1.46	50	104.1	90 - 110	
63	Cu	72	1	50.22	ppb	0.56	50	100.4	90 - 110	
66	Zn	72	1	48.51	ppb	1.13	50	97.0	90 - 110	
75	As	72	1	50.95	ppb	0.50	50	101.9	90 - 110	
78	Se	72	1	49.38	ppb	4.19	50	98.8	90 - 110	
95	Mo	. 72	1	50.11	ppb	1.38	50	100.2	90 - 110	
107	Ag	115	1	49.66	ppb	0.85	50	99.3	90 - 110	
111	Cd	115	1	49.01	ppb	1.42	50	98.0	90 - 110	
118	Sn	115	1	48.68	ppb	1.81	50	97.4	90 - 110	
121	Sb	115	1	48.87	ppb	1.17	50	97.7	90 - 110	
137	Ва	115	1	49.35	ppb	1.09	50	98.7	90 - 110	
205	Tl	165	1	49.79	ppb	1.41	50	99.6	90 - 110	
208	Pb	165	1	49.95	ppb	1.13	50	99.9	90 - 110	
232	Th	165	1	49.72	ppb	0.91	50	99.4	90 - 110	
238	U	165	1	49.59	ppb	1.94	50	99.2	90 - 110	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120	
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120	
72	Ge	1	546607	0.97	598490	91.3	30 - 120	
115	In	1	1673358	0.50	1797032	93.1	30 - 120	
165	Но	1	3013021	0.51	3253654	92.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Pass

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102 CCB.D\102 CCB.D#

Date Acquired: Nov 7 2009 07:44 pm

Operator: TEL QC Summary:

Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Be	6	1	0.007	ppb	173.18	1.00	
51	V	72	1	0.072	ppb	11.11	1.00	
52	Cr	72	1	0.002	ppb	1427.90	1.00	
55	Mn	72	1	-0.002	ppb	998.74	1.00	
59	Со	72	1	0.004	ppb	62.33	1.00	
60	Ni	72	1	0.095	ppb	21.31	1.00	
63	Cu .	72	1	0.001	ppb	1376.50	1.00	
66	Zn	72	1	0.050	ppb	67.37	1.00	
75.	As	72	1	0.009	ppb	154.12	1.00	
78	Se	72	1	0.133	ppb	315.07	1.00	
95	Mo	72	1	0.099	ppb	50.63	1.00	
107	Ag	115	1	0.009	ppb	39.54	1.00	
111	Cd	115	1	0.005	ppb	103.50	1.00	
118	Sn	115	1	0.062	ppb	107.54	-1.00	
121	Sb	115	1	0.138	ppb	16.19	1.00	
137	Ba	115	1	-0.017	ppb	52.66	1.00	
205	Tl	165	1	0.016	ppb	15.17	1.00	
208	Pb	165	1	0.005	ppb	21.11	1.00	
232	Th	165	1	0.033	ppb	24.50	1.00	
238	U	165	1	0.010	ppb	34.21	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

11/7/09 7:45 PM

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#

Date Acquired: Nov 7 2009 07:47 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	. 72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

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

ISTD Ref File: C:\I

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/09	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

Date Acquired: Nov 7 2009 08:47 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:45 pm

Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	٧	72	1	1013	6.79
52	\mathtt{Cr}	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ва	115	1	74	17.43
205	T1	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Но	1	3039108	1.07

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#

Date Acquired: Nov 7 2009 08:50 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:48 pm

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	47883	0.67
51	V	72	1	747976	1.49
52	Cr	72	1	754628	1.13
55	Mn	72	1	865964	0.71
59	Co	72	1	889724	1.22
60	Ni	72	1	191586	1.40
63	Cu	72	1	456036	0.95
66	Zn	72	1	106780	0.65
75	As	72	1	89192	0.61
78	Se	72	1	18229	1.26
95	Mo	72	1	254493	1.19
107	Ag	115	1	752402	0.75
111	Cd	115	1	150239	1.10
118	Sn	115	1	420016	0.73
121	Sb	115	1	483973	0.74
137	Ba	115	1	204383	0.51
205	Tl	165	1	1701616	0.60
208	Pb	165	1	2338107	2.25
232	Th	165	1	2413552	1.92
238	U	165	1	2559276	1.77

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC R	ange(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30	- 120	
45	Sc	1	1260434	1.10	1273788	99.0	30	- 120	
72	Ge	1	556836	0.86	577640	96.4	30	- 120	
115	In	1	1704167	0.61	1726730	98.7	30	- 120	
165	Но	1	3052265	1.25	3039108	100.4	30	- 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

11/7/09 8:51 PM D:

D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127 CCV.D\127 CCV.D#

Date Acquired: Nov 7 2009 08:53 pm

Operator: QC Summary: TEL Sample Name: Analytes: CCV Pass Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCV Total Dil Factor: 1.00

QC Elements

205 Tl

165

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)
9	Ве	6	1	50.43	ppb	3.83	50	100.9	90 - 110
51	V	72	1	48.44	ppb	0.77	50	96.9	90 - 110

51	V	72	1	48.44	ppb	0.77	50	96.9	90 - 110
52	Cr	72	1	48.00	ppb	0.40	50	96.0	90 - 110
55	Mn	72	1	48.98	ppb	0.83	50	98.0	90 - 110
59	Co	72	1	49.19	ppb	0.88	50	98.4	90 - 110
60	Ni	72	1	51.00	ppb	2.25	50	102.0	90 - 110
63	Cu	72	1	50.40	ppb	1.04	50	100.8	90 - 110
66	Zn	72	1	49.66	ppb	0.82	50	99.3	90 - 110
75	As	72	1	49.96	ppb	1.36	50	99.9	90 - 110
78	Se	72	1	50.40	ppb	4.89	50	100.8	90 - 110
95	Mo	72	1	49.49	ppb	0.61	50	99.0	90 - 110
107	Ag	115	1	48.04	ppb	0.50	50	96.1	90 - 110
111	Cd	115	1	48.84	ppb	0.25	50	97.7	90 - 110
118	Sn	115	1	48.90	ppb	0.50	50	97.8	90 - 110
121	Sb	115	1	49.44	ppb	0.72	50	98.9	90 - 110
137	Ва	115	1	49.58	ppb	0.98	50	99.2	90 - 110

208	Pb	165	1	49.87	ppb	2.65	50	99.7	90 - 110
232	Th	165	1	50.94	ppb	1.78	50	101.9	90 - 110
238	U	165	1	50.49	ppb	2.18	50	101.0	90 - 110

50.08 ppb

ISTD Elements

1

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	401327	1.29	398155	100.8	30 - 120	
45	Sc	1	1286634	0.38	1273788	101.0	30 - 120	
72	Ge	1	558660	0.70	577640	96.7	30 - 120	
115	In	1	1725819	0.46	1726730	99.9	30 - 120	
165	Но	1	3087824	1.47	3039108	101.6	30 - 120	

0.23

50

100.2

90 - 110

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

Flag

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128 CCB.D\128 CCB.D#

Date Acquired: Nov 7 2009 08:56 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Eleme	nt IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	e 6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.043	ppb	23.48	1.00	
52 Cr	72	1	0.013	ppb	34.25	1.00	
55 Mr	n 72	1	0.004	ppb	271.40	1.00	
59 Cc	72	1	0.003	ppb	58.98	1.00	
60 Ni	L 72	1	0.013	ppb	122.65	1.00	
63 Ct	ı 72	1	-0.010	ppb	116.03	1.00	
66 Zr	n 72	1	-0.311	ppb	3.85	1.00	
75 As	3 72	1	0.007	ppb	208.78	1.00	
78 Se	e 72	1	0.060	ppb	542.70	1.00	
95 Mc	72	1	0.010	ppb	195.90	1.00	
107 A	g 115	1	0.008	ppb	34.15	1.00	
111 Cc	i 115	1	-0.003	ppb	158.97	1.00	
118 Sr	n 115	1	0.071	ppb	72.17	1.00	
121 Sk	115	1	0.186	ppb	24.43	1.00	
137 Ba	a 115	1	-0.019	ppb	41.26	1.00	
205 TI	L 165	1	0.019	ppb	3.88	1.00	
208 Pb	165	1	0.007	ppb	24.82	1.00	
232 Th	n 165	1	0.050	ppb	27.19	1.00	
238 U	165	1	0.014	ppb	24.25	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D\#

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Page 1 of 1

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#

Date Acquired: Nov 7 2009 08:58 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: RLCV

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Date Acquired: Nov 7 2009 11:44 pm

Acq. Method: NormISIS.M

Operator: TEL
Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:42 pm

Sample Type: CalBlk

QC Elements

-					
Elem	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	. 72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	U	165	1	122	7.26

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Но	1	2681412	0.51

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#

Date Acquired: Nov 7 2009 11:47 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: C:\ICPCHEM\1\CALIB\NormISIS.C Nov 07 2009 11:45 pm Calibration File:

Last Cal. Update:

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	45518	1.54
51	V	72	1	700879	1.29
52	Cr	. 72	1	693042	2.18
55	Mn	72	1	795858	1.60
59	Co	72	1	850264	1.89
60	Ni	72	1	181428	0.41
63	Cu	72	1	431089	0.73
66	Zn	72	1	95751	0.48
75	As	72	1	84617	1.05
78	Se	72	1	17278	1.91
95	Mo	72	1	230286	0.80
107	Ag	115	1	661266	1.42
111	Cd	115	1	131853	1.14
118	Sn	115	1	371875	2.20
121	Sb	115	1	432362	1.85
137	Ba	115	1	187475	1.78
205	Tl	165	1	1498644	1.03
208	Pb	165	1	2042776	1.12
232	Th	165	1	2142976	0.23
238	U	165	1	2200342	0.40

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120	
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120	
72	Ge	1	507906	1.25	533218	95.3	30 - 120	
115	In	1	1532161	1.02	1552104	98.7	30 - 120	
165	Но	1	2672323	0.90	2681412	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures 0 0 :ISTD Failures

D:\ICPCHEM\1\RPTTMP\calstd.qct 11/7/09 11:48 PM

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191 CCV.D\191 CCV.D#

Date Acquired: Nov 7 2009 11:50 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemen	nts		
D1.		TC	D-£	m.

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.23	ppb	3.26	50	98.5	90 - 110	
51	V	72	1	48.52	ppb	1.74	50	97.0	90 - 110	
52	Cr	72	1	48.49	ppb	0.29	50	97.0	90 - 110	
55	Mn	72	1	48.47	ppb	1.24	50	96.9	90 - 110	
59	Co	72	1	48.02	ppb	0.67	50	96.0	90 - 110	
60	Ni	72	1	49.69	ppb	1.50	50	99.4	90 - 110	
63	Cu	72	1	49.62	ppb	0.90	50	99.2	90 - 110	
66	Zn	72	1	48.96	ppb	1.42	50	97.9	90 - 110	
75	As	72	1	49.10	ppb	0.76	50	98.2	90 - 110	
78	Se	72	1	48.52	ppb	4.63	50	97.0	90 - 110	
95	Mo	72	1	49.23	ppb	0.82	50	98.5	90 - 110	
107	Ag	115	1	49.55	ppb	1.37	50	99.1	90 - 110	
111	Cd	115	1	49.69	ppb	1.93	50	99.4	90 - 110	
118	Sn	115	1	49.87	ppb	1.50	50	99.7	90 - 110	
121	Sb	115	1	49.85	ppb	1.58	50	99.7	90 - 110	
137	Ва	115	1	49.38	ppb	1.63	50	98.8	90 - 110	
205	Tl	165	1	50.07	ppb	0.63	50	100.1	90 - 110	
208	Pb	165	1	50.67	ppb	1.87	50	101.3	90 - 110	
232	Th	165	1	50.33	ppb	1.25	50	100.7	90 - 110	
238	U	165	1	51.37	ppb	0.78	50	102.7	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	391774	1.28	401411	97.6	30 - 120	
45	Sc	1	1173327	0.14	1190683	98.5	30 - 120	
72	Ge	1	511730	0.36	533218	96.0	30 - 120	
115	In	1	1536232	0.41	1552104	99.0	30 - 120	
165	Но	1	2663987	0.61	2681412	99.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\192 CCB.D\192 CCB.D#

Date Acquired:

Nov 7 2009 11:52 pm

Operator:

TEL

QC Summary:

Sample Name:

Analytes: Pass

Misc Info:

CCB

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.M
C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 11:48 pm

Sample Type:

CCB

Total Dil Factor:

1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag	ſ
9	Be	6	1	0.021	ppb	99.86	1.00		
51	V	72	1	-0.024	ppb	36.47	1.00		
52	Cr	72	1	0.015	ppb	57.14	1.00		
55	Mn	72	1	0.032	ppb	9.94	1.00		
59	Co	72	1	0.000	ppb	241.41	1.00		
60	Ni	72	1	-0.008	ppb	160.82	1.00		
63	Cu	72	1	-0.035	ppb	57.76	1.00		
66	Zn	72	1	-0.363	ppb	4.76	1.00		
75	As	72	1	0.004	ppb	177.30	1.00		
78	Se	72	1	0.169	ppb	283.55	1.00		
95	Mo	72	1	-0.009	ppb	169.70	1.00		
107	Ag	115	1	0.008	ppb	60.74	1.00		
111	Cd	115	1	0.009	ppb	130.00	1.00		
118	Sn	115	1	0.105	ppb	79.70	1.00		
121	Sb	115	1	0.172	ppb	19.79	1.00		
137	Ba	115	1	-0.007	ppb	70.67	1.00		
205	Tl	165	1	0.024	ppb	16.62	1.00		
208	Pb	165	1	0.009	ppb	31.16	1.00		
232	Th	165	1	0.066	ppb	21.79	1.00		
238	U	165	1	0.019	ppb	10.85	1.00		

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#

Date Acquired: Nov 7 2009 11:55 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 но	1	2673393	1.59	2681412	99.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Date Acquired: Nov 8 2009 02:25 am

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:23 am

Sample Type: CalBlk

QC Elements

ent	IS Ref	Tune	CPS Mean	RSD(%)
Вe	- 6	1	3	173.21
V	72	1	620	12.63
Cr	72	1	2680	1.78
Mn	72	1	813	8.79
Co	72	1	67	30.95
Ni	72	1	113	13.08
Cu	72	1	490	11.82
Zn	72	1	656	6.46
As	72	1	45	17.63
Se	72	1	333	20.05
Mo	72	1	257	16.03
Ag	115	1	40	74.94
Cd	115	1	11	116.88
Sn	115	1	477	0.80
Sb	115	1	156	24.28
Вa	115	1	152	14.20
Tl	165	1	96	21.83
Pb	165	1	372	9.02
Th	165	1	160	32.65
U	165	1	140	10.99
	Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sn Sb Ba Tl Pb Th	Be 6 V 72 Cr 72 Mn 72 Co 72 Ni 72 Cu 72 Zn 72 As 72 As 72 Se 72 Mo 72 Ag 115 Cd 115 Sn 115 Sb 115 Ba 115 T1 165 Pb 165 Th 165	Be 6 1 V 72 1 Cr 72 1 Mn 72 1 Co 72 1 Ni 72 1 Cu 72 1 Zn 72 1 As 72 1 Se 72 1 Mo 72 1 Ag 115 1 Cd 115 1 Sn 115 1 Sb 115 1 Ba 115 1 Tl 165 1 Pb 165 1 Th 165 1	Be 6 1 3 V 72 1 620 Cr 72 1 2680 Mn 72 1 813 Co 72 1 67 Ni 72 1 113 Cu 72 1 490 Zn 72 1 45 Se 72 1 333 Mo 72 1 257 Ag 115 1 40 Cd 115 1 11 Sn 115 1 477 Sb 115 1 156 Ba 115 1 152 Tl 165 1 372 Th 165 1 372 Th 165 1 160

Internal Standard Elements

Eleme	nt	Tune	CPS Mean	RSD(%)
6	Li	1	376079	0.79
45	Sc	1	1186897	1.34
72	Ge	1	539567	0.45
115	In	1	1576174	1.52
165	Но	1	2717767	0.30

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#

Date Acquired: Nov 8 2009 02:28 am

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:26 am

Sample Type: ICAL

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	42446	1.21
51	Δ.	. 72	1	684937	3.17
52	Cr	72	1	670667	0.81
55	Mn	72	1	787843	0.97
59	Co	72	1	839400	0.67
60	Ni	72	1	178958	0.70
63	Cu	72	1	424705	0.79
66	Zn	72	1	94491	0.73
75	As	72	. 1	84032	1.05
78	Se	72	1	16841	1.85
95	Mo.	. 72	1	231498	1.15
107	Ag	115	1	664263	0.80
111	Cd	115	1	132542	1.42
118	Sn	115	1	376743	0.98
121	Sb	115	1	435060	0.49
137	Ba	115	1	188704	0.74
205	Tl	165	1	1479617	0.97
208	Pb	165	1	2033413	0.75
232	Th	165	1	2126721	0.55
238	Ü	165	1	2198988	0.53

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120	
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120	
72	Ge	1	510601	1.68	539567	94.6	30 - 120	
115	In	. 1	1555316	0.82	1576174	98.7	30 - 120	
165	Но	1	2687981	0.46	2717767	98.9	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0:Element Failures 0
0:ISTD Failures 0

11/8/09 2:28 AM D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CCV.D\249 CCV.D\

Date Acquired: Nov 8 2009 02:31 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

QC Elemen	nts		
Flomont	TC	Dof	Tuno

Ele	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Вe	6	1	50.21	ppb	0.59	50	100.4	90 - 110	
51	V	72	1	49.66	ppb	0.22	50	99.3	90 - 110	
52	Cr	72	1	50.51	ppb	0.78	50	101.0	90 - 110	
55	Mn	72	1	49.52	ppb	0.42	50	99.0	90 - 110	
59	Co	72	1	48.78	ppb	0.64	50	97.6	90 - 110	
60	Ni	72	1	50.96	ppb	0.39	50	101.9	90 - 110	
63	Cu	72	1	50.45	ppb	0.98	50	100.9	90 - 110	
66	Zn	72	1	51.04	ppb	1.32	50	102.1	90 - 110	
75	As	72	1	50.22	ppb	0.79	50	100.4	90 - 110	
78	Se	72	1	52.93	ppb	2.64	50	105.9	90 - 110	
95	Mo	72	1	50.88	ppb	0.45	50	101.8	90 - 110	
107	Ag	115	1	50.92	ppb	2.20	50	101.8	90 - 110	
111	Cd	115	1	51.72	ppb	2.62	50	103.4	90 - 110	
118	Sn	115	1	51.06	ppb	2.41	50	102.1	90 - 110	
121	Sb	115	1	51.12	ppb	1.48	50	102.2	90 - 110	
137	Ва	115	1	50.77	ppb	1.68	50	101.5	90 - 110	
205	Tl	165	1	51.85	ppb	1.16	50	103.7	90 - 110	
208	Pb	165	1	51.54	ppb	2.32	50	103.1	90 - 110	
232	Th	165	1	51.27	ppb	1.18	50	102.5	90 - 110	
238	U	165	1	51.61	ppb	0.90	50	103.2	90 - 110	

ISTD Elements

Elem	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360601	1.23	376079	95.9	30 - 120	
45	Sc	1	1152210	0.10	1186897	97.1	30 - 120	
72	Ge	1	506331	0.64	539567	93.8	30 - 120	
115	In	1	1532589	0.89	1576174	97.2	30 - 120	
165	Но	1	2667156	1.17	2717767	98.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250 CCB.D\250 CCB.D#

Date Acquired: Nov 8 2009 02:33 am

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.016	ppb	147.29	1.00	•
51 V	72	1	-0.021	ppb	31.34	1.00	
52 Cr	72	1	0.037	ppb	45.39	1.00	
55 Mn	72	1	-0.003	ppb	461.47	1.00	
59 Co	72	1	0.004	ppb	46.27	1.00	
60 Ni	72	. 1	-0.025	ppb	13.04	1.00	
63 Cu	72	1	-0.035	ppb	22.37	1.00	
66 Zn	72	1	-0.398	ppb	5.33	1.00	
75 As	72	1	0.015	ppb	70.97	1.00	
78 Se	72	. 1	-0.320	ppb	40.38	1.00	
95 Mo	72	1	-0.054	ppb	35.32	1.00	
107 Ag	115	1	0.008	ppb	9.23	1.00	
111 Cd	115	1	0.005	ppb	52.43	1.00	
118 Sn	115	1	0.107	ppb	31.44	1.00	
121 Sb	115	1	0.188	ppb	20.19	1.00	
137 Ba	115	1	-0.042	ppb	4.94	1.00	
205 Tl	165	1	0.020	ppb	20.00	1.00	
208 Pb	165	1	-0.001	ppb	65.74	1.00	
232 Th	165	1	0.055	ppb	6.90	1.00	
238 U	165	1	0.016	ppb	10.74	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1 .	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

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

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

Wash QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D#

Date Acquired:

Nov 8 2009 02:36 am

Operator:

TEL

QC Summary:

Sample Name:

RLCV

Analytes: Pass ISTD: Pass

Misc Info: Vial Number:

1206

Current Method:

C:\ICPCHEM\1\METHODS\NormISIS.M

Last Cal Update:

Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Nov 08 2009 02:28 am

Sample Type:

WASH

Total Dil Factor:

1.00

QC E.	Lements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Но	1	2657605	1.00	2717767	97.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252 BLK.D\252 BLK.D#

Date Acquired: Nov 8 2009 02:39 am

Operator: TEL QC Summary:
Sample Name: LNJNVB Analytes: Pass
Misc Info: BLANK 9303185 6020 ISTD: Pass

Vial Number: 4402

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: BLK
Total Dil Factor: 1.00

QC Element	S
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Oc Preme	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Но	1	2647917	1.14	2717767	97.4	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

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

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253 LCS.D\253 LCS.D#

Date Acquired: Nov 8 2009 02:42 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: LNJNVC
Misc Info: LCS
Vial Number: 4403

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Ra	nge(%)	Flag
9 Be	6	1	35.70	1.01	40	89.3	80	- 120	
51 V	72	. 1	35.52	0.20	40	88.8	80	- 120	
52 Cr	72	1	36.08	0.50	40	90.2	80	- 120	
55 Mn	72	1	35.14	0.07	40	87.9	80	- 120	
59 Co	72	1	34.82	0.49	40	87.1	. 80	- 120	
60 Ni	72	1	36.40	0.69	40	91.0	80	- 120	
63 Cu	72	1	35.92	0.24	40	89.8	80	- 120	
66 Zn	72	1	35.76	1.51	40	89.4	80	- 120	
75 As	. 72	1	34.71	0.72	40	86.8	80	- 120	
78 Se	72	1	35.62	2.21	40	89.1	80	- 120	
95 Mo	72	1	32.10	0.70	40	80.3	80	- 120	
107 Ag	115	1	35.79	2.12	40	89.5	80	- 120	
111 Cd	115	1	35.37	1.53	40	88.4	80	- 120	
118 Sn	115	1	0.02	168.39	40	0.0	80	- 120	
121 Sb	115	1	32.20	2.07	40	80.5	80	- 120	
137 Ba	115	1	35.77	2.20	40	89.4	80	- 120	
205 Tl	165	1	36.57	2.09	40	91.4	80	- 120	
208 Pb	165	1	36.87	2.16	40	92.2	80	- 120	
232 Th	165	1	36.61	1.54	40	91.5	80	- 120	
238 บ	165	1	36.97	1.94	40	92.4	80	- 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358195	0.31	376079	95.2	30 - 120	
45 Sc	1	1130666	0.47	1186897	95.3	30 - 120	
72 Ge	1	497032	0.74	539567	92.1	30 - 120	
115 In	1	1523173	1.15	1576174	96.6	30 - 120	
165 Ho	1	2638001	1.37	2717767	97.1	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

Date Acquired: Nov 8 2009 02:44 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7F 5X ISTD: Pass

Misc Info: D9J270261
Vial Number: 4404

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: AllRef
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.02	ppb	140.55	3600	
51 V	72	1	58.25	11.65	ppb	0.99	3600	
52 Cr	72	1	96.60	19.32	ppb	0.56	3600	
55 Mn	72	1	20.01	4.00	ppb	1.83	3600	
59 Co	72	1	0.41	0.08	ppb	18.64	3600	
60 Ni	72	1	2.50	0.50	ppb	10.52	3600	
63 Cu	72	1	0.61	0.12	ppb	13.42	3600	
66 Zn	72	1	18.56	3.71	ppb	2.43	3600	
75 As	72	1	190.75	38.15	ppb	0.69	3600	
78 Se	72	1	1.93	0.39	ppb	57.06	3600	
95 Mo	72	1	26.48	5.30	ppb	2.72	3600	
107 Ag	115	1	0.03	0.01	ppb	125.97	3600	
111 Cd	115	1	0.02	0.00	ppb	229.82	3600	
118 Sn	115	1	0.25	0.05	ppb	45.32	3600	
121 Sb	115	1	0.30	0.06	ppb	29.45	3600	
137 Ba	115	1	23.70	4.74	ppb	1.34	3600	
205 Tl	165	1	0.23	0.05	ppb	17.38	3600	
208 Pb	165	1	0.18	0.04	ppb	14.05	3600	
232 Th	165	1	0.24	0.05	ppb	4.71	1000	
238 U	165	1	13.31	2.66	ppb	1.53	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	333341	1.09	376079	88.6	30 - 120	
45 Sc	1	1062523	0.59	1186897	89.5	30 - 120	
72 Ge	1	462502	0.27	539567	85.7	30 - 120	
115 In	1	1375002	1.04	1576174	87.2	30 - 120	
165 Ho	1	2471361	0.80	2717767	90.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#

Date Acquired: Nov 8 2009 02:47 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNC7FP25

Misc Info: SERIAL DILUTION

Vial Number: 4405

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SDIL Dilution Factor: 5.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D\#

Ac erements	QC	elements
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Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC I	Rang	e(%)	Flag
9 Be	6	1	0.02	ppb	0.57	0.00	458.7	90	-	110	
51 V	72	1	2.26	ppb	2.18	2.33	97.2	90	-	110	
52 Cr	72	1	3.94	ppb	1.55	3.86	101.9	90	-	110	
55 Mn	72	1	0.83	ppb	10.87	0.80	103.6	90	-	110	
59 Co	72	1	0.02	ppb	18.64	0.02	109.5	90	-	110	
60 Ni	72	1	0.11	ppb	52.76	0.10	106.7	90	-	110	
63 Cu	72	1	0.01	ppb	230.36	0.02	26.5	90	-	110	
66 Zn	72	1	0.47	ppb	7.87	0.74	62.8	90	-	110	
75 As	7,2	1	7.52	ppb	0.96	7.63	98.5	90	-	110	
78 Se	. 72	1	-0.04	ppb	1143.50	0.08	-52.9	90	-	110	
95 Mo	72	1	0.94	ppb	9.86	1.06	88.3	90	-	110	
107 Ag	115	1	0.00	ppb	99.28	0.00	-232.5	90	-	110	
111 Cd	115	1	-0.01	ppb	100.17	0.00	-679.0	90	-	110	
118 Sn	115	1	0.09	ppb	4.94	0.01	892.4	90	_	110	
121 Sb	115	1	0.01	ppb	131.02	0.01	58.5	90	_	110	
137 Ba	115	1	0.94	ppb	4.03	0.95	99.3	90	-	110	
205 Tl	165	1	0.01	ppb	8.96	0.01	141.7	90	-	110	
208 Pb	165	1	0.01	ppb	18.12	0.01	165.2	90	-	110	
232 Th	165	1	0.01	ppb	22.37	0.01	123.4	90	-	110	
238 U	165	1	0.53	ppb	1.52	0.53	100.3	90	-	110	

ISTD elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Rang	je(%)	Flag
6	Li	1	355060	0.39	376079	94.4	30 -	120	
45	Sc	1	1125653	0.19	1186897	94.8	30 -	120	
72	Ge	1	502164	0.65	539567	93.1	30 -	120	
115	In	1	1479317	0.60	1576174	93.9	30 -	120	
165	Но	1	2614578	1.08	2717767	96.2	30 -	120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS)	ICPMS_024		Reported: 11/09/0	9 10:02:46
Department: 090 (Metals)			Source:	Spreadshee
Sample: LNC7FP25	Serial Dilution:	25.00	Sample Dilution:	5.00
Instrument: Agilent7500	Channel 272			
File: AG110709 # 255	Method 6020_			
Acquired: 11/08/2009 02:47:00	ICPMS_024		Matrix: AQUEO	DUS
Calibrated: 11/08/2009 02:25:00			Units: ug/L	

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7		9	10	0.41625	0.09076	359		*	
	Vanadium	51	15823	56.600	58.240	2.82		*	
	Chromium	52	28379	98.450	96.590	1.93		*	
	Manganese	55	7172	20.725	20.010	3.57		. *	
7440-48-4		59	210	0.44850	0.40970	9.47	4.5.5	*	
7440-02-0		60	293	2.6645	2.4980	6.67			
7440-50-8		63	483	0.16105	0.60710	73.5		*	
7440-66-6	• •	66	1041	11.650	18.550	37.2		*	
7440-38-2		75	6250	187.85	190.70	1.49	0.21	1.5	\square
7782-49-2		78	303	-1.0210	1.9300	153	0.70	NC	Ø
	Molybdenum	95	2367	23.385	26.470	11.7	0.70	*	ليا
7440-22-4	-	107	2007	-0.06975	0.02999	333		*	
7440-43-9		111	3			779		*	
7440-43-9			=	-0.14365	0.02116				
		118	770	2.2540	0.25260	792			
7440-36-0	•	121	176	0.17570	0.30050	41.5		*	
7440-39-3		137	1831	23.535	23.690	0.654		•	
7440-28-0		205	281	0.32890	0.23210	41.7		*	
7439-92-1		208	597	0.30195	0.18290	65.1		*	
7440-61-1		238	11545	13.340	13.300	0.301		*	
7440-29-1	Thorium	232	403	0.30120	0.24410	23.4		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			. 0			*	

^{*} Analyte not requested for this batch, no MDL NC : Serial dilution concentration < 100 X MDL E : Difference greater than Limit (10%)

Reviewed by: Date:

IDB Reports TestAmerica, Inc. Version: 6.02.068

View Page 1 of 1

ISTD:

Pass

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D\#

Date Acquired: Nov 8 2009 02:50 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL Sample Name: LNC7FZ

Misc Info: POST DIGESTION SPIKE

Vial Number: 4406

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: PDS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: ---

Eleme	

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	. 72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	. 1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 บ	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SAMPLE SPIKE

Method; 6020 (ICP/MS) ICPMS_024 Reported: 11/09/09 10:02:49

Department: 090 (Metals) Source: Spreadsheet

Sample: LNC7FZ Spike Dilution: 1.00 Sample Dilution: 5.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 256 Method 6020_

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		$ \overline{\mathbf{V}} $
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		abla
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		\square
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		\checkmark
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

	Reviewed by:	Date:
IDB Reports	TestAmerica, Inc.	Version: 6.02.068

ISTD:

Pass

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257_MS.D\257_MS.D#

Date Acquired: Nov 8 2009 02:53 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL

Sample Name: LNC7FS 5X Misc Info: MATRIX SPIKE

Vial Number: 4407

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MS
Prep Dil. Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150
51 V	. 72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150
66 Zn	. 72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150
205 Tl	165	1	7,17	0.05	ppb	1.41	40	17.9	50 - 150
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120
72 Ge	1	462138	0.38	539567	85.6	30 - 120
115 In	1	1389102	1.17	1576174	88.1	30 - 120
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

C:\ICPCHEM\1\DATA\AG110709.B\258 CCV.D\258 CCV.D# Data File:

Date Acquired: Nov 8 2009 02:56 am

Operator: TEL QC Summary: Sample Name: Analytes: CCV Pass Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV Total Dil Factor: 1.00

E	lement	IS	Ref	Tu
_			_	_

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.17	ppb	1.68	50	102.3	90 - 110	
51	٧	72	1	49.76	ppb	0.58	50	99.5	90 - 110	
52	\mathtt{Cr}	72	1	50.23	ppb	0.59	50	100.5	90 - 110	
55	Mn	72	1	49.80	ppb	0.45	50	99.6	90 - 110	
59	Co	72	1	48.86	ppb	0.97	50	97.7	90 - 110	
60	Ni	72	1	51.09	ppb	0.38	50	102.2	90 - 110	
63	Cu	72	1	50.55	ppb	1.39	50	101.1	90 - 110	
66	Zn	72	1	51.57	ppb	0.26	50	103.1	90 - 110	
75	As	72	1	50.59	ppb	0.46	50	101.2	90 - 110	
78	Se	72	1	51.92	ppb	0.28	50	103.8	90 - 110	
95	Mo	72	1	50.29	ppb	1.00	50	100.6	90 - 110	
107	Ag	115	1	51.22	ppb	2.07	50	102.4	90 - 110	
111	Cd	115	1	51.60	ppb	0.81	50	103.2	90 - 110	
118	Sn	115	1	50.56	ppb	0.85	50	101.1	90 - 110	
121	Sb	115	1	51.03	ppb	1.10	50	102.1	90 - 110	
137	Ва	115	1	50.92	ppb	1.12	50	101.8	90 - 110	
205	Tl	165	1	52.43	ppb	1.68	50	104.9	90 - 110	
208	Pb	165	1	52.24	ppb	2.12	50	104.5	90 - 110	
232	Th	165	1	51.78	ppb	2.94	50	103.6	90 - 110	
238	U	165	1	52.22	ppb	2.20	50	104.4	90 - 110	

ISTD Elements

Eler	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	366110	0.29	376079	97.3	30 - 120	
45	Sc	1	1169831	1.16	1186897	98.6	30 - 120	
72	Ge	1	507682	1.25	539567	94.1	30 - 120	
115	In	1	1542474	0.57	1576174	97.9	30 - 120	
165	Но	1	2664119	1.36	2717767	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259 CCB.D\259 CCB.D#

Date Acquired: Nov 8 2009 02:58 am

Operator: TEL QC Summary:
Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	
51 V	72	1	-0.025	ppb	31.75	1.00	
52 Cr	72	1	0.015	ppb	240.08	1.00	
55 Mn	72	1	-0.003	ppb	454.38	1.00	
59 Co	72	1	0.007	ppb	19.00	1.00	
60 Ni	72	1	-0.021	ppb	92.00	1.00	
63 Cu	72	1	-0.023	ppb	91.13	1.00	
66 Zn	72	1	-0.387	ppb	12.46	1.00	
75 As	72	1	0.025	ppb	95.41	1.00	
78 Se	72	1	-0.065	ppb	394.03	1.00	
95 Mo	72	1	-0.040	ppb	70.76	1.00	
107 Ag	115	1	0.007	ppb	79.32	1.00	
111 Cd	115	1	0.012	ppb	73.39	1.00	
118 Sn	115	1	0.112	ppb	71.47	1.00	
121 Sb	115	1	0.150	ppb	17.00	1.00	
137 Ba	115	1	-0.041	ppb	5.14	1.00	
205 Tl	165	1	0.021	ppb	28.23	1.00	
208 Pb	165	1	0.003	ppb	8.31	1.00	
232 Th	165	1	0.048	ppb	25.86	1.00	
238 U	165	1	0.018	ppb	13.31	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120	
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120	
72 Ge	1	519534	0.26	539567	96.3	30 - 120	
115 In	1	1546385	0.40	1576174	98.1	30 - 120	
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#

Date Acquired: Nov 8 2009 03:01 am

Operator: TEL QC Summary:
Sample Name: RLCV Analytes: Pass
Misc Info: ISTD: Pass

Misc Info: Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

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UC	EL	emen	TS.

Ос втеше	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367841	0.83	376079	97.8	30 - 120	
45 Sc	1	1154162	0.97	1186897	97.2	30 - 120	
72 Ge	1	516753	0.66	539567	95.8	30 - 120	
115 In	1	1524519	0.33	1576174	96.7	30 - 120	
165 Ho	1	2680772	0.38	2717767	98.6	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\261 MSD.D\261 MSD.D#

Date Acquired: Nov 8 2009 03:04 am QC Summary:

Pass Acq. Method: NormISIS.M Analytes: Operator: ISTD: TEL Pass

Sample Name: LNC7FD 5X

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 4408

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Nov 08 2009 02:28 am Last Cal. Update:

Sample Type: MSD Dilution Factor: 5.00

165

165

208 Pb 165

232 Th 165

1

1

1

205 Tl

238 U

OC Elements

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\257 MS.D\257 MS.D#

7.29 ppb

7.29 ppb

7.89 ppb

10.55 ppb

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Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Ве	6	1	7.15	ppb	4.97	7.56	5.64	20	
51	V	72	1	19.44	ppb	0.87	19.50	0.31	20	
52	Cr	72	1	27.63	ppb	0.44	27.55	0.29	20	
55	Mn	72	1	11.89	ppb	0.71	11.53	3.07	20	
59	Co	72	1	6.96	ppb	0.22	6.92	0.55	20	
60	Ni	72	1	7.63	ppb	4.71	7.47	2.13	20	
63	Cu	72	1	6.96	ppb	2.26	6.92	0.55	20	
66	Zn	. 72	1	11.24	ppb	0.91	12.20	8.19	20	
75	As	72	1	47.18	ppb	1.02	47.40	0.47	20	
78	Se	72	1	8.49	ppb	8.60	8.21	3.34	20	
95	Mo	72	1	12.08	ppb	2.93	12.33	2.05	20	
107	Ag	115	1	6.86	ppb	1.67	6.98	1.81	20	
111	Cd	115	1	7.38	ppb	2.12	7.47	1.12	20	
118	Sn	115	1	0.11	ppb	30.03	0.39	111.83	20	
121	Sb	115	1	6.82	ppb	2.78	6.89	1.02	20	
137	Ba	115	1	12.78	ppb	1.44	12.69	0.71	20	

1.19

2.38

2.55

1.44

ISTD Elements							
Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329103	0.78	376079	87.5	30 - 120	
45 Sc	1	1057955	1.12	1186897	89.1	30 - 120	
72 Ge	1	456662	0.47	539567	84.6	30 - 120	
115 In	1	1365390	0.56	1576174	86.6	30 - 120	
165 Ho	1	2474617	1.07	2717767	91.1	30 - 120	

7.17

7.25

7.88

10.53

1.61

0.51

0.08

0.19

20

20

20

20

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

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#

Date Acquired: Nov 8 2009 03:07 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7L 5X ISTD: Pass

Sample Name: LNC7L 5X
Misc Info: D9J270263

Vial Number: 4409

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	157.59	3600	
51 V	72	1	46.85	9.37	ppb	1.89	3600	
52 Cr	72	1	12.39	2.48	ppb	5.61	3600	
55 Mn	72	. 1	171.35	34.27	ppb	1.07	3600	
59 Co	72	1	264.35	52.87	ppb	1.02	3600	
60 Ni	72	1	102.35	20.47	ppb	3.34	3600	
63 Cu	72	1	53.95	10.79	ppb	1.03	3600	
66 Zn	72	1	17.02	3.40	ppb	3.85	3600	
75 As	72	1	69.40	13.88	ppb	0.45	3600	
78 Se	72	1	3.99	0.80	ppb	47.95	3600	
95 Mo	72	1	6.46	1.29	ppb	6.25	3600	
107 Ag	115	1	0.02	0.00	ppb	159.25	3600	
111 Cd	115	1	0.13	0.03	ppb	54.73	3600	
118 Sn	115	1	0.20	0.04	ppb	29.32	3600	
121 Sb	115	1	0.23	0.05	ppb	27.91	3600	
137 Ba	115	1	43.61	8.72	ppb	1.89	3600	
205 Tl	165	1	0.08	0.02	ppb	8.14	3600	
208 Pb	165	1	1.84	0.37	ppb	5.27	3600	
232 Th	165	1	0.14	0.03	ppb	17.77	1000	
238 U	165	1	38.02	7.60	ppb	1.66	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	343401	0.74	376079	91.3	30 - 120	
45 Sc	1	1089536	0.75	1186897	91.8	30 - 120	
72 Ge	1	479909	1.11	539567	88.9	30 - 120	
115 In	1	1451981	1.22	1576174	92.1	30 - 120	
165 Ho	1	2546093	0.95	2717767	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#

Date Acquired: Nov 8 2009 03:09 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: LNFGD 5X ISTD: Pass

Misc Info: D9J280280 Vial Number: 4410

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	- 1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	. 1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	. 1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#

Date Acquired: Nov 8 2009 03:12 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNFG2 5X
Misc Info: D9J280283

ISTD: Pass

Vial Number: 4411

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	. 72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1 .	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	• 1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

D:\ICPCHEM\1\RPTTMP\sam.qct

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D#

Date Acquired: Nov 8 2009 03:15 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2J 5X
Misc Info: D9J290310

Vial Number: 4412

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	.72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

D:\ICPCHEM\1\RPTTMP\sam.qct

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#

Date Acquired: Nov 8 2009 03:18 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2K 5X ISTD: Pass Misc Info: D9J290310

Vial Number: 4501

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267 CCV.D\267 CCV.D\

Date Acquired: Nov 8 2009 03:21 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

165 1

QC Elements

238 U

Elen	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.22	ppb	2.08	50	102.4	90 - 110	
51	V	72	1	49.65	ppb	0.54	50	99.3	90 - 110	
52	Cr	72	1	50.22	ppb	0.76	50	100.4	90 - 110	
55	Mn	72	1	49.57	ppb	0.78	50	99.1	90 - 110	
59	Со	72	1	48.62	ppb	0.28	50	97.2	90 - 110	
60	Ni	72	1	50.60	ppb	1.48	50	101.2	90 - 110	
63	Cu	72	1	50.08	ppb	0.86	50	100.2	90 - 110	
66	Zn	72	1	52.09	ppb	0.68	50	104.2	90 - 110	
75	As	72	1	50.33	ppb	0.35	50	100.7	90 - 110	
78	Se	72	1	50.70	ppb	1.91	50	101.4	90 - 110	
95	Mo.	72	1	50.34	ppb	1.97	50	100.7	90 - 110	
107	Ag	115	1	50.13	ppb	2.37	50	100.3	90 - 110	
111	Cd	115	1	50.15	ppb	1.77	50	100.3	90 - 110	
118	Sn	115	. 1	49.99	ppb	1.62	50	100.0	90 - 110	
121	Sb	115	1	50.52	ppb	2.60	50	101.0	90 - 110	
137	Ba	115	1	50.62	ppb	1.41	50	101.2	90 - 110	
205	Tl	165	1	51.11	ppb	0.42	50	102.2	90 - 110	
208	Pb	165	1	51.54	ppb	1.74	50	103.1	90 - 110	
232	Th	165	1	51.26	ppb	1.28	50	102.5	90 - 110	

IST	Elements							
Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360685	1.10	376079	95.9	30 - 120	
45	Sc	1	1157595	0.85	1186897	97.5	30 - 120	
72	Ge	1	507944	1.20	539567	94.1	30 - 120	
115	In	1	1559749	0.93	1576174	99.0	30 - 120	
165	Но	1	2711611	1.14	2717767	99.8	30 - 120	

50

103.1 90 - 110

51.53 ppb 0.94

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268 CCB.D\268 CCB.D#

Date Acquired: Nov 8 2009 03:23 am

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	
51 V	72	1	-0.025	ppb	19.15	1.00	
52 Cr	72	1	-0.002	ppb	789.67	1.00	
55 Mn	72	1	-0.001	ppb	1184.70	1.00	
59 Co	72	1	0.000	ppb	707.73	1.00	
60 Ni	72	1	-0.014	ppb	130.22	1.00	
63 Cu	72	1	-0.051	ppb	28.29	1.00	
66 Zn	. 72	1	-0.413	ppb	3.98	1.00	
75 As	72	1	0.005	ppb	390.64	1.00	
78 Se	72	1	0.068	ppb	260.94	1.00	
95 Mo	72	1	-0.051	ppb	12.59	1.00	
107 Ag	115	1	0.003	ppb	126.88	1.00	
111 Cd	115	1	0.000	ppb	7618.50	1.00	
118 Sn	115	1	0.047	ppb	150.30	1.00	
121 Sb	115	1	0.138	ppb	23.66	1.00	
137 Ba	115	1	-0.038	ppb	11.83	1.00	
205 Tl	165	1	0.021	ppb	17.52	1.00	
208 Pb	165	1	0.003	ppb	111.74	1.00	
232 Th	165	1	0.051	ppb	16.07	1.00	
238 U	165	1	0.016	ppb	14.92	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#

Date Acquired: Nov 8 2009 03:26 am

Operator: TEL QC Summary: Sample Name: Analytes: Pass RLCV

ISTD: Pass Misc Info:

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC	Elemen	ıts		
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E						
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.901 ppb	17.96	1.30	
51 V	72	1	4.935 ppb	2.34	6.50	
52 Cr	72	1	2.001 ppb	2.44	2.60	
55 Mn	72	1	1.030 ppb	4.04	1.30	
59 Co	72	1	0.990 ppb	2.41	1.30	
60 Ni	72	1	2.129 ppb	7.48	2.60	
63 Cu	72	1	1.903 ppb	4.00	2.60	
66 Zn	72	1	9.748 ppb	0.16	13.00	
75 As	72	1	4.893 ppb	4.12	6.50	
78 Se	72	1	5.130 ppb	8.01	6.50	
95 M o	72	1	1.974 ppb	8.49	2.60	
107 Ag	115	1	5.301 ppb	1.96	6.50	
111 Cd	115	1	1.056 ppb	7.93	1.30	
118 Sn	115	1	10.460 ppb	2.46	13.00	
121 Sb	115	1	2.083 ppb	0.79	2.60	
137 Ba	115	1	1.029 ppb	5.53	1.30	
205 Tl	165	1	1.089 ppb	0.37	1.30	
208 Pb	165	1	1.075 ppb	0.39	1.30	
232 Th	165	1	2.216 ppb	0.39	2.60	
238 U	165	1	1.111 ppb	0.42	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts



	Lot ID: <u>197280280</u>	
	Client: Northgate Environmental	
	Batch(es) #: 9303185	
Associa	ated Samples:	
	I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.	
Signature	e/Date: 1/9/09	

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Metals Raw Data RoadMap

LotID		Metal	WorkOrder	Anal Dat	e TestDesc	Batch	File Id	Instr	
D9J280280	1	SE	LNFGD1AC	20091108	6020TOTA	9303185	AG110709	024	
D9J280280	1	AS	LNFGD1AA	20091108	6020TOTA	9303185	AG110709	024	

METALS PREPARATION LOGS ICP-MS



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 450

Batch Number: 9303185

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By: 1 RW

Prep Date:

11/09/09 Due Date:

Lot	Work Order		Due Date:	11105105	Initial Weight/Volume
D9J300000 Water	LNJNV	В	Due Date: SDG:		<u>50 mL</u>
D9J300000 Water	LNJNV	С	Due Date: SDG:		<u>50 mL</u>
D9J270261 Water	LNC7F Total		Due Date: 11/09/09 SDG:		<u>50 mL</u>
D9J270261 Water	LNC7F Total	S	Due Date: 11/09/09 SDG:		<u>50 mL</u>
D9J270261 Water	LNC7F Total	D	Due Date: 11/09/09 SDG:		<u>50 mL</u>
D9J270263 Water	LNC7L Total		Due Date: 11/09/09 SDG:		<u>50 mL</u>
D9J280280 Water	LNFGD Total		Due Date: 11/09/09 SDG:		<u>50 mL</u>
D9J280283 Water	LNFG2 Total		Due Date: 11/09/09 SDG:		<u>50 mL</u>
D9J290310 Water	LNH2J Total		Due Date: 11/10/09 SDG:		<u>50 mL</u>
D9J290310 Water	LNH2K Total		Due Date: 11/10/09 SDG:		<u>50 mL</u>

Comments:

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

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

METALS PREP SHEET SOP: DEN-IP-0014



TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH #	9303185	ALLIQ	KS	
PREP DATE:	11/2/2009	DIGES	JRW	
CONSUMABLES U	JSED			
Digestion Cups:	Manufacturer:	Environmental Expres	s Lot#:	A901LS268
One or more samples	were filtered prior to a	nalysis at the instrume	nt. Yes	No
If "yes", then the metho	d blank and the LCS wer	e also filtered in the sam	ne manner using the san	ne type of filter.
			Analyst(s) Initials:	
STANDARDS USE	ED			
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15
·				and the second second
REAGENTS USED)			
Reagent	Manufacturer	Lot #	Volume Used (mL)	
HNO ₃	JT Baker	H14024	3	
TEMPERATURE C	YCLES		•	
Thermometer ID:	4082	Block 8	& Cup # : 4 2	
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	95	1845	45
HNO3	1900	45	1 430	43
HNO3				
Samples and QC re	volumed to:	50 mL	Analyst's Initials	JAN
COMMENTS:				

I certify that all information above is correct and complete.

Signature: An with

Date: 11/2/04

TestAmerica 452

METALS SAMPLE DATA ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 453

G:\Metals\Hidden\Forms\MassSpec\ICP-MS Std and Spike True Values.doc

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ICP-MS Standard and Spike True Values

Post	Digestion	Spike	200	200	200	200	200	200	200	200	200	200	200	200	200	200	20	200	200	200	200	200			
Matrix Spike	Sample and	Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	rv for the	ICSAB.	
Laboratory	Control Sample	and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	ution. the % recover	the ICSA from the	
Interference	Check	Sample AB	1	100	100	100	100	100	100	100	100	100	ŀ	100	100	100	100	100	100	100	100	100	in the ICSA sol	ng the levels in	
Interference Check	Sample A		100,000 Aluminum	100,000 Calcium	100,000 Iron	100,000 Magnesium	100,000 Sodium	100,000 Phosphorus	100,000 Potassium	100,000 Sulfur	200,000 Carbon	1,000,000 Chloride	2000 Molybdenum	2000 Titanium									Due to the presence of trace containing in the ICSA solution, the % recovery for the	ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB	
Continuing	Calibration	Standard	20	20	20	20	50	20	50	20	20	20	20	20	20	20	50	20	20	50	20	50	to the presence	SAB solution is	
Initial	Calibration	Standard	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
Cal.	Std.	100 ppb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	All unit	ug/L.)
Element			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc			

Quality Control Standards

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

CCB = Continuing Calibration Blank ICB = Initial Calibration Blank

TestAmerica Denver

Standards Preparation Logbook Record

Nov-09-2009

Analyst: trudelll

Logbook: \Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Lot No.: B2-SE02003

Vendor's Expiration Date: 12-01-2009

Solvent: 2% HNO3

Date Prep./Opened: 11-25-2008

Vendor: Inorganic Ventures

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)

Analyst: trudelll

Se

1.000.0

1,000.0

STD1198-09, 1000 mg/L Sn 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

Component

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

Initial Conc (mg/L)

Final Conc (mg/L)

Se

1,000.0

1.0000

Page 1 of 12

STD2483-09, 1000 Zn (Inorganic Ventures)

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

Final Conc (mg/L) Component Initial Conc (mg/L) 1.000.0 1000 Zn 1,000.0

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

Solvent: 5% HNO3

Lot No.: H14024

Analyst: DIAZL Volume (ml): 250.00

Analyst: trudelll

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

Final Conc (ug/L)

Component Ge

Initial Conc (mg/L)

3,000.0 1.000.0

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

Aliquot Amount (ml): 1.0000

Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Component

Parent Date Expires(2): 05-01-2010

Final Conc (ug/L)

Lithium6

Initial Conc (mg/L)

4,000.0

Parent Std No.: STD1973-09, Indium Stock

Parent Date Expires(2): 05-01-2010

Component

Parent Date Expires(1): 04-07-2010

Final Conc (ug/L)

Initial Conc (mg/L)

1,000.0

In

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) 2,000.0

Sc

Parent Std No.: STD6532-09, Holmium stock

1,000.0

1,000.0

1,000.0

Aliquot Amount (ml): 0.2500

Component

Parent Date Expires(1): 10-26-2010

Parent Date Expires(2): 11-01-2010 Initial Conc (mg/L)

Final Conc (ug/L)

Ho

1,000.0

1,000.0

Page 2 of 12

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

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Analyst: DIAZL

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

 $\begin{array}{c|c} \underline{\text{Component}} & \underline{\text{Initial Conc (mg/L)}} & \underline{\text{Final Conc (mg/L)}} \\ \underline{\text{Sn}} & 1,000.0 & 1.0000 \end{array}$

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

Lot No.: H14024

STD6795-09, ICP-MS ICSA

Analyst: DIAZL

Analyst: LILLT

Volume (ml): 50.000

Solvent: 5% HNO3

Date Prep./Opened: 11-05-2009 Date Expires(1): 12-05-2009 (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

Initial Conc (ug/ml)	Final Conc (ug/L)
1,000.0	100,000
2,000.0	200,000
1,000.0	100,000
10,000	1,000,000
1,000.0	100,000
1,000.0	100,000
1,000.0	100,000
20.000	2,000.0
1,000.0	100,000
1,000.0	100,000
1,000.0	100,000
20.000	2,000.0
	2,000.0 1,000.0 10,000 1,000.0 1,000.0 20.000 1,000.0 1,000.0 1,000.0

STD6836-09, ICP-MS BLANK

Solvent: Water Volume (ml): 1,000.0

Date Prep./Opened: 11-07-2009

Date Expires(1): 05-07-2010 (6 Months)

Date Expires(2): 05-07-2010 (6 Months)

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

Page 3 of 12

Parent Std No.: STD6835-09, NITRIC ACID	Aliquot Amount (ml): 50.000
---	-----------------------------

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

STD6837-09, ICP-MS HIGH CAL STD Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

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

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	Aliquo	t Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	t Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000

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K

Mg

Na

2,000.0

2,000.0

2,000.0

10.000

10.000

10.000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
STD6838-09, ICP-MS HIGH CCV STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 100.00
Date Prep./Opened: 11-07-2009		volume (mi). 100.00
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Aliquo	t 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	Aliquo	t Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500
Parent Std No.: STD3111-09, ICP-MS CALSTD 3		t Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000
1716	2,000.0	2.0000

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Na	2,000.0	5.0000
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Aliqu	ot Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
STD6839-09, ICP-MS HIGH RL STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		volume (mr): 10.000
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn	Aliau	ot Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2):	•	()
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn 1000 7	1.0000	0.0090 0.0090
1000 Zn	1.0000	
Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD	Aliqu	ot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

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Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W.	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

EE RL STD Analyst: LILLT Lot No.: H14024 Volume (ml): 10.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Solvent: 5% HNO3

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD Aliquot Amount (ml): 2.0000

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 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 V 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Wo 0.0010 0.0002 Sb 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sh 0.0010 0.0002 Ca 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Na 0.1000 0.0200	Component	Initial Conc (mg/L)	Final Conc (mg/L)
As 0.0010 0.0002 Ba 0.0010 0.0002 Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 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 Ti 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Al 0.1000 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0000 0.0004 Pt 0.0010 0.0002 Nb 0.0010 0.0002 Pt 0.0010 0.0002	Ag	0.0010	0.0002
Be 0.0010 0.0002 Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 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 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sh 0.0010 0.0002 Ca 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Nb 0.1000 0.0200 Nb 0.0002 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0001 <		0.0010	0.0002
Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 0.0010 0.0002 Mn 0.0010 0.0002 Mi 0.0010 0.0002 Pb 0.0010 0.0002 Se 0.0010 0.0002 Th 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 Sh 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Na 0.1000 0.0200 Na 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0002 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Ba	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 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sn 0.0010 0.0002 AI 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0040 Pd 0.0010 0.0002 Nb 0.0010 0.0002 W 0.0010	Be	0.0010	
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 U 0.0010 0.0002 V 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Ng 0.1000 0.0200 Ng 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Cd		
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 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Co		
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 Ti 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 Sh 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Cr		
Ni 0.0010 0.0002 Pb 0.0010 0.0002 Se 0.0010 0.0002 Th 0.0010 0.0002 Ti 0.0010 0.0002 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Na 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0020 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Cu		
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 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Nb 0.1000 0.0200 Pt 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Mn		
Se 0.0010 0.0002 Th 0.0010 0.0002 Tl 0.0010 0.0002 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.00010 0.0002	Ni		
Th 0.0010 0.0002 TI 0.0010 0.0002 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002	Pb	0.0010	
TI 0.0010 0.0002 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Se		
U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018	Th	0.0010	
V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018	Tl		
Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018			
Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	V		
Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	Zn		
Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	Mo	0.0010	
Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Sb		
Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Sn		
Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Al		
K0.10000.0200Mg0.10000.0200Na0.10000.0200Nb0.00200.0004Pd0.00100.0002Pt0.00100.0002W0.00100.0002Sn0.00900.0018			
Mg0.10000.0200Na0.10000.0200Nb0.00200.0004Pd0.00100.0002Pt0.00100.0002W0.00100.0002Sn0.00900.0018	Fe		
Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Mg		
Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
W 0.0010 0.0002 Sn 0.0090 0.0018	Pd	0.0010	
Sn 0.0090 0.0018			
1000 Zn 0.0090 0.0018	Sn	0.0090	0.0018
	1000 Zn	0.0090	0.0018

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STD6841-09, ICP-MS HIGH ICSAB

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

Analyst: LILLT

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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

Ag Ag Ag Ag Ag Ag Ag Ag Ag Ag Ag Ag Ag A	,	•	
AS BB	Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ba 20,000 0,100	Ag		0.1000
Be	As		0.1000
Cd	Ba		0.1000
Co	Be		0.1000
Cr	Cd ,		0.1000
Cu 20.000 0.100 Mn 20.000 0.100 Ni 20.000 0.100 Pb 20.000 0.100 Se 20.000 0.100 Th 20.000 0.100 U 20.000 0.100 V 20.000 0.100 V 20.000 0.100 V 20.000 0.100 V 20.000 0.100 Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.050 Component Initial Conc (mg/L) Final Conc (mg/L) Sb 20.000 0.100 Sb 20.000 0.100 Sh 20.000 0.100 Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) K 2,000.0 100.0 K 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (Co		0.1000
Mn	Cr		
Ni	Cu		
Pb	Mn		0.1000
Se	Ni		0.1000
Th Th T1 T1 T1 T1 T20.000 T1 T20.000 T1 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T20.000 T1 T1 T1 T1 T1 T1 T1 T1 T1 T1 T1 T1 T1	Pb		0.1000
TI	Se		0.1000
Component Comp	Th		0.1000
V 20.000 0.100	Tl		0.1000
Zn 20.000 0.100	U		0.1000
Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Aliquot Amount (ml): 0.050	${f V}$		
Initial Conc (mg/L) Final Conc (mg/S)	Zn	20.000	0.1000
Mo 20,000 0,100 Sb 20,000 0,100 Sn 20,000 0,100 20,000 0,100 20,000 0,100 20,000 0,100 20,000 0,100 20,000 100,00 20,000 100,00 20,000 100,00 20,000 100,00 20,000 100,00 20,000 100,00 20,000 20	Parent Std No.: STD3110-09, ICP-MS CALSTD 2	Aliquo	t Amount (ml): 0.0500
Sb 20,000 0.100 Sn 20,000 0.100 Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Al 2,000.0 100.0 Ca 2,000.0 100.0 Fe 2,000.0 100.0 K 2,000.0 100.0 Mg 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40,000 2,000 Pd 20,000 1,000 Component 20,000 Component 20,00	Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn 20,000 0,100 Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0,500 Component Initial Conc (mg/L) Final Conc (mg/L) Ca 2,000.0 100.0 Fe 2,000.0 100.0 K 2,000.0 100.0 Mg 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0,500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40,000 2,000 Pd 20,000 1,000 Component Initial Conc (mg/L) Final Conc (mg/L) Component Initial Conc (mg/L) Final Conc (mg/L) Concept	Mo	20.000	0.1000
Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.500	Sb	20.000	0.1000
Component Initial Conc (mg/L) Final Conc (mg/L) Al 2,000.0 100.0 Ca 2,000.0 100.0 Fe 2,000.0 100.0 K 2,000.0 100.0 Mg 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	Sn	20.000	0.1000
Al 2,000.0 100.0 Ca 2,000.0 100.0 Fe 2,000.0 100.0 K 2,000.0 100.0 Mg 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	t Amount (ml): 0.5000
Ca 2,000.0 100.0 Fe 2,000.0 100.0 K 2,000.0 100.0 Mg 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	Component	Initial Conc (mg/L)	Final Conc (mg/L)
Fe 2,000.0 100.0 K 2,000.0 100.0 Mg 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	Al	2,000.0	100.00
K 2,000.0 100.0 Mg 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	Ca	2,000.0	100.00
K 2,000.0 100.0 Mg 2,000.0 100.0 Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	Fe	2,000.0	100.00
Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	K	2,000.0	100.00
Na 2,000.0 100.0 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.500 Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	Mg	2,000.0	100.00
Component Initial Conc (mg/L) Final Conc (mg/L) Nb 40.000 2.000 Pd 20.000 1.000	Na	2,000.0	100.00
Nb 40.000 2.000 Pd 20.000 1.000	Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Aliquot Amount (ml): 0.50	
Nb 40.000 2.000 Pd 20.000 1.000	Component	Initial Conc (mg/L)	Final Conc (mg/L)
Pd 20.000 1.000	Nb	***************************************	2.0000
	Pd		1.0000
	Pt		1.0000

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W	20.000	1.0000
Parent Std No.: STD4542-09, ICPMS Interferent Chec	k Standard Alique	ot Amount (ml): 1.0000
- · · · · · · · · · · · · · · · · · · ·	pires(2): 08-01-2010	
Component	Initial Conc (ug/ml)	Final Conc (mg/L)
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000
D6842-09, ICP-MS HIGH LR STD1		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H1402	24	Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Alian	-
	Alique	ot Amount (mi): 0.5000
	·	
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Component Ag	Initial Conc (mg/L) 20.000	Final Conc (mg/L)
Component Ag As	Initial Conc (mg/L) 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000
Component Ag As Ba	Initial Conc (mg/L) 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000
Component Ag As Ba Be	Initial Conc (mg/L) 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cr	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb	Initial Cone (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se	Initial Cone (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Ti	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn	Initial Conc (mg/L) 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn	Initial Conc (mg/L) 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	Final Conc (mg/L) 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Ti U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component Mo	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	Final Conc (mg/L) 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000

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STD6843-09, ICP-MS HIGH ICV STD

Solvent: 5% HNO3 Lot No.: H14024

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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

Analyst: LILLT

464

Volume (ml): 50.000

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
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Parent Date Expires(1)	04-21-2010	Parent Date Expires(2):	04-21-2010

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

Parent Std No.: STD3115-09, ICP-MS TA ICV Alt	Aliquot Amount (ml): 0.1000

Parent Date Expires(1):	04-21-2010	Parent Date	Expires(2`): 0	4-21-201	0

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

Parent Std No.: STD3116-09, ICP-MS TA ICV BRC	Aliquot Amount (ml): 0.1000
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Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.0800
Pd	20.000	0.0400
Pt	20.000	0.0400

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20.000 0.0400 W

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (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) 1.0000 0.0020 Se

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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

Page 11 of 12

Parent Std No.: STD3107-09,	ICP-MS LLCCV 2	\mathbf{A}	liquot Amount (ml): 1.0000

Component	Initial Conc (mg/L)	Final Conc (ug/L)		
Mo	0.2000	2.0000		
Sb	0.2000	2.0000		
Sn	1.0000	10.000		
Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1	Aliquot	Aliquot Amount (ml): 1.0000		
Component	Initial Conc (mg/L)	Final Conc (ug/L)		
Nb	4.0000	40.000		
Pd	0.1000	1.0000		
Pt	0.1000	1.0000		
W	0,5000	5,0000		

Reviewed By: 4 11/9/09

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File II	D: AG110	709				Ana	lyst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
3	Cal Blank			T	1.0	11/07/09 15:09		
4	100 ppb		,		1.0	11/07/09 15:12		
5	ICV				1.0	11/07/09 15:15		
6	RLIV				1.0	11/07/09 15:18		
7	ICB				1.0	11/07/09 15:20		
8	RL STD				1.0	11/07/09 15:23		
9	AFCEE RL				1.0	11/07/09 15:26		
10	ALTSe				1.0	11/07/09 15:29		
11	ICSA				1.0	11/07/09 15:31		
12	ICSAB				1.0	11/07/09 15:34		
13	RINSE				1.0	11/07/09 15:37		
14	LR1				1.0	11/07/09 15:40		
15	RINSE				1.0	11/07/09 15:42		
16	CCV				1.0	11/07/09 15:45		
17	ССВ	·			1.0	11/07/09 15:48		
18	RLCV				1.0	11/07/09 15:50		
19	LNDMKB	D9J280000	9301081	46	1.0	11/07/09 15:53		╗
20	LNDMKC	D9J280000	9301081	46	1.0	11/07/09 15:56		
21	LM9FJ	D9J240188-1	9301081	46	1.0	11/07/09 15:59		
22	LM9FJP5	D9J240188	9301081	'	5.0	11/07/09 16:01		
23	LM9FJZ	D9J240188-1	9301081	+ - +	1.0	11/07/09 16:04		
24	LM9FJS	D9J240188-1	9301081	46	1.0	11/07/09 16:07		$\neg \neg \neg$
25	LM9FJD	D9J240188-1	9301081	46	1.0	11/07/09 16:09		
26	LM9FK	D9J240188-2	9301081	46	1.0	11/07/09 16:12		\dashv \Box
27	CCV	0002101002		+ "	1.0	11/07/09 16:15		
28	CCB				1.0	11/07/09 16:18		
29	RLCV				1.0	11/07/09 16:20		
30	LNJT4B	D9J300000	9303213	MS	1.0	11/07/09 16:23		
31	LNJT4C	D9J300000	9303213	MS	1.0	11/07/09 16:26		
32	LM8A7	D9J230367-1	9303213	MS	1.0	11/07/09 16:29		$\neg $
33	LM8CG	D9J230367-2	9303213	MS	1.0	11/07/09 16:32		
34	LM8CV	D9J230367-3	9303213	MS	1.0	11/07/09 16:34		$\neg \neg \neg$
35	LM8C1	D9J230367-4	9303213	MS	1.0	11/07/09 16:37		$\neg \neg$
36	LM8C1P5	D9J230367	9303213		5.0	11/07/09 16:40		
37	LM8C1Z	D9J230367-4	9303213		1.0	11/07/09 16:43		
38	LM8C1S	D9J230367-4	9303213	мѕ	1.0	11/07/09 16:45		
39	LM8C1D	D9J230367-4	9303213	MS	1.0	11/07/09 16:48		
40	CCV		0000210	.,,,	1.0	11/07/09 16:51		
41	CCB				1.0	11/07/09 16:53		
42	RLCV			+	1.0	11/07/09 16:57		
43	LNDMTB	D9J280000	9301086	46	1.0	11/07/09 17:00		
44	LNDMTC	D9J280000	9301086	46	1.0	11/07/09 17:02		
45	LM8E2	D9J230373-1	9301086	46	1.0	11/07/09 17:05		
46	LM8E2P5	D9J230373	9301086	+ -0	5.0	11/07/09 17:08		
47	LM8E2Z	D9J230373	9301086	+	1.0	11/07/09 17:08		
48	LM8E2S	D9J230373-1	9301086	46	1.0	11/07/09 17:13		

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File II	D: AG110	709				Ana	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16		
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19		
51	CCV				1.0	11/07/09 17:22		
52	ССВ				1.0	11/07/09 17:24		
53	RLCV				1.0	11/07/09 17:27		
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30		
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33		
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35		
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38		
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41		
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44		
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47		
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51		
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53		
63	CCV				1.0	11/07/09 17:56		
64	CCB				1.0	11/07/09 17:59		
65	RLCV				1.0	11/07/09 18:02		
66	LNNVDB	D9K020000	9806332	04	2.5	11/07/09 18:04	NI 11/9/09 Did notuse.	
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07		
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10		
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13		
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16		
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18		
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21		
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24		
74	CCV				1.0	11/07/09 18:27		
75	ССВ				1.0	11/07/09 18:29		_
76	RLCV				1.0	11/07/09 18:32		
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35	· .	
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38		
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40		
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43		
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46		
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49		
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51		
84	CCV				1.0	11/07/09 18:54		
85	ССВ				1.0	11/07/09 18:57		
86	RLCV					11/07/09 19:00		
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03		
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05		┛┛
89	LM8DL	D9J230370-11	9301083	46		11/07/09 19:08		
90	LM8DN	D9J230370-12	9301083	46		11/07/09 19:11		
91	LM8DQ	D9J230370-13	9301083	46		11/07/09 19:14		
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17		
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19		
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22		

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

# Sample ID Lot No. Batch DF Analyzed Date 95 CCV	Comment C
96 CCB	
97 RLCV	
98 ICSA	
99 ICSAB 1.0 11/07/09 19:36 100 WASH 1.0 11/07/09 19:39 101 CCV 1.0 11/07/09 19:41 102 CCB 1.0 11/07/09 19:44 103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FPSQ D9K020448 9307099 5.0 11/07/09 19:58	
100 WASH 1.0 11/07/09 19:39 101 CCV 1.0 11/07/09 19:41 102 CCB 1.0 11/07/09 19:44 103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FPSQ D9K020448 9307099 5.0 11/07/09 19:58	
101 CCV 1.0 11/07/09 19:41 102 CCB 1.0 11/07/09 19:44 103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FPSQ D9K020448 9307099 5.0 11/07/09 19:58	
102 CCB 1.0 11/07/09 19:44 103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FPSQ D9K020448 9307099 5.0 11/07/09 19:58	
104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
108 I NN4EZO D9K020448-1 9307099 1.0 11/07/09 20:01	
100 ENTER DEMOZETTO" 100 11/01/08 20:01	
109 LNN4FSQ D9K020448-1 9307099 U1 1.0 11/07/09 20:03	
110 LNN4FDQ D9K020448-1 9307099 U1 1.0 11/07/09 20:06	
111 CCV 1.0 11/07/09 20:09	
112 CCB 1.0 11/07/09 20:12	
113 RLCV 1.0 11/07/09 20:14	
114 LNNVDB D9K020000 9306332 04 2.5 11/07/09 20:17	
115 LNNVDC D9K020000 9306332 04 2.5 11/07/09_26:20	
116 LNKT9 D9J300258-1 9306332 04 2.5 14/07/09 20:23	
117 LNKT9S D9J300258-1 9306332 04 2.5 11/07/09 20:25	
118 LNKT9D D9J300258-1 9306332 04 2.5 11/07/09 20:28	
119 CCV 1.0 11/07/09 20:31	
120 CCB 1.0 11/07/09 20:34	
121 RLCV 1.0 11/07/09 20:36	
122 RINSE 1.0 11/07/09 20:39	
123 RINSE 1.0 11/07/09 20:42 .	,
124 Gal Blank 1:0 11/07/09 20:45 // 1//9/	by Did notuse.
125 Cal Blank 1.0 11/07/09 20:47	
126 100 ppb 1.0 11/07/09 20:50	
127 CCV 1.0 11/07/09 20:53	
128 CCB 1.0 11/07/09 20:56	
129 RLCV 1.0 11/07/09 20:58	
130 ENNQ5BF D9K020000 9306285 MD 1.0 11/07/09-21:01	
131 LNNQ5CF D9K020000 9306285 MD 1.0 11/07/09 24:04	
132 LNLGXF 2X D9J300326-1 9306285 MD 2.0 11/07/09 21:07	
133 LNLG3F D9J300326-2 9306285 MD 1-0 11/07/09 21:10	
134 LNLG4F D9J300326-3 9306285 MP 1.0 11/07/09 21:12	
135 LNLHHF D9J300329-1 9306298 MD 1.0 11/07/09 21:15	
136 LNLHMF D9J300329-2 9306285 MD 1.0 11/07/09 21:18	
137 CCV 1.0 11/07/09 21:21	
138 CCB 1.0 11/07/09 21:23	
139 BLCV 1.0 11/07/09 21:26	,
140 LNCHPF D9J300329-3 9306285 MD 1.0 11/07/09 21:29	9 pid notuse.

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709 Analyst:	íle ID:	AG110709	Analyst: TEI
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#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	<u>tnljj</u> F	D9J300340-1	9306285	MD	1.0	- -11/07/09 -21:32		
142	LNLJJP5F	D9J300340	9306285	IVID	5.0	11/07/09 21:35		
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37		
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40		
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43		
146	LNLIME	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	11/9/2 Pidnotuse	
147	CCV				1.0	11/07/09 21:48	77 77 7 7 10 710 700 7	
148	ССВ			+	1.0	11/07/09 21:51		
149	RLCV			1 1	1.0	11/07/09 21:54		
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57		
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59		
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02		
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05		
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08		
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	:	
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13		
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16		
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19		
159	CCV				1.0	11/07/09 22:21		
160	CCB				1.0	11/07/09 22:24		
161	RLCV				1.0	11/07/09 22:27		
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30		
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32		
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35		
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38		
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41		
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43		
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46		
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49		
170	CCV				1.0	11/07/09 22:52		
171	ССВ				1.0	11/07/09 22:54		
172	RLCV				1.0	11/07/09 22:57		
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00		
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03		
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06		
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08		
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11		
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14		
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17		
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19		
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22		
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25		
183	CCV				1.0	11/07/09 23:28		
184	CCB				1.0	11/07/09 23:30		
185	RLCV				1.0	11/07/09 23:33		
186	RINSE				1.0	11/07/09 23:36	:	
								J

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709 Analyst: TEL

RINSE		Q
189][
189	tuse [
191 CCV		
192 CCB		
193 RLCV		C
194		
195		
NEMBRDF D9J280200-5 9302146 MD 1.0 11/08/09 00:03		
197		□
198		
LNEM3F		
200 LNEM4F D9J280200-9 9302146 MD 1.0 11/08/09 00:15 201 LNEM7F D9J280200-10 9302146 MD 1.0 11/08/09 00:20 202 CCV 1.0 11/08/09 00:20 203 CCB 1.0 11/08/09 00:23 204 RLCV 1.0 11/08/09 00:26 205 LNON2B D9K060000 9310060 04 2.5 11/08/09 00:28 206 LNON2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW6E D9K050485-4 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45] □
LNEMTF D9J280200-10 9302146 MD 1.0 11/08/09 00:17		
202 CCV 1.0 11/08/09 00:20 203 CCB 1.0 11/08/09 00:23 204 RLCV 1.0 11/08/09 00:28 205 LN0N2B D9K060000 9310060 04 2.5 11/08/09 00:28 206 LN0N2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNWSP D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNWSE D9K050485-6 9310060 04 2.5 11/08/09 00:37 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:40 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:51		
203 CCB 1.0 11/08/09 00:23 204 RLCV 1.0 11/08/09 00:26 205 LNON2B D9K060000 9310060 04 2.5 11/08/09 00:28 206 LNON2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW55 D9K050485-4 9310060 04 2.5 11/08/09 00:37 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:51 213 CCB 1.0 11/08/09 00:53 <t< td=""><td></td><td>] [</td></t<>] [
RLCV		ַוֹן
205 LN0N2B D9K060000 9310060 04 2.5 11/08/09 00:28 206 LN0N2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW6E D9K050485-4 9310060 04 2.5 11/08/09 00:37 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:42 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:45 212 CCV 1.0 11/08/09 00:48 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 1.0 11/08/09 00:53 214 RLCV 1.0 11/08/09 00:56 1.0 11/08/09 00:59 215 LNF		
206 LN0N2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW65 D9K050485-4 9310060 04 2.5 11/08/09 00:40 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:48 212 CCV 1.0 11/08/09 00:51 1.0 11/08/09 00:51 213 CCB 1.0 11/08/09 00:53 1.0 11/08/09 00:56 214 RLCV 1.0 11/08/09 00:59 1.0 11/08/09 00:59 </td <td></td> <td>]⊏</td>]⊏
207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW55 D9K050485-4 9310060 04 2.5 11/08/09 00:40 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 1.0 11/08/09 00:53 214 RLCV 1.0 11/08/09 00:53 1.0 11/08/09 00:56 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:05][
208 LNW55 D9K050485-4 9310060 04 2.5 11/08/09 00:37 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 5.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:10][
LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40		וֹב
210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 1.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:16 223 RLCV 1.0	T C	
211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 1.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:16 223 RLCV 1.0 <]⊏
212 CCV 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21] □
215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41 P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21] C
216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21]⊏
217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21] [
218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		ַב
219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		ַב
221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21	E]⊏
222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		1⊏
224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
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200 LINETIO ON DOUGULTOTO		
226 LNE41D 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:27		
227 LNE44 5X D9J280246-4 9302121 MS 5.0 11/08/09 01:30		□
228 LNE47 2X D9J280246-5 9302121 MS 2.0 11/08/09 01:32		ֹן⊏
229 LNE5A 2X D9J280246-6 9302121 MS 2.0 11/08/09 01:35		
230 CCV 1.0 11/08/09 01:38		
231 CCB 1.0 11/08/09 01:41		□
232 RLCV 1.0 11/08/09 01:44		C

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID): AG11070	9			Analyst: TEL		
#	Sample ID	Lot No.	Batch	DF	Analyzed Date		

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46		
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49		
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52		
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55		
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58		
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00		
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03		
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06		
241	CCV				1.0	11/08/09 02:09		
242	CCB				1.0	11/08/09 02:11		
243	RLCV				1.0	11/08/09 02:14		
244	RINSE				1,0	11/08/09 02:17	·	
245	RINSE				1.0	11/08/09 02:20		
246.	Gal Blank				1.0	11/08/00 02:22	-NF11969 Pidnotuse	
247	Cal Blank				1.0	11/08/09 02:25	:	
248	100 ppb				1.0	11/08/09 02:28		
249	CCV				1.0	11/08/09 02:31		
250	ССВ				1.0	11/08/09 02:33		
251	RLCV				1.0	11/08/09 02:36		
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39		
253	LNJNVC	D9J300000	9303185	MS	1.0	11/08/09 02:42		
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44		
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47		
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50		
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53		
258	CCV				1.0	11/08/09 02:56		
259	ССВ				1.0	11/08/09 02:58		
260	RLCV			ļļ.	1.0	11/08/09 03:01		
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04		
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07		
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09		
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12		
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15		
266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18		
267	CCV				1.0	11/08/09 03:21		
268	CCB				1.0	11/08/09 03:23		
269	RLCV				1.0	11/08/09 03:26		
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29		
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32		
272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34		
273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37		
274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40		
275	LNHRP	D9J290285-4 D9J290285-5	9303310	04	1.0	11/08/09 03:43		
276	LNHRR	D90790709-9	9303310	04	1.0	11/08/09 03:46		
277 278	CCB			++	1.0	11/08/09 03:48		
210	COB		L		1.0	11/08/09 03:51	<u> </u>	

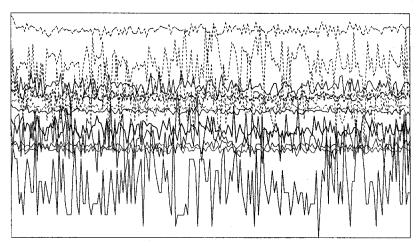
Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709 Analyst: TEL								
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
279	RLCV				1.0	11/08/09 03:54		
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57		
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59	:	
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02		
283	LNHRTS	D9J290285-6	9303310	04	1.0	11/08/09 04:05		
284	LNHRTD	D9J290285-6	9303310	04	1.0	11/08/09 04:08		
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10		
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13		
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16		
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19		
289	CCV				1.0	11/08/09 04:21		
290	ССВ				1.0	11/08/09 04:24		
291	RLCV	-			1.0	11/08/09 04:27		
292	Cal Blank				1.0	11/08/09 04:30	Wf 11/9/19 Pid notuse.	
293	Cal Blank				1.0	11/08/09 04:32		
294	100 ppb				1.0	11/08/09 04:35		
295	CCV				1.0	11/08/09 04:38		
296	CCB				1.0	11/08/09 04:41		
297	RLCV				1.0	11/08/09 04:43		
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46		
299	CCV				1.0	11/08/09 04:49		
300	ССВ				1.0	11/08/09 04:52		
301	RLCV				1.0	11/08/09 04:54		
302	LNNV0B	D9K020000	9300340	04	1.0	11/08/09 04:57		
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:00		
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 25:03		
305	LNJ05	D9J300168-1	9306340	04	1.0	11/08/09 05:05		
306	LNJ1A	D9J300168-2	9306340	04	1.0	11/98/09 05:08		
307	LNJ1C	D9J300168-3	9306340	04	1.0	1/08/09 05:11		
308	LNJ1D	D9J300168-4	9306340	04	1.9	11/08/09 05:14		
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16		
310	CCV				1.0	11/08/09 05:19		
311	CCB				1.0	11/08/09 05:22		
312	RLCV				1.0	11/08/09 05:25		
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27		<u></u> □
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30		
315	LNJ44	D9J300188-3	2306340	04	1.0	11/08/09 05:33		
316	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36		
317	LNMA5 5X	D9J310124-1	9306340	04	5.0	11/08/09 05:38		
318	LNMCH	D9J310127-1	9306340	04	1.0	11/08/09 05:41		
319	CCV				1.0	11/08/09 05:44		
320	CCB				1.0	11/08/09 05:47		
321	RLCV				1.0	11/08/09 05:49		
322	LNMCN	D9J310127-2	9306340	04	1.0	11/08/09 05:52		
323	LNMONP5	D9J310127	9306340		5.0	11/08/09 05:55		
324	LMMCNZ	D9J310127-2	9306340		10	11/08/09 05:58	- 64 11/9/09 pid not use.	

RUN SÜMMARY

File I	D: AG110	709				Anai	llvst: TEL		
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comi	ment Q	
325	LNMCNS	D9J310127-2	9306340	04	1.0	11/08/09 06:00	-		
326	LNMCND	D9J310127-2	9306340	04	1.0	11/08/09 06:03			
327	LNMCP	D9J310127-3	9306340	04	1.0	11/08/09 06:06			
328	LNMCQ	D9J310127-4	9306340	04	1.0	11/08/09 06:09			
329	CCV				1.0	11/08/09 06:11			
330	ССВ				1.0	11/08/09 06:14	- 11		
331	RLCV				1.0	11/08/09 06:17	1/ 1/9/09 D	il vatuse 0	

Tune File : NORM.U Comment : AG110709

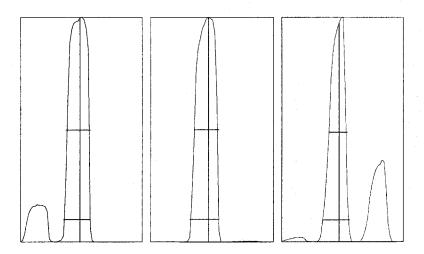


0.1000 sec Integration Time: Sampling Period: 1.5300 sec

200 n:

Oxide: 156/140 1.612% Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
. 6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
56/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
₩-50%:	0.60	0.60	0.45
₩-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec Acquisition Time: 22.7600 sec

Y axis : Linear

Page: 1

Generated: Nov 07, 2009 14:09:07 Printed: Nov 07, 2009 14:09:09

Tune Report

Tune File : NORM.U Comment : AG110709

Tuning Paramet	ers									
===Plasma Condi		===		===Ion Lenses==	=		===Q-Pole Param	et:	ers===	
RF Power	:	1600	W	Extract 1	:	0 V	AMU Gain	:	134	
RF Matching	:	1.7	V	Extract 2	:	-170 V	AMU Offset	:	125	
Smpl Depth	:	8	mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007	
Torch-H	:	-0.8	mm	Omega Lens-ce	:	1.4 V	Axis Offset	:	-0.03	
Torch-V	:	-0.3	mm	Cell Entrance	:	-30 V	QP Bias	:	-3	V
Carrier Gas	:	0.81	L/min	QP Focus	:	7 V				
Makeup Gas	:	0.23	L/min	Cell Exit	:	-30 V	===Detector Par	ame	eters==	_
Optional Gas	:		용				Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Par	ame	ters===	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 Cel	1===									
Reaction Mode	:	OFF								
H2 Gas	:	0	mL/min	He Gas	:	0 mL/min	Optional Gas	:		ક

P/A Factor Tuning Report

Acquired:Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor		
6	Li	0.054257		
7 9	(Li)	Sensitivity	too	low
23	Be Na	0.059350 0.063944		
24	Mg	0.064875		
27	Al	0.065819		
39	K	0.066026		
43	Ca	Sensitivity	too	low
45	Sc	0.066849		
51	V	0.067403		
52	Cr	0.068152		_
53	(Cr)	Sensitivity	too	low
55 57	Mn Fe	0.068773	٠.,	1
5 <i>7</i>	Co	Sensitivity 0.069652	too	low
60	Ni	Sensitivity	too	low
63	Cu	0.069964	LOO	10**
66	Zn	0.070153		
72	Ge	Sensitivity	too	low
75	As	Sensitivity		low
77	(Se)	Sensitivity		
78	Se	Sensitivity	too	
82	(Se)	Sensitivity	too	
83 93	(Se)	Sensitivity Sensitivity	too	
95 95	Nb Mo	0.072052	too	low
98	(Mo)	0.071277		
99	(Mo)	Sensitivity	too	low
105	Pd	0.071221		
106	(Cd)	0.070815		
107	Ag	Sensitivity	too	low
108	(Cd)	0.071381		
111	Cd	0.070975		
115	In C-	0.070220		
118 121	Sn Sb	0.070317 0.070422		
137	Ba	Sensitivity	too	low
165	Но	Sensitivity	too	
182	W	Sensitivity	too	
195	Pt	Sensitivity	too	low
205	Tl	0.071611		
206	(Pb)	0.070464		
207	(Pb)	0.070565		
208	Pb	0.069648		
232 238	Th U	0.069671 0.069782		•
230	U	0.009/02		

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

- 1 -

477 TestAmerica

200.8 QC Tune Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D

Date Acquired:

Nov 7 2009 03:04 pm

Acq. Method:

tun_isis.M

Operator:

TEL

Sample Name:

Misc Info:

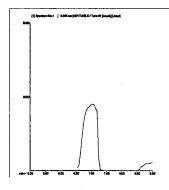
200.8 TUNE

Vial Number:

Current Method:

C:\ICPCHEM\1\METHODS\tun_isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	-
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



7 Li

Mass Calib.

Actual: 7.00 Required: 6.90

7.10

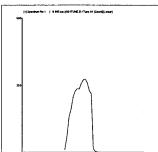
Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:



9 Be

Mass Calib.

Actual: 9.00

Required:8.90 9.10

Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:

[1] Speciation Tex. 1 8-996 sectjon TEASE D/Turn #1 (Doubling Reason) 2009	24 Mg		
	Mass Calib.		
	Actual: 24.00		
	Required:23.90	_	24.10
1000	Flag:		
	Peak Width		
	Actual: 0.60		
	Required:0.90		
mb> 25 24 24 20 34 50 25 50 25 50 38 50 38 50	Flag:		
(1) Revealure No. 1 8.995 sec(50-17LNE D./ Ture 41 (20-urit) Lawed	59 Co		
	Mass Calib.		
	Actual: 59.00		
	Required: 58.90	_	59.10
560	Flag:		
	Peak Width		
	Actual: 0.55		
	Required: 0.90		
ma-3 5/50 51/09 51/00 51/00 51/10 10/20 10 ³ 10	Flag:		
T Spectrum He 1 8-005 sec)501TLHE D/Tune 41 (Court) Lineary	115 In		
136	Mass Calib.		
	Actual: 115.00		
	Required: 114.90	<u>-</u>	115.10
1984	Flag:		110110
	Peak Width		
	Actual: 0.60		
	Required: 0.90		
max-113.50 114.56 Yildes 115.50 116.00 116.00	Flag:		
	208 Pb		
	Mass Calib.		
<u> </u>	Actual: 207.95		
/\	Required: 207.90	-	208.10
1900	Flag:		
	Peak Width		
	Actual: 0.55		
	Required: 0.90		
ma->cel 50 20d 60 30d 50 30f 50 30f 700 30f 30 39d 60 30d 60	Flag:		
Illiandra Mt. 1 SME accoss the Province A Fronti Invest	238 U		
5000	Mass Calib.		
	Actual: 237.95		
	Required: 237.90	_	238.10
1 I /\	wedarren 501.30		200.10

11/7/09 3:05 PM

Tune Result:

C:\ICPCHEM\1\RPTTMP\2008tn.qct

Flag:

Actual: 0.55 Required: 0.90 Flag:

Peak Width

Pass

Page 2 of 2

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#

Date Acquired: Nov 7 2009 03:07 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

o onnip	-0 -11			OGIDIN	,	
			The same of the sa		aby black	•
QC E	lement	:s	,		gouplo	7
Elem	ent	IS Ref	Tune	OPS Mean	RSD(%)	
9	Вe	6	1	0	0.00	
51	V	72	1	130	55.47	
52	Cr	72	1	2920	1.23	
55	Mn	72	1	487	11.32	
59	Co	72	1	43	35.25	
60	Ni	72	1	67	56.79	
63	Cu	72	1	247	16.39	
66	Zn	72	1	177	1.72	
75	As	72	1	38	36.84	
78	Se	72	1	290	18.25	
95	Mo	72	1	17	69.28	
107	Ag	115	1	17	91.65	A. Carrier and Car
111	Cd	115	1	6	90.67	
118	Sn	115	1	120	25.00	
121	Sb	115	1	. 7	0.00	
137	Ва	115	1	11	17.32	N. A.
205	Tl	165	1	53	12.50	
208	Pb	165	1	250	7.42	\
232	Th	165	1	93	59.01	
238	U	165	1	83	36.66	
						The second second
Inte	rnal S	Standard	Elemen	ts		· · · · · · · · · · · · · · · · · · ·
Elem			Tune	CPS Mean	RSD(%)	. 1
6	Li		1	450969	0.62	
45	Sc		1	1353461	1.72	
72	Ge		1	599452	0.37	
115	In		1	1813996	0.92	
165	Но		1	3291682	1.21	
			_			
	Тиг	Eil-#	7.	$a \cdot 1 \cdot anahom 1$	\ 7500\ ho 11	

Tune	File#	1	$c:\icpchem\1\7500\he.u$
Tune	File#	2	C:\ICPCHEM\1\7500\
_		_	- 1 1 - 1 1

Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Date Acquired: Nov 7 2009 03:09 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	107	14.32
52	\mathtt{Cr}	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	T1	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Но	1	3253654	1.35

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#

Date Acquired: Nov 7 2009 03:12 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:10 pm

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1 ,	52398	1.41
51	V.	72	1	764367	2.20
52	Cr	72	1	771475	1.19
55	Mn	72	1	912002	1.09
59	Co	72	1	914930	2.11
60	Ni	72	1	193364	2.37
63	Cu	72	1	465989	1.20
66	Zn	72	1	112029	1.18
75	As	72	1	90135	1.29
78	Se	72	1	18683	1.97
95	Mo	72	1	260394	0.61
107	Ag	115	1	765784	1.36
111	Cd	115	1	157700	1.34
118	Sn	115	1	441054	2.17
121	Sb	115	1	510967	1.02
137	Вa	115	1	213858	1.06
205	Tl	165	1	1838240	1.05
208	Pb	165	1	2519619	0.58
232	Th	165	1	2643067	0.57
238	U	165	1	2792671	0.69

ISTD Elements

Elem	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120	
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120	
72	Ge	1	575467	1.00	598490	96.2	30 - 120	
115	In	1	1781328	1.07	1797032	99.1	30 - 120	
165	Но	1	3275522	1.43	3253654	100.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0:Element Failures 0
0:ISTD Failures 0

11/7/09 3:13 PM

D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\005 ICV.D\005 ICV.D#

Date Acquired: Nov 7 2009 03:15 pm

Operator: TEL QC Summary:
Sample Name: ICV Analytes: Pass
Misc Info: ISTD: Pass

Misc Info: Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

2103

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICV
Total Dil Factor: 1.00

oc r	Eleme:	nts								
_	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	40.37	ppb	1.43	40	100.9	90 - 110	
51	V	72	1	38.46	ppb	0.46	40	96.2	90 - 110	
52	Cr	72	1	39.20	ppb	1.19	40	98.0	90 - 110	
55	Mn	72	1	39.82	ppb	0.12	40	99.6	90 - 110	
59	Co	72	1	38.88	ppb	0.70	40	97.2	90 - 110	
60	Ni	72	1	40.10	ppb	0.16	40	100.3	90 - 110	
63	Cu	72	1	39.43	ppb	0.82	40	98.6	90 - 110	
66	Zn	72	1	40.09	ppb	0.20	40	100.2	90 - 110	
75	As	72	1	39.44	ppb	0.27	40	98.6	90 - 110	
78	Se	72	1	38.96	ppb	4.82	40	97.4	90 - 110	
95	Мо	72	1	39.50	ppb	0.72	40	98.8	90 - 110	
107	Aq	115	1	38.87	ppb	1.47	40	97.2	90 - 110	
111	-	115	1	39.30	ppb	0.98	40	98.3	90 - 110	
118	Sn	115	1	39.04	ppb	1.08	40	97.6	90 - 110	
121	Sb	115	1	39.64	ppb	1.29	40	99.1	90 - 110	
137	Ва	115	1	38.76	ppb	1.35	40	96.9	90 - 110	
205	Tl	165	1	39.29	ppb	2.05	40	98.2	90 - 110	
208	Pb	165	1	40.72	ppb	2.07	40	101.8	90 - 110	
232	Th	165	1	41.00	ppb	0.86	40	102.5	90 - 110	
238	U	165	1	40.29	ppb	1.06	40	100.7	90 - 110	
IST) Ele	ments								
Eler	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	448116		0.63	455621	98.4	30 - 120	
45	Sc		1	1362171		0.61	1356727	100.4	30 - 120	
72	Ge		1	576140		0.97	598490	96.3	30 - 120	
115	In		1	1802991		1.36	1797032	100.3	30 - 120	

Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D\#

Date Acquired: Nov 7 2009 03:18 pm

Operator: TEL QC Summary:
Sample Name: RLIV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

\sim	Elements	
UC	Elements	

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	_
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

Initial Calibration Blank (ICB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\007 ICB.D\007 ICB.D#

Date Acquired: Nov 7 2009 03:20 pm QC Summary:
Operator: TEL Analytes: Pass
Sample Name: ICB ISTD: Pass

Misc Info:

Vial Number: 2104

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Ве	. 6	1	0.00	ppb	0.00	1.00	
51	V	72	1	0.01	ppb	78.95	1.00	
52	Cr	72	1	0.00	ppb	801.07	1.00	
55	Mn	72	1	0.00	ppb	167.97	1.00	
59	Co	72	1	0.00	ppb	88.12	1.00	
60	Ni	72	1	0.00	ppb	330.87	1.00	
63	Cu	72	1	-0.02	ppb	18.87	1.00	
66	Zn	72	1	-0.08	ppb	16.28	1.00	
75	As	72	1	0.00	ppb	320.71	1.00	
78	Se	72	1	-0.34	ppb	104.80	1.00	
95	Mo	72	1	0.03	ppb	28.62	1.00	
107	Ag	115	1	0.01	ppb	75.43	1.00	
111	Cd	115	1	0.01	ppb	156.14	1.00	
118	Sn	115	1	0.05	ppb	28.25	1.00	
121	Sb	115	1	0.08	ppb	20.91	1.00	
137	Ba	115	1	-0.02	ppb	26.22	1.00	
205	Tl	165	1	0.04	ppb	12.74	1.00	
208	Pb	165	1	0.00	ppb	28.23	1.00	
232	Th	165	1	0.02	ppb	38.30	1.00	
238	U	165	1	0.00	ppb	35.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

D:\ICPCHEM\1\RPTTMP\6020ICB.qct

ISTD:

Pass

RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\008RLST.D\008RLST.D#

Date Acquired: Nov 7 2009 03:23 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: RL STD

Misc Info:

Vial Number: 2105

C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Nov 07 2009 03:13 pm Current Method: Calibration File:

Last Cal Update:

Sample Type: RLSTD Total Dil Factor: 1.00

QC	Eleme	nts
Ele	ement	IS

Ele	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Вe	6	1	1.03	ppb	7.07	1	102.9	50 - 150	
51	٧	72	1	0.95	ppb	2.40	1	94.6	50 - 150	
52	\mathtt{Cr}	72	1	0.95	ppb	9.15	1	94.9	50 - 150	
55	Mn	72	1	0.98	ppb	3.40	1	97.8	50 - 150	
59	Co	72	1	0.99	ppb	1.20	1	99.3	50 - 150	
60	Νi	72	1	0.99	ppb	1.44	1	98.7	50 - 150	
63	Cu	72	1	0.97	ppb	3.25	1	96.6	50 - 150	
66	Zn	72	1	9.84	ppb	1.62	10	98.4	50 - 150	
75	As	72	1	1.01	ppb	1.47	1	100.9	50 - 150	
78	Se	72	1	0.85	ppb	29.55	1	85.1	50 - 150	
95	Mo	72	1	0.98	ppb	3.69	1	98.3	50 - 150	
107	Ag	115	1	0.98	ppb	6.91	1	98.4	50 - 150	
111	Cd	115	1	0.98	ppb	2.94	1	97.7	50 - 150	
118	Sn	115	1	9.90	ppb	3.50	10	99.0	50 - 150	
121	Sb	115	1	1.06	ppb	2.89	1	105.8	50 - 150	
137	Ва	115	1	0.93	ppb	4.92	1	92.9	50 - 150	
205	Tl	165	1	1.05	ppb	1.24	1	104.9	50 - 150	
208	Pb	165	1	1.05	ppb	0.65	1	104.5	50 - 150	
232	Th	165	1	1.07	ppb	0.78	1	106.6	50 - 150	
238	U	165	1	1.09	ppb	0.98	1	109.3	50 - 150	

ISTD Elements

Eler	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	452942	1.17	455621	99.4	30 - 120	
45	Sc	1	1350845	0.67	1356727	99.6	30 - 120	
72	Ge	1	590050	0.39	598490	98.6	30 - 120	
115	In	1	1791700	1.48	1797032	99.7	30 - 120	
165	Но	. 1	3276677	0.55	3253654	100.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#

Date Acquired: Nov 7 2009 03:26 pm

Operator: TEL QC Summary: Sample Name: AFCEE RL Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 2106

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL Total Dil Factor: 1.00

QC Elements										
Elem	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	0.18	ppb	4.87	0	85.7	80 - 120	
51	V	72	. 1	0.19	ppb	1.60	0	98.1	80 - 120	
52	Cr	72	1	0.17	ppb	19.24	0	88.9	80 - 120	
55	Mn	72	1	0.24	ppb	0.90	0	122.4	80 - 120	
59	Co	72	1	0.21	ppb	2.54	0	105.0	80 - 120	
60	Ni	72	1	0.19	ppb	33.14	0	95.0	80 - 120	
63	Cu	72	1	0.19	ppb	26.00	0	96.8	80 - 120	
66	Zņ	72	1	1.99	ppb	0.59	2	101.2	80 - 120	
75	As	72	1	0.22	ppb	3.49	0	111.1	80 - 120	
78	Se	72	1	-0.03	ppb	493.20	0	-19.4	80 - 120	
95	Mo	72	1	0.20	ppb	10.11	0	102.9	80 - 120	
107	Ag	115	1	0.19	ppb	9.51	0	98.0	80 - 120	
111	Cd	115	1	0.20	ppb	6.38	Ô	102.8	80 - 120	
118	Sn	115	1	1.96	ppb	1.89	2	99.1	80 - 120	
121	Sb	115	1	0.22	ppb	4.04	0 ,	104.0	80 - 120	
137	Ва	115	1	0.19	ppb	4.99	0	101.2	80 - 120	
205	Tl	165	1	0.21	ppb	2.78	0	101.1	80 - 120	
208	Pb	165	1	0.21	ppb	2.60	0	100.1	80 - 120	
232		165	1	0.21	ppb	3.95	0	98.4	80 - 120	
238	Ū	165	1	0.21	ppb	3.63	0	98.0	80 - 120	
ISTD	Ele	ments								
Elem	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	453567		1.29	455621	99.5	30 - 120	
45	Sc		1	1337172		0.83	1356727	98.6	30 - 120	
72	Ge		1	590407		0.86	598490	98.6	30 - 120	
115	In		1	1781901		0.99	1797032	99.2	30 - 120	
165	Но		1	3288568		1.80	3253654	101.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D#

Date Acquired: Nov 7 2009 03:29 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass ISTD: Sample Name: ALTSe Pass

Misc Info: 2 ppb Vial Number: 2107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA Dilution Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

QC Elements

El∈	ment	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.00	0.00	ppb	0.00	3600	
51	V	72	1	0.00	0.00	ppb	62.04	3600	
52	Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55	Mn	72	1	0.00	0.00	ppb	140.46	3600	
59	Co	72	1	0.00	0.00	ppb	189.04	3600	
60	Ni	72	1	0.00	0.00	ppb	522.21	3600	
63	Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66	Zn	72	1	0.05	0.05	ppb	55.06	3600	
75	As	72	1	0.00	0.00	ppb	1812.70	3600	
78	Se	72	1	2.16	2.16	ppb	11.88	3600	
95	Mo	72	1	0.00	0.00	ppb	222.57	3600	
107	' Ag	115	1	0.01	0.01	ppb	10.07	3600	
111	Cd	115	1	0.00	0.00	ppb	89.77	3600	
118	Sn	115	1	0.00	0.00	ppb	293.54	3600	
121	Sb	115	1	0.02	0.02	ppb	23.95	3600	
137	Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205	Tl	165	1	0.01	0.01	ppb	2.14	3600	
208	Pb	165	1	0.00	0.00	ppb	39.67	3600	
232	Th	165	1	0.00	0.00	ppb	17.19	1000	
238	Ü	165	1	0.00	0.00	ppb	388.10	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

0 :Max. Number of ISTD Failures Allowed

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D#

Date Acquired: Nov 7 2009 03:31 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA
Dilution Factor: 1.00

QC	El	emen	ts
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Element		IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Вe	6	1	0.00 ppb	0.00	1.00	
51	٧	72	1	2.45 ppb	8.60	1.00	
52	\mathtt{Cr}	72	1	1.86 ppb	3.80	1.00	
55	Mn	72	1	3.11 ppb	0.88	1.00	
59	Co	72	1	0.12 ppb	10.19	1.00	
60	Ni	72	1	1.23 ppb	9.98	1.00	
63	Cu	72	1	0.56 ppb	5.58	1.00	
66	Zn	72	1	4.20 ppb	1.79	10.00	
75	As	72	1	0.35 ppb	13.35	1.00	
78	Se	72	1	0.47 ppb	67.55	1.00	
95	Мо	72	1	2055.00 ppb	1.11	2000.00	
107	Ag	115	1	0.03 ppb	8.56	1.00	
111	Cd	115	1	0.40 ppb	30.97	1.00	
118	Sn	115	1	0.93 ppb	18.89	10.00	
121	Sb	115	1	0.95 ppb	3.56	1.00	
137	Ва	115	1	0.00 ppb	326.02	1.00	
205	Tl	165	1	0.04 ppb	20.03	1.00	
208	Pb	165	1	1.04 ppb	2.03	1.00	
232	Th	165	1	0.02 ppb	5.48	1.00	
238	U	165	1	0.00 ppb	14.89	1.00	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120	
45	Sc	1	939322	1.85	1356727	69.2	30 - 120	
72	Ge	1	429449	0.82	598490	71.8	30 - 120	
115	In	1	1325081	0.92	1797032	73.7	30 - 120	
165	Но	1	2485688	0.47	3253654	76.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D#

Date Acquired: Nov 7 2009 03:34 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: ICSAB ISTD: Pass

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSAB
Dilution Factor: 1.00

QC Elements

E									
Ele	ment	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9	Ве	6	1	108.90	0.75	100	108.9	80 - 120	
51	V	72	1	92.27	0.38	100	92.3	80 - 120	
52	Cr	72	1	90.40	0.96	100	90.4	80 - 120	
55	Mn	72	1	92.59	1.18	100	92.6	80 - 120	
59	Co	72	1	88.85	0.30	100	88.9	80 - 120	
60	Ni	72	1	89.72	0.28	100	89.7	80 - 120	
63	Cu	72	1	85.14	0.90	100	85.1	80 - 120	
66	Zn	72	1	95.65	0.49	100	95.7	80 - 120	
75	As	72	1	99.50	0.47	100	99.5	80 - 120	
78	Se	72	1	105.90	0.80	100	105.9	80 - 120	
95	Мо	72	1	2149.00	1.99	2100	102.3	80 - 120	
107	Ag	115	1	84.00	7.96	100	84.0	80 - 120	
111	Cd	115	1	93.62	2.89	100	93.6	80 - 120	
118	Sn	115	1	96.78	1.78	100	96.8	80 - 120	
121	Sb	115	1	100.10	2.32	100	100.1	80 - 120	
137	Ba	115	1	96.82	2.12	100	96.8	80 - 120	
205	Tl	165	1	94.83	0.67	100	94.8	80 - 120	
208	Pb	165	1	93.97	0.82	100	94.0	80 - 120	
232	Th	165	1	101.90	0.67	100	101.9	80 - 120	
238	U	165	1	100.20	0.45	100	100.2	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272241	2.18	455621	59.8	30 - 120	
45 Sc	1	935334	1.15	1356727	68.9	30 - 120	
72 Ge	1	419509	1.32	598490	70.1	30 - 120	
115 In	1	1327038	1.55	1797032	73.8	30 - 120	
165 Ho	1	2524289	0.15	3253654	77.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

ISTD:

Pass

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

Date Acquired: Nov 7 2009 03:37 pm

Operator: TEL QC Summary: Sample Name: RINSE Analytes: Pass

Misc Info: Vial Number:

1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL Total Dil Factor: 1.00

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ÕC 1	:Teme:	nts								
Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	0.00	ppb	0.00	0	0.0	80 - 120	
51	V	72	1	0.06	ppb	15.15	0	29.2	80 - 120	
52	Cr	72	1	0.00	ppb	941.54	0	-2.5	80 - 120	
55	Mn	72	1	0.00	ppb	87.90	0	-2.5	80 - 120	
59	Со	72	1	0.00	ppb	138.19	0	-0.5	80 - 120	
60	Ni	72	1	-0.01	ppb	79.76	0	-6.6	80 - 120	
63	Cu	72	1	-0.02	ppb	11.32	0	-10.3	80 - 120	
66	Zn	72	1	-0.12	ppb	4.66	2	-6.1	80 - 120	
75	As	72	1	0.00	ppb	172.97	0	2.3	80 - 120	
78	Se	72	1	0.18	ppb	157.63	0 -	105.8	80 - 120	
95	Mo	72	1	0.92	ppb	26.25	0	470.1	80 - 120	
107	Ag	115	1	0.01	ppb	38.83	0	5.1	80 - 120	
111	Cd	115	1	0.00	ppb	268.01	0	2.2	80 - 120	
118	Sn	115	1	-0.03	ppb	57.94	2	-1.3	80 - 120	
121	Sb	115	1	0.13	ppb	22.58	0	60.8	80 - 120	
137	Ва	115	1	-0.03	ppb	10.98	0	-13.6	80 - 120	
205	Tl	165	1	0.00	ppb	35.28	0	1.1	80 - 120	
208	Pb	165	1	0.00	ppb	109.50	0	-0.7	80 - 120	
232	Th	165	1	0.03	ppb	14.09	0	14.5	80 - 120	
238	U	165	1	0.02	ppb	14.78	0	7.9	80 - 120	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120	
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120	
72	Ge	1	563469	0.48	598490	94.1	30 - 120	
115	In	1	1720438	0.38	1797032	95.7	30 - 120	
165	Но	1	3228952	0.84	3253654	99.2	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014 LR.D\014 LR.D#

Date Acquired: Nov 7 2009 03:40 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass Sample Name: LR1 ISTD: Pass

Misc Info:

Vial Number: 2110

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: LR
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analy	te El	.emen	ts
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Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 T1	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 но	1	3245351	1.45	3253654	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#

Date Acquired: Nov 7 2009 03:42 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass Sample Name: RINSE ISTD: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	- 6	1	0.01	0.01	ppb	173.22	3600	
51 V	72	1	0.03	0.03	ppb	5.05	3600	
52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
59 Co	72	1	0.00	0.00	ppb	73.71	3600	
60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
75 As	72	1	0.03	0.03	ppb	18.58	3600	
78 Se	72	1	0.26	0.26	ppb	60.51	3600	
95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
232 Th	165	1	0.12	0.12	ppb	15.82	1000	
238 U	165	1	0.14	0.14	ppb	23.45	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\016 CCV.D\016 CCV.D\

Date Acquired: Nov 7 2009 03:45 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

OC Elements

51	Be V	6	1	E0 00			Expected	Rec(%)	QC Range(%)	Flag
	-	70		50.82	ppb	0.98	50	101.6	90 - 110	
52	_	72	1	47.69	ppb	0.85	50	95.4	90 - 110	
52	Cr	72	1	47.81	ppb	0.72	50	95.6	90 - 110	
55	Mn	72	. 1	47.91	ppb	0.63	50	95.8	90 - 110	
59	Co	72	1	48.31	ppb	1.05	50	96.6	90 - 110	
60	Ni	72	1	49.87	ppb	0.51	50	99.7	90 - 110	
63	Cu	72	1	48.27	ppb	0.97	50	96.5	90 - 110	
66	Zn	72	1	49.24	ppb	0.51	50	98.5	90 - 110	
75	As	72	1	49.61	ppb	0.57	50	99.2	90 - 110	
78	Se	72	1	51.34	ppb	3.01	50	102.7	90 - 110	
95	Mo	72	1	49.43	ppb	1.34	50	98.9	90 - 110	
107	Ag	115	1	48.77	ppb	0.60	50	97.5	90 - 110	
111	Cd	115	1	49.46	ppb	1.05	50	98.9	90 - 110	
118	Sn	115	1	49.42	ppb	0.94	50	98.8	90 - 110	
121	Sb	115	1	49.48	ppb	0.82	50	99.0	90 - 110	
137	Ва	115	1	48.65	ppb	1.08	50	97.3	90 - 110	
205	Tl	165	1	49.98	ppb	1.20	50	100.0	90 - 110	
208	Pb	165	1	50.63	ppb	2.15	50	101.3	90 - 110	
232	Th	165	1	50.61	ppb	1.41	50	101.2	90 - 110	
238	U	165	1	50.58	ppb	0.97	50	101.2	90 - 110	

IST	Elements							
Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	424171	1.07	455621	93.1	30 - 120	
45	Sc	1	1298607	1.88	1356727	95.7	30 - 120	
72	Ge	1	570018	0.80	598490	95.2	30 - 120	
115	In	1	1777686	0.76	1797032	98.9	30 - 120	
165	Но	1	3306431	1.43	3253654	101.6	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\017 CCB.D\017 CCB.D#

Date Acquired: Nov 7 2009 03:48 pm

Operator: TEL QC Summary:

Sample Name: CCB Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Elemer	nt IS Ref	Tuno	Cong		DCD (9.)	TIS and T San San	m1
		Tune	Conc.		RSD(%)	High Limit	Flag
9 B∈	e 6	1	0.000	ppb	0.00	1.00	
51 V	72	1	0.018	ppb	26.29	1.00	
52 Cr	72	1	0.021	ppb	89.72	1.00	
55 Mr.	n 72	1	-0.002	ppb	258.47	1.00	
59 Cc	72	1	0.000	ppb	7.74	1.00	
60 Ni	. 72	1	-0.003	ppb	365.53	1.00	
63 Cu	ı 72	1	-0.006	ppb	212.36	1.00	
66 Zr	n 72	1	-0.070	ppb	18.30	1.00	
75 As	72	1	0.022	ppb	32.72	1.00	
78 Se	72	1	0.156	ppb	92.00	1.00	
95 Mc	72	1	0.115	ppb	30.30	1.00	
107 Ag	f 115	1	0.011	ppb	38.12	1.00	
111 Cd	115	1	0.002	ppb	113.82	1.00	
118 Sn	115	1	0.224	ppb	27.67	1.00	
121 Sb	115	1	0.348	ppb	18.44	1.00	
137 Ba	115	1	-0.026	ppb	8.86	1.00	
205 Tl	. 165	1	0.021	ppb	16.25	1.00	
208 Pb	165	1	0.000	ppb	463.86	1.00	
232 Th	165	1	0.056	ppb	20.03	1.00	
238 U	165	1	0.020	ppb	23.07	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#

Date Acquired: Nov 7 2009 03:50 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	. 6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

ISTD Elements

Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag
6 Li 1 443603 0.24 455621 97.4 30 - 120	
45 Sc 1 1335995 1.35 1356727 98.5 30 - 120	
72 Ge 1 596206 0.64 598490 99.6 30 - 120	
115 In 1 1804793 1.75 1797032 100.4 30 - 120	
165 Ho 1 3324168 1.02 3253654 102.2 30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095 CCV.D\095 CCV.D\#

Date Acquired: Nov 7 2009 07:25 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemen	ıts

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec (%)	QC Range(%)	Flag
9	Be	6	1	50.00	ppb	3.68	50	100.0	90 - 110	
51	V .	72	1	49.46	ppb	0.96	50	98.9	90 - 110	
52	Cr	72	1	49.13	ppb	0.63	50	98.3	90 - 110	
55	Mn	72	1	48.00	ppb	0.58	50	96.0	90 - 110	
59	Co	72	1	49.88	ppb	1.19	50	99.8	90 - 110	
60	Ni	72	1	52.70	ppb	0.96	50	105.4	90 - 110	
63	Cu	72	1	50.75	ppb	0.19	50	101.5	90 - 110	
66	Zn	72	1	48.83	ppb	0.18	50	97.7	90 - 110	
75	As	72	1	50.85	ppb	1.33	50°	101.7	90 - 110	
78	Se	72	1	50.97	ppb	2.08	50	101.9	90 - 110	
95	Mo	72	1	49.28	ppb	0.59	50	98.6	90 - 110	
107	Ag	115	1	48.69	ppb	1.80	50	97.4	90 - 110	
111	Cd	115	1	48.20	ppb	1.31	50	96.4	90 - 110	
118	Sn	115	. 1	47.65	ppb	1.87	50	95.3	90 - 110	
121	Sb	115	1	47.61	ppb	2.17	50	95.2	90 - 110	
137	Ba	115	1	48.23	ppb	1.87	50	96.5	90 - 110	
205	Tl	165	1	49.17	ppb	1.01	50	98.3	90 - 110	
208	Pb	165	1	50.08	ppb	1.74	50	100.2	90 - 110	
232	Th	165	1	49.66	ppb	0.53	50	99.3	90 - 110	
238	U	165	1	49.60	ppb	0.64	50	99.2	90 - 110	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120	
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120	
72	Ge	1	557000	0.87	598490	93.1	30 - 120	
115	In	1	1717369	0.76	1797032	95.6	30 - 120	
165	Но	1	3017615	0.61	3253654	92.7	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096 CCB.D\096 CCB.D#

Date Acquired: Nov 7 2009 07:28 pm

Operator: TEL QC Summary:
Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.000	ppb	0.00	1.00	
51 V	72	1	-0.006	ppb	24.61	1.00	
52 Cr	72	1	0.005	ppb	16.13	1.00	
55 Mn	72	1	0.012	ppb	40.48	1.00	
59 Co	72	1	0.003	ppb	90.18	1.00	
60 Ni	72	1	0.005	ppb	115.47	1.00	
63 Cu	72	1	-0.001	ppb	1434.90	1.00	
66 Zn	72	1	0.040	ppb	39.82	1.00	
75 As	72	1	-0.001	ppb	689.47	1.00	
78 Se	72	1	0.203	ppb	119.68	1.00	
95 Mo	72	1	0.030	ppb	15.19	1.00	
107 Ag	115	1	0.009	ppb	17.39	1.00	
111 Cd	115	1	0.008	ppb	214.98	1.00	
118 Sn	115	1	0.033	ppb	87.07	1.00	
121 Sb	115	1	0.133	ppb	16.18	1.00	
137 Ba	115	1	-0.005	ppb	66.27	1.00	
205 Tl	165	1	0.010	ppb	5.85	1.00	
208 Pb	165	1	0.007	ppb	10.03	1.00	
232 Th	165	1	0.031	ppb	21.92	1.00	
238 U	165	1	0.010	ppb	23.45	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#

Date Acquired: Nov 7 2009 07:30 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	. 72	1	2.031 ppb	2.60	2.60	
66 Zn	72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D\#

Date Acquired: Nov 7 2009 07:33 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

ICSA

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA
Dilution Factor: 1.00

QC	El	em	en	ts
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Eler	nent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	0.01 ppb	173.15	1.00	-
51	٧	72	1	2.34 ppb	2.35	1.00	
52	Cr	72	1	1.89 ppb	3.80	1.00	
55	Mn	72	1	3.08 ppb	1.35	1.00	
59	Co	72	1	0.13 ppb	9.32	1.00	
60	Ni	72	1	1.54 ppb	6.59	1.00	
63	Cu	72	1	0.62 ppb	13.41	1.00	
66	Zn	72	1	4.36 ppb	1.67	10.00	
75	As	72	1	0.31 ppb	11.37	1.00	
78	Se	72	1	-0.18 ppb	17.27	1.00	
95	Mo	72	1	2024.00 ppb	0.75	2000.00	
107	Ag	115	1	0.04 ppb	30.78	1.00	
111	Cd	115	1	0.44 ppb	34.74	1.00	
118	Sn	115	1	0.41 ppb	9.39	10.00	
121	Sb	115	1	0.94 ppb	2.45	1.00	
137	Ba	115	1	0.02 ppb	61.87	1.00	
205	Tl	165	1	0.04 ppb	26.87	1.00	
208	Pb	165	1	1.05 ppb	0.68	1.00	
232	Th	165	1	0.02 ppb	35.17	1.00	
238	U	165	1	0.01 ppb	14.16	1.00	

ISTD Elements

Eler	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120	
45	Sc	1	945462	1.56	1356727	69.7	30 - 120	
72	Ge	1	429131	0.94	598490	71.7	30 - 120	
115	In	1	1251973	0.62	1797032	69.7	30 - 120	
165	Но	1	2302241	0.67	3253654	70.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#

Date Acquired:

Nov 7 2009 07:36 pm

Acq. Method:

NormISIS.M

QC Summary:

Operator:

TEL

Analytes: Pass

Sample Name:

ICSAB

ISTD: Pass

Misc Info:

Vial Number:

2109

Current Method: Calibration File:

C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update:

Nov 07 2009 03:13 pm

Sample Type:

ICSAB

Dilution Factor:

1.00

QC Elements

~ -									
Ele	ment	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9	Ве	6	1	101.10	0.81	100	101.1	80 - 120	
51	V	72	1	96.26	0.64	100	96.3	80 - 120	
52	Cr	72	1 ,	92.97	0.53	100	93.0	80 - 120	
55	Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59	Co	72	1	90.72	0.50	100	90.7	80 - 120	
60	Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63	Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66	Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75	As	72	1	101.10	0.38	100	101.1	80 - 120	
78	Se	72	1	105.10	1.94	100	105.1	80 - 120	
95	Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107	Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111	. Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118	Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121	. Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137	' Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205	Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208	Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232	Th	165	1	98.27	1.03	100	98.3	80 - 120	
238	U	165	1	97.38	0.98	100	97.4	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298307	2.13	455621	65.5	30 - 120	
45 Sc	1	951400	0.73	1356727	70.1	30 - 120	
72 Ge	1	417924	0.89	598490	69.8	30 - 120	
115 In	1	1269948	0.83	1797032	70.7	30 - 120	
165 Ho	1	2339416	0.71	3253654	71.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#

Date Acquired: Nov 7 2009 07:39 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: WASH

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1 .	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	. 1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

ISTD:

Pass

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CCV.D\101 CCV.D#

Date Acquired: Nov 7 2009 07:41 pm

Operator: TEL QC Summary: Sample Name: CCV Analytes: Pass

Misc Info: Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemen	nts		
17.7		TO	D - E	

Eler	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	51.02	ppb	3.60	50	102.0	90 - 110	
51	V	72	1	49.10	ppb	0.68	50	98.2	90 - 110	
52	Cr	72	1	48.80	ppb	0.79	50	97.6	90 - 110	
55	Mn	72	1	48.00	ppb	0.60	50	96.0	90 - 110	
59	Co	72	1	49.55	ppb	0.61	50	99.1	90 - 110	
60	Ni	72	1	52.06	ppb	1.46	50	104.1	90 - 110	
63	Cu	72	1	50.22	ppb	0.56	50	100.4	90 - 110	
66	Zn	72	1	48.51	ppb	1.13	50	97.0	90 - 110	
75	As	72	1	50.95	ppb	0.50	50	101.9	90 - 110	
78	Se	72	1	49.38	ppb	4.19	50	98.8	90 - 110	
95	Mo	. 72	1	50.11	ppb	1.38	50	100.2	90 - 110	
107	Ag	115	1	49.66	ppb	0.85	50	99.3	90 - 110	
111	Cd	115	1	49.01	ppb	1.42	50	98.0	90 - 110	
118	Sn	115	1	48.68	ppb	1.81	50	97.4	90 - 110	
121	Sb	115	1	48.87	ppb	1.17	50	97.7	90 - 110	
137	Ba	115	1	49.35	ppb	1.09	50	98.7	90 - 110	
205	Tl	165	1	49.79	ppb	1.41	50	99.6	90 - 110	
208	Pb	165	1	49.95	ppb	1.13	50	99.9	90 - 110	
232	Th	165	1	49.72	ppb	0.91	50	99.4	90 - 110	
238	U .	165	1	49.59	ppb	1.94	50	99.2	90 - 110	

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120	
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120	
72	Ge	1	546607	0.97	598490	91.3	30 - 120	
115	In	1	1673358	0.50	1797032	93.1	30 - 120	
165	Но	1	3013021	0.51	3253654	92.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102 CCB.D\102 CCB.D#

Date Acquired: Nov 7 2009 07:44 pm

Operator: TEL QC Summary:

Sample Name: CCB Analytes: Pass Misc Info: ISTD: Pass

Misc Info: Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.18	1.00	
51 V	72	1	0.072	ppb	11.11	1.00	
52 Cr	72	1	0.002	ppb	1427.90	1.00	
55 Mn	72	1	-0.002	ppb	998.74	1.00	
59 Co	72	1	0.004	ppb	62.33	1.00	
60 Ni	72	1	0.095	ppb	21.31	1.00	
63 Cu	72	1	0.001	ppb	1376.50	1.00	
66 Zn	72	1	0.050	ppb	67.37	1.00	
75 As	72	1	0.009	ppb	154.12	1.00	
78 Se	72	1	0.133	ppb	315.07	1.00	
95 Mo	72	1	0.099	ppb	50.63	1.00	
107 Ag	115	1	0.009	ppb	39.54	1.00	
111 Cd	115	1	0.005	ppb	103.50	1.00	
118 Sn	115	1	0.062	ppb	107.54	-1.00	
121 Sb	115	1	0.138	ppb	16.19	1.00	
137 Ba	115	1	-0.017	ppb	52.66	1.00	
205 Tl	165	1	0.016	ppb	15.17	1.00	
208 Pb	165	1	0.005	ppb	21.11	1.00	
232 Th	165	1	0.033	ppb	24.50	1.00	
238 U	165	1	0.010	ppb	34.21	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#

Date Acquired: Nov 7 2009 07:47 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	. 72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst: LRP

Date: 11/08/09

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

Date Acquired: Nov 7 2009 08:47 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:45 pm

Sample Type: CalBlk

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	٧	72	1	1013	6.79
52	\mathtt{Cr}	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ва	115	1	74	17.43
205	T1	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

Internal Standard Elements

Elem	ent	Tune	CPS Mean	RSD(%)
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Но	1	3039108	1.07

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#

Date Acquired: Nov 7 2009 08:50 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:48 pm

Sample Type: ICAL

QC Elements

nt	IS Ref	Tune	CPS Mean	RSD(%)
Ве	6	1	47883	0.67
A	72	1	747976	1.49
Cr	72	1	754628	1.13
Mn	72	1	865964	0.71
Co	72	1	889724	1.22
Ni	72	1	191586	1.40
Cu	72	1	456036	0.95
Zn	72	1	106780	0.65
As	72	1	89192	0.61
Se	72	1	18229	1.26
Mo	72	1	254493	1.19
Ag	115	1	752402	0.75
Cd	115	1	150239	1.10
Sn	115	1	420016	0.73
Sb	115	1	483973	0.74
Ba	115	1	204383	0.51
Tl	165	1	1701616	0.60
Pb	165	1	2338107	2.25
Th	165	1	2413552	1.92
U	165	1	2559276	1.77
	Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sn Sb Ba Tl Pb Th	Be 6 V 72 Cr 72 Mn 72 Co 72 Ni 72 Cu 72 Zn 72 As 72 As 72 Mo 72 Ag 115 Cd 115 Sn 115 Sb 115 Ba 115 T1 165 Pb 165 Th 165	Be 6 1 V 72 1 Cr 72 1 Mn 72 1 Co 72 1 Ni 72 1 Cu 72 1 Zn 72 1 As 72 1 Se 72 1 Mo 72 1 Ag 115 1 Cd 115 1 Sh 115 1 Ba 115 1 T1 165 1 Pb 165 1 Th 165 1	Be 6 1 47883 V 72 1 747976 Cr 72 1 754628 Mn 72 1 865964 Co 72 1 889724 Ni 72 1 191586 Cu 72 1 456036 Zn 72 1 106780 As 72 1 89192 Se 72 1 18229 Mo 72 1 254493 Ag 115 1 752402 Cd 115 1 150239 Sn 115 1 483973 Ba 115 1 204383 Tl 165 1 1701616 Pb 165 1 2338107 Th 165 1 2413552

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC R	ange(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30	- 120	
45	Sc	1	1260434	1.10	1273788	99.0	30	- 120	
72	Ge	1	556836	0.86	577640	96.4	30	- 120	
115	In	1	1704167	0.61	1726730	98.7	30	- 120	
165	Но	1	3052265	1.25	3039108	100.4	30	- 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

11/7/09 8:51 PM D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127 CCV.D\127 CCV.D#

Date Acquired: Nov 7 2009 08:53 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Eleme	nts
Ele	ement	IS

Ele	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Вe	6	1	50.43	ppb	3.83	50	100.9	90 - 110	
51	V.	72	1	48.44	ppb	0.77	50	96.9	90 - 110	
52	Cr	72	1	48.00	ppb	0.40	50	96.0	90 - 110	
55	Mn	72	1	48.98	ppb	0.83	50	98.0	90 - 110	
59	Co	72	1	49.19	ppb	0.88	50	98.4	90 - 110	
60	Ni	72	1	51.00	ppb	2.25	50	102.0	90 - 110	
63	Cu	72	1	50.40	ppb	1.04	50	100.8	90 - 110	
66	Zn	72	1	49.66	ppb	0.82	50	99.3	90 - 110	
75	As	72	1	49.96	ppb	1.36	50	99.9	90 - 110	
78	Se	72	1	50.40	ppb	4.89	50	100.8	90 - 110	
95	Mo	72	1	49.49	ppb	0.61	50	99.0	90 - 110	
107	Ag	115	1	48.04	ppb	0.50	50	96.1	90 - 110	
111	Cd	115	1	48.84	ppb	0.25	50	97.7	90 - 110	
118	Sn	115	1	48.90	ppb	0.50	50	97.8	90 - 110	
121	Sb	115	1	49.44	ppb	0.72	50	98.9	90 - 110	
137	Ва	115	1	49.58	ppb	0.98	50	99.2	90 - 110	
205	Tl	165	1	50.08	ppb	0.23	50	100.2	90 - 110	
208	Pb	165	1	49.87	ppb	2.65	50	99.7	90 - 110	
232	Th	165	1	50.94	ppb	1.78	50	101.9	90 - 110	
238	U	165	1	50.49	ppb	2.18	50	101.0	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	401327	1.29	398155	100.8	30 - 120	
45	Sc	1	1286634	0.38	1273788	101.0	30 - 120	
72	Ge	1	558660	0.70	577640	96.7	30 - 120	
115	In	1	1725819	0.46	1726730	99.9	30 - 120	
165	Но	1	3087824	1.47	3039108	101.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128 CCB.D\128 CCB.D#

Date Acquired: Nov 7 2009 08:56 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.043	ppb	23.48	1.00	
52 Cr	72	1	0.013	ppb	34.25	1.00	
55 Mn	72	1	0.004	ppb	271.40	1.00	
59 Co	72	1	0.003	ppb	58.98	1.00	
60 Ni	72	1	0.013	ppb	122.65	1.00	
63 Cu	72	1	-0.010	ppb	116.03	1.00	
66 Zn	72	1	-0.311	ppb	3.85	1.00	
75 As	72	1	0.007	ppb	208.78	1.00	
78 Se	72	1	0.060	ppb	542.70	1.00	
95 Mo	72	1	0.010	ppb	195.90	1.00	
107 Ag	115	1	0.008	ppb	34.15	1.00	
111 Cd	115	1	-0.003	ppb	158.97	1.00	
118 Sn	115	1	0.071	ppb	72.17	1.00	
121 Sb	115	1	0.186	ppb	24.43	1.00	
137 Ba	115	1	-0.019	ppb	41.26	1.00	
205 Tl	165	1	0.019	ppb	3.88	1.00	
208 Pb	165	1	0.007	ppb	24.82	1.00	
232 Th	165	1	0.050	ppb	27.19	1.00	
238 U	165	1	0.014	ppb	24.25	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D\#

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Page 1 of 1

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#

Date Acquired: Nov 7 2009 08:58 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: RLCV

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Date Acquired: Nov 7 2009 11:44 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:42 pm

Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	. 72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	Ü	165	1	122	7.26

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)	
6	Li	1	401411	0.88	
45	Sc	1	1190683	1.29	
72	Ge	1	533218	0.44	
115	In	1	1552104	0.57	
165	Но	1	2681412	0.51	

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#

Date Acquired: Nov 7 2009 11:47 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Nov 07 2009 11:45 pm Calibration File:

Last Cal. Update:

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	45518	1.54
51	V	72	1	700879	1.29
52	Cr	. 72	1	693042	2.18
55	Mn	72	1	795858	1.60
59	Co	72	1	850264	1.89
60	Ni	72	1	181428	0.41
63	Cu	72	1	431089	0.73
66	Zn	72	1	95751	0.48
75	As	72	1	84617	1.05
78	Se	72	1	17278	1.91
95	Mo	72	1	230286	0.80
107	Ag	115	1	661266	1.42
111	Cd	115	1	131853	1.14
118	Sn	115	1	371875	2.20
121	Sb	115	1	432362	1.85
137	Ba	115	1	187475	1.78
205	Tl	165	1	1498644	1.03
208	Pb	165	1	2042776	1.12
232	Th	165	1	2142976	0.23
238	U	165	1	2200342	0.40

ISTD Elements

Eleme	nt .	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120	
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120	
72	Ge	1 .	507906	1.25	533218	95.3	30 - 120	
115	In	1	1532161	1.02	1552104	98.7	30 - 120	
165	Но	1	2672323	0.90	2681412	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures 0 0 :ISTD Failures

D:\ICPCHEM\1\RPTTMP\calstd.qct 11/7/09 11:48 PM

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191 CCV.D\191 CCV.D#

Date Acquired: Nov 7 2009 11:50 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elements	

Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	49.23	ppb	3.26	50	98.5	90 - 110	
51	V	72	1	48.52	ppb	1.74	50	97.0	90 - 110	
52	Cr	72	1	48.49	ppb	0.29	50	97.0	90 - 110	
55	Mn	72	1	48.47	ppb	1.24	50	96.9	90 - 110	
59	Co	72	1	48.02	ppb	0.67	50	96.0	90 - 110	
60	Ni	72	1	49.69	ppb	1.50	50	99.4	90 - 110	
63	Cu	72	1	49.62	ppb	0.90	50	99.2	90 - 110	
66	Zn	72	1	48.96	ppb	1.42	50	97.9	90 - 110	
75	As	72	1	49.10	ppb	0.76	50	98.2	90 - 110	
78	Se	72	1	48.52	ppb	4.63	50	97.0	90 - 110	
95	Mo	72	1	49.23	ppb	0.82	50	98.5	90 - 110	
107	Ag	115	1	49.55	ppb	1.37	50	99.1	90 - 110	
111	Cd	115	1	49.69	ppb	1.93	50	99.4	90 - 110	
118	Sn	115	1	49.87	ppb	1.50	50	99.7	90 - 110	
121	Sb	115	1	49.85	ppb	1.58	50	99.7	90 - 110	
137	Ва	115	1	49.38	ppb	1.63	50	98.8	90 - 110	
205	Tl	165	1	50.07	ppb	0.63	50	100.1	90 - 110	
208	Pb	165	1	50.67	ppb	1.87	50	101.3	90 - 110	
232	Th	165	1	50.33	ppb	1.25	50	100.7	90 - 110	
238	U	165	1	51.37	ppb	0.78	50	102.7	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	391774	1.28	401411	97.6	30 - 120	
45	Sc	1	1173327	0.14	1190683	98.5	30 - 120	
72	Ge	1	511730	0.36	533218	96.0	30 - 120	
115	In	1	1536232	0.41	1552104	99.0	30 - 120	
165	Но	1	2663987	0.61	2681412	99.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u

Tune File# 2 C:\ICPCHEM\1\7500\

Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\192 CCB.D\192 CCB.D#

Date Acquired:

Nov 7 2009 11:52 pm

Operator:

TEL

QC Summary:

Sample Name:

Analytes: Pass

Misc Info:

CCB

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.M
C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 11:48 pm

Sample Type:

CCB

Total Dil Factor:

1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag	ſ
9	Be	6	1	0.021	ppb	99.86	1.00		
51	V	72	1	-0.024	ppb	36.47	1.00		
52	Cr	72	1	0.015	ppb	57.14	1.00		
55	Mn	72	1	0.032	ppb	9.94	1.00		
59	Co	72	1	0.000	ppb	241.41	1.00		
60	Ni	72	1	-0.008	ppb	160.82	1.00		
63	Cu	72	1	-0.035	ppb	57.76	1.00		
66	Zn	72	1	-0.363	ppb	4.76	1.00		
75	As	72	1	0.004	ppb	177.30	1.00		
78	Se	72	1	0.169	ppb	283.55	1.00		
95	Mo	72	1	-0.009	ppb	169.70	1.00		
107	Ag	115	1	0.008	ppb	60.74	1.00		
111	Cd	115	1	0.009	ppb	130.00	1.00		
118	Sn	115	1	0.105	ppb	79.70	1.00		
121	Sb	115	1	0.172	ppb	19.79	1.00		
137	Ba	115	1	-0.007	ppb	70.67	1.00		
205	Tl	165	1	0.024	ppb	16.62	1.00		
208	Pb	165	1	0.009	ppb	31.16	1.00		
232	Th	165	1	0.066	ppb	21.79	1.00		
238	U	165	1	0.019	ppb	10.85	1.00		

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#

Date Acquired: Nov 7 2009 11:55 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	_
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 Ho	1	2673393	1.59	2681412	99.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD
Date:	11/08/2009

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Date Acquired: Nov 8 2009 02:25 am

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:23 am

Sample Type: CalBlk

QC Elements

ent	IS Ref	Tune	CPS Mean	RSD(%)
Вe	- 6	1	3	173.21
V	72	1	620	12.63
Cr	72	1	2680	1.78
Mn	72	1	813	8.79
Co	72	1	67	30.95
Ni	72	1	113	13.08
Cu	72	1	490	11.82
Zn	72	1	656	6.46
As	72	1	45	17.63
Se	72	1	333	20.05
Mo	72	1	257	16.03
Ag	115	1	40	74.94
Cd	115	1	11	116.88
Sn	115	1	477	0.80
Sb	115	1	156	24.28
Ba	115	1	152	14.20
Tl	165	1	96	21.83
Pb	165	1	372	9.02
Th	165	1.	160	32.65
U	165	1	140	10.99
	Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sn Sb Ba Tl Pb Th	Be 6 V 72 Cr 72 Mn 72 Co 72 Ni 72 Cu 72 Zn 72 As 72 Se 72 Mo 72 Ag 115 Cd 115 Sn 115 Sb 115 Ba 115 Tl 165 Pb 165 Th 165	Be 6 1 V 72 1 Cr 72 1 Mn 72 1 Co 72 1 Ni 72 1 Cu 72 1 Zn 72 1 As 72 1 Se 72 1 Mo 72 1 Ag 115 1 Cd 115 1 Sn 115 1 Sb 115 1 Ba 115 1 Tl 165 1 Pb 165 1 Th 165 1	Be 6 1 3 V 72 1 620 Cr 72 1 2680 Mn 72 1 813 Co 72 1 67 Ni 72 1 113 Cu 72 1 490 Zn 72 1 45 Se 72 1 333 Mo 72 1 257 Ag 115 1 40 Cd 115 1 11 Sn 115 1 477 Sb 115 1 156 Ba 115 1 152 Tl 165 1 96 Pb 165 1 372 Th 165 1 160

Internal Standard Elements

Eleme	Element		CPS Mean	RSD(%)
6	Li	1	376079	0.79
45	Sc	1	1186897	1.34
72	Ge	1	539567	0.45
115	In	1	1576174	1.52
165	Но	1	2717767	0.30

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#

Date Acquired: Nov 8 2009 02:28 am

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:26 am

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	42446	1.21
51	Λ.	72	1	684937	3.17
52	Cr	72	1	670667	0.81
55	Mn	72	1	787843	0.97
59	Co	72	1	839400	0.67
60	Ni	72	1	178958	0.70
63	Cu	72	1	424705	0.79
66	Zn	72	1	94491	0.73
75	As	72	. 1	84032	1.05
78	Se	72	1	16841	1.85
95	Mo	72	1	231498	1.15
107	Ag	115	1	664263	0.80
111	Cd	115	1	132542	1.42
118	Sn	115	1	376743	0.98
121	Sb	115	1	435060	0.49
137	Ba	115	1	188704	0.74
205	Tl	165	1	1479617	0.97
208	Pb	165	1	2033413	0.75
232	Th	165	1	2126721	0.55
238	Ü	165	1	2198988	0.53

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120	
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120	
72	Ge	1	510601	1.68	539567	94.6	30 - 120	
115	In	1	1555316	0.82	1576174	98.7	30 - 120	
165	Но	1	2687981	0.46	2717767	98.9	30 - 120	

0

0

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0 :ISTD Failures

11/8/09 2:28 AM D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CCV.D\249 CCV.D#

Date Acquired: Nov 8 2009 02:31 am

Operator: QC Summary: TEL Analytes: Sample Name: CCV Pass ISTD: Pass Misc Info:

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV Total Dil Factor: 1.00

QC Elements

20.										
Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Вe	6	1	50.21	ppb	0.59	50	100.4	90 - 110	
51	V	72	1	49.66	ppb	0.22	50	99.3	90 - 110	
52	Cr	72	1	50.51	ppb	0.78	50	101.0	90 - 110	
55	Mn	72	1	49.52	ppb	0.42	50	99.0	90 - 110	
59	Co	72	1	48.78	ppb	0.64	50	97.6	90 - 110	
60	Ni	72	1	50.96	ppb	0.39	50	101.9	90 - 110	
63	Cu	72	1	50.45	ppb	0.98	50	100.9	90 - 110	
66	Zn	72	1	51.04	ppb	1.32	50	102.1	90 - 110	
75	As	72	1	50.22	ppb	0.79	50	100.4	90 - 110	
78	Se	72	1	52.93	ppb	2.64	50	105.9	90 - 110	
95	Mo	72	1	50.88	ppb	0.45	50	101.8	90 - 110	
107	Ag	115	1	50.92	ppb	2.20	50	101.8	90 - 110	
111	Cd	115	1	51.72	ppb	2.62	50	103.4	90 - 110	
118	Sn	115	1	51.06	ppb	2.41	50	102.1	90 - 110	
121	Sb	115	1	51.12	ppb	1.48	50	102.2	90 - 110	
137	Вa	115	1	50.77	ppb	1.68	50	101.5	90 - 110	
205	Tl	165	1	51.85	ppb	1.16	50	103.7	90 - 110	
208	Pb	165	1	51.54	ppb	2.32	50	103.1	90 - 110	
232	Th	165	1			1.18	50	102.5	90 - 110	
238	U	165	1	51.61	ppb	0.90	50	103.2	90 - 110	
	Eler 9 51 52 55 59 60 63 66 75 78 95 107 111 137 205 208 232	Element 9 Be 51 V 52 Cr 55 Mn 59 Co 60 Ni 63 Cu 66 Zn 75 As 78 Se 95 Mo 107 Ag 111 Cd 118 Sn 121 Sb 137 Ba 205 Tl	9 Be 6 51 V 72 52 Cr 72 55 Mn 72 59 Co 72 60 Ni 72 63 Cu 72 66 Zn 72 75 As 72 78 Se 72 95 Mo 72 107 Ag 115 111 Cd 115 118 Sn 115 121 Sb 115 137 Ba 115 205 Tl 165 208 Pb 165 232 Th 165	Element IS Ref Tune 9 Be 6 1 51 V 72 1 52 Cr 72 1 55 Mn 72 1 59 Co 72 1 60 Ni 72 1 63 Cu 72 1 66 Zn 72 1 75 As 72 1 78 Se 72 1 107 Ag 115 1 111 Cd 115 1 118 Sn 115 1 118 Sn 115 1 121 Sb 115 1 137 Ba 115 1 205 T1 165 1 208 Pb 165 1 232 Th 165 1	Element IS Ref Tune Conc. 9 Be 6 1 50.21 51 V 72 1 49.66 52 Cr 72 1 50.51 55 Mn 72 1 49.52 59 Co 72 1 48.78 60 Ni 72 1 50.96 63 Cu 72 1 50.45 66 Zn 72 1 51.04 75 As 72 1 50.22 78 Se 72 1 50.22 78 Se 72 1 50.88 107 Ag 115 1 50.92 111 Cd 115 1 51.72 118 Sn 115 1 51.06 121 Sb 115 1 51.12 137 Ba 115 1 51.85 <td>Element IS Ref Tune Conc. 9 Be 6 1 50.21 ppb 51 V 72 1 49.66 ppb 52 Cr 72 1 50.51 ppb 55 Mn 72 1 49.52 ppb 59 Co 72 1 48.78 ppb 60 Ni 72 1 50.96 ppb 63 Cu 72 1 50.45 ppb 66 Zn 72 1 51.04 ppb 75 As 72 1 50.22 ppb 78 Se 72 1 50.22 ppb 95 Mo 72 1 50.88 ppb 107 Ag 115 1 50.92 ppb 111 Cd 115 1 51.72 ppb 118 Sn 115 1 51.12 ppb 137 Ba 115 1 50.77 ppb 205 T1</td> <td>Element IS Ref Tune Conc. RSD(%) 9 Be 6 1 50.21 ppb 0.59 51 V 72 1 49.66 ppb 0.22 52 Cr 72 1 50.51 ppb 0.78 55 Mn 72 1 49.52 ppb 0.42 59 Co 72 1 48.78 ppb 0.64 60 Ni 72 1 50.96 ppb 0.39 63 Cu 72 1 50.45 ppb 0.98 66 Zn 72 1 51.04 ppb 1.32 75 As 72 1 50.22 ppb 0.79 78 Se 72 1 50.22 ppb 0.45 95 Mo 72 1 50.88 ppb 0.45 107 Ag 115 1 50.92 ppb 2.20 111 Cd 115 1 51.72 ppb 2.41 <</td> <td>Element IS Ref Tune Conc. RSD(%) Expected 9 Be 6 1 50.21 ppb 0.59 50 51 V 72 1 49.66 ppb 0.22 50 52 Cr 72 1 50.51 ppb 0.78 50 55 Mn 72 1 49.52 ppb 0.42 50 59 Co 72 1 48.78 ppb 0.64 50 60 Ni 72 1 50.96 ppb 0.39 50 63 Cu 72 1 50.45 ppb 0.98 50 66 Zn 72 1 51.04 ppb 1.32 50 75 As 72 1 50.22 ppb 0.79 50 78 Se 72 1 50.88 ppb 0.45 50 95 Mo 72 1 50.88 ppb 0.45 50 111 Cd<td>Element IS Ref Tune Conc. RSD(%) Expected Rec(%) 9 Be 6 1 50.21 ppb 0.59 50 100.4 51 V 72 1 49.66 ppb 0.22 50 99.3 52 Cr 72 1 50.51 ppb 0.78 50 101.0 55 Mn 72 1 49.52 ppb 0.42 50 99.0 59 Co 72 1 48.78 ppb 0.64 50 97.6 60 Ni 72 1 50.96 ppb 0.39 50 101.9 63 Cu 72 1 50.45 ppb 0.98 50 100.9 66 Zn 72 1 51.04 ppb 1.32 50 102.1 75 As 72 1 50.22 ppb 0.79 50 100.4</td><td>Element IS Ref Tune Conc. RSD(%) Expected Rec(%) QC Range(%) 9 Be 6 1 50.21 ppb 0.59 50 100.4 90 - 110 51 V 72 1 49.66 ppb 0.22 50 99.3 90 - 110 52 Cr 72 1 50.51 ppb 0.78 50 101.0 90 - 110 55 Mn 72 1 49.52 ppb 0.42 50 99.0 90 - 110 59 Co 72 1 48.78 ppb 0.64 50 97.6 90 - 110 60 Ni 72 1 50.96 ppb 0.39 50 101.9 90 - 110 63 Cu 72 1 50.45 ppb 0.98 50 100.9 90 - 110 66 Zn 72 1 51.04 ppb 1.32 50 100.9 90 - 110 75 As 72 1 55.04 ppb 0.79 50 100.4 90 - 110 78 Se 72 1 55.22 ppb 0.79 50 100.4 90 - 110 95 Mo 72 1 55.93 ppb 2.64 50 105.9 90 - 110 107 Ag 115 1 50.92 ppb 2.20 50 101.8 90 - 110 110 Cd 115 1 51.72 ppb 2.62 50 103.4 90 - 110 111 Cd 115 1 51.72 ppb 2.62 50 103.4 90 - 110 112 Sb 115 1 51.06 ppb 2.41 50 102.2 90 - 110 121 Sb 115 1 51.12 ppb 1.48 50 102.2 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110</td></td>	Element IS Ref Tune Conc. 9 Be 6 1 50.21 ppb 51 V 72 1 49.66 ppb 52 Cr 72 1 50.51 ppb 55 Mn 72 1 49.52 ppb 59 Co 72 1 48.78 ppb 60 Ni 72 1 50.96 ppb 63 Cu 72 1 50.45 ppb 66 Zn 72 1 51.04 ppb 75 As 72 1 50.22 ppb 78 Se 72 1 50.22 ppb 95 Mo 72 1 50.88 ppb 107 Ag 115 1 50.92 ppb 111 Cd 115 1 51.72 ppb 118 Sn 115 1 51.12 ppb 137 Ba 115 1 50.77 ppb 205 T1	Element IS Ref Tune Conc. RSD(%) 9 Be 6 1 50.21 ppb 0.59 51 V 72 1 49.66 ppb 0.22 52 Cr 72 1 50.51 ppb 0.78 55 Mn 72 1 49.52 ppb 0.42 59 Co 72 1 48.78 ppb 0.64 60 Ni 72 1 50.96 ppb 0.39 63 Cu 72 1 50.45 ppb 0.98 66 Zn 72 1 51.04 ppb 1.32 75 As 72 1 50.22 ppb 0.79 78 Se 72 1 50.22 ppb 0.45 95 Mo 72 1 50.88 ppb 0.45 107 Ag 115 1 50.92 ppb 2.20 111 Cd 115 1 51.72 ppb 2.41 <	Element IS Ref Tune Conc. RSD(%) Expected 9 Be 6 1 50.21 ppb 0.59 50 51 V 72 1 49.66 ppb 0.22 50 52 Cr 72 1 50.51 ppb 0.78 50 55 Mn 72 1 49.52 ppb 0.42 50 59 Co 72 1 48.78 ppb 0.64 50 60 Ni 72 1 50.96 ppb 0.39 50 63 Cu 72 1 50.45 ppb 0.98 50 66 Zn 72 1 51.04 ppb 1.32 50 75 As 72 1 50.22 ppb 0.79 50 78 Se 72 1 50.88 ppb 0.45 50 95 Mo 72 1 50.88 ppb 0.45 50 111 Cd <td>Element IS Ref Tune Conc. RSD(%) Expected Rec(%) 9 Be 6 1 50.21 ppb 0.59 50 100.4 51 V 72 1 49.66 ppb 0.22 50 99.3 52 Cr 72 1 50.51 ppb 0.78 50 101.0 55 Mn 72 1 49.52 ppb 0.42 50 99.0 59 Co 72 1 48.78 ppb 0.64 50 97.6 60 Ni 72 1 50.96 ppb 0.39 50 101.9 63 Cu 72 1 50.45 ppb 0.98 50 100.9 66 Zn 72 1 51.04 ppb 1.32 50 102.1 75 As 72 1 50.22 ppb 0.79 50 100.4</td> <td>Element IS Ref Tune Conc. RSD(%) Expected Rec(%) QC Range(%) 9 Be 6 1 50.21 ppb 0.59 50 100.4 90 - 110 51 V 72 1 49.66 ppb 0.22 50 99.3 90 - 110 52 Cr 72 1 50.51 ppb 0.78 50 101.0 90 - 110 55 Mn 72 1 49.52 ppb 0.42 50 99.0 90 - 110 59 Co 72 1 48.78 ppb 0.64 50 97.6 90 - 110 60 Ni 72 1 50.96 ppb 0.39 50 101.9 90 - 110 63 Cu 72 1 50.45 ppb 0.98 50 100.9 90 - 110 66 Zn 72 1 51.04 ppb 1.32 50 100.9 90 - 110 75 As 72 1 55.04 ppb 0.79 50 100.4 90 - 110 78 Se 72 1 55.22 ppb 0.79 50 100.4 90 - 110 95 Mo 72 1 55.93 ppb 2.64 50 105.9 90 - 110 107 Ag 115 1 50.92 ppb 2.20 50 101.8 90 - 110 110 Cd 115 1 51.72 ppb 2.62 50 103.4 90 - 110 111 Cd 115 1 51.72 ppb 2.62 50 103.4 90 - 110 112 Sb 115 1 51.06 ppb 2.41 50 102.2 90 - 110 121 Sb 115 1 51.12 ppb 1.48 50 102.2 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110</td>	Element IS Ref Tune Conc. RSD(%) Expected Rec(%) 9 Be 6 1 50.21 ppb 0.59 50 100.4 51 V 72 1 49.66 ppb 0.22 50 99.3 52 Cr 72 1 50.51 ppb 0.78 50 101.0 55 Mn 72 1 49.52 ppb 0.42 50 99.0 59 Co 72 1 48.78 ppb 0.64 50 97.6 60 Ni 72 1 50.96 ppb 0.39 50 101.9 63 Cu 72 1 50.45 ppb 0.98 50 100.9 66 Zn 72 1 51.04 ppb 1.32 50 102.1 75 As 72 1 50.22 ppb 0.79 50 100.4	Element IS Ref Tune Conc. RSD(%) Expected Rec(%) QC Range(%) 9 Be 6 1 50.21 ppb 0.59 50 100.4 90 - 110 51 V 72 1 49.66 ppb 0.22 50 99.3 90 - 110 52 Cr 72 1 50.51 ppb 0.78 50 101.0 90 - 110 55 Mn 72 1 49.52 ppb 0.42 50 99.0 90 - 110 59 Co 72 1 48.78 ppb 0.64 50 97.6 90 - 110 60 Ni 72 1 50.96 ppb 0.39 50 101.9 90 - 110 63 Cu 72 1 50.45 ppb 0.98 50 100.9 90 - 110 66 Zn 72 1 51.04 ppb 1.32 50 100.9 90 - 110 75 As 72 1 55.04 ppb 0.79 50 100.4 90 - 110 78 Se 72 1 55.22 ppb 0.79 50 100.4 90 - 110 95 Mo 72 1 55.93 ppb 2.64 50 105.9 90 - 110 107 Ag 115 1 50.92 ppb 2.20 50 101.8 90 - 110 110 Cd 115 1 51.72 ppb 2.62 50 103.4 90 - 110 111 Cd 115 1 51.72 ppb 2.62 50 103.4 90 - 110 112 Sb 115 1 51.06 ppb 2.41 50 102.2 90 - 110 121 Sb 115 1 51.12 ppb 1.48 50 102.2 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110 208 Pb 165 1 51.54 ppb 2.32 50 103.1 90 - 110

IST	D Elements							
Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360601	1.23	376079	95.9	30 - 120	
45	Sc	1	1152210	0.10	1186897	97.1	30 - 120	
72	Ge	1	506331	0.64	539567	93.8	30 - 120	
115	In	1	1532589	0.89	1576174	97.2	30 - 120	
165	Но	1	2667156	1.17	2717767	98.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250 CCB.D\250 CCB.D#

Date Acquired: Nov 8 2009 02:33 am

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.016	ppb	147.29	1.00	•
51 V	72	1	-0.021	ppb	31.34	1.00	
52 Cr	72	1	0.037	ppb	45.39	1.00	
55 Mn	72	1	-0.003	ppb	461.47	1.00	
59 Co	72	1	0.004	ppb	46.27	1.00	
60 Ni	72	. 1	-0.025	ppb	13.04	1.00	
63 Cu	72	1	-0.035	ppb	22.37	1.00	
66 Zn	72	1	-0.398	ppb	5.33	1.00	
75 As	72	1	0.015	ppb	70.97	1.00	
78 Se	72	. 1	-0.320	ppb	40.38	1.00	
95 Mo	72	1	-0.054	ppb	35.32	1.00	
107 Ag	115	1	0.008	ppb	9.23	1.00	
111 Cd	115	1	0.005	ppb	52.43	1.00	
118 Sn	115	1	0.107	ppb	31.44	1.00	
121 Sb	115	1	0.188	ppb	20.19	1.00	
137 Ba	115	1	-0.042	ppb	4.94	1.00	
205 Tl	165	1	0.020	ppb	20.00	1.00	
208 Pb	165	1	-0.001	ppb	65.74	1.00	
232 Th	165	1	0.055	ppb	6.90	1.00	
238 U	165	1	0.016	ppb	10.74	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1 .	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D\#

Date Acquired: Nov 8 2009 02:36 am

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1 .	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252 BLK.D\252 BLK.D#

Date Acquired: Nov 8 2009 02:39 am

Operator: TEL QC Summary:
Sample Name: LNJNVB Analytes: Pass
Misc Info: BLANK 9303185 6020 ISTD: Pass

Vial Number: 4402

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: BLK
Total Dil Factor: 1.00

QC Element	s
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Oc rieme	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Но	1	2647917	1.14	2717767	97.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253 LCS.D\253 LCS.D#

Date Acquired: Nov 8 2009 02:42 am

Acq. Method: NormISIS.M QC Summary: Analytes: Pass Operator: ISTD: Sample Name: Pass

LNJNVC Misc Info: LCS Vial Number: 4403

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: LCS Prep Dil. Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

Analyte 1	Elements
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Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Ra	ange(%)	Flag
9 Be	6	1	35.70	1.01	40	89.3	80	- 120	
51 V	72	. 1	35.52	0.20	40	88.8	80	- 120	
52 Cr	72	1	36.08	0.50	40	90.2	80	- 120	
55 Mn	72	1	35.14	0.07	40	87.9	80	- 120	
59 Co	72	. 1	34.82	0.49	40	87.1	. 80	- 120	
60 Ni	72	. 1	36.40	0.69	40	91.0	80	- 120	
63 Cu	72	1	35.92	0.24	40	89.8	80	- 120	
66 Zn	72	1	35.76	1.51	40	89.4	80	- 120	
75 As	. 72	1	34.71	0.72	40	86.8	80	- 120	
78 Se	72	1	35.62	2.21	40	89.1	80	- 120	
95 Mo	72	1	32.10	0.70	40	80.3	80	- 120	
107 Ag	115	1	35.79	2.12	40	89.5	80	- 120	
111 Cd	115	1	35.37	1.53	40	88.4	80	- 120	
118 Sn	115	1	0.02	168.39	40	0.0	80	- 120	
121 Sb	115	1	32.20	2.07	40	80.5	80	- 120	
137 Ba	115	1	35.77	2.20	40	89.4	80	- 120	
205 T1	165	1	36.57	2.09	40	91.4	80	- 120	
208 Pb	165	. 1	36.87	2.16	40	92.2	80	- 120	
232 Th	165	1	36.61	1.54	40	91.5	80	- 120	
238 U	165	1	36.97	1.94	40	92.4	80	- 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358195	0.31	376079	95.2	30 - 120	
45 Sc	1	1130666	0.47	1186897	95.3	30 - 120	
72 Ge	1	497032	0.74	539567	92.1	30 - 120	
115 In	1	1523173	1.15	1576174	96.6	30 - 120	
165 Ho	1	2638001	1.37	2717767	97.1	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

0 :Max. Number of ISTD Failures Allowed

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

Date Acquired: Nov 8 2009 02:44 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7F 5X ISTD: Pass

Misc Info: D9J270261
Vial Number: 4404

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: AllRef
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.02	ppb	140.55	3600	
51 V	72	1	58.25	11.65	ppb	0.99	3600	
52 Cr	72	1	96.60	19.32	ppb	0.56	3600	
55 Mn	72	1	20.01	4.00	ppb	1.83	3600	
59 Co	72	1	0.41	0.08	ppb	18.64	3600	
60 Ni	72	1	2.50	0.50	ppb	10.52	3600	
63 Cu	72	1	0.61	0.12	ppb	13.42	3600	
66 Zn	72	1	18.56	3.71	ppb	2.43	3600	
75 As	72	1	190.75	38.15	ppb	0.69	3600	
78 Se	72	1	1.93	0.39	ppb	57.06	3600	
95 Mo	72	1	26.48	5.30	ppb	2.72	3600	
107 Ag	115	1	0.03	0.01	ppb	125.97	3600	
111 Cd	115	1	0.02	0.00	ppb	229.82	3600	
118 Sn	115	1	0.25	0.05	ppb	45.32	3600	
121 Sb	115	1	0.30	0.06	ppb	29.45	3600	
137 Ba	115	1	23.70	4.74	ppb	1.34	3600	
205 Tl	165	1	0.23	0.05	ppb	17.38	3600	
208 Pb	165	1	0.18	0.04	ppb	14.05	3600	
232 Th	165	1	0.24	0.05	ppb	4.71	1000	
238 U	165	1	13.31	2.66	ppb	1.53	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	333341	1.09	376079	88.6	30 - 120	
45 Sc	1	1062523	0.59	1186897	89.5	30 - 120	
72 Ge	1	462502	0.27	539567	85.7	30 - 120	
115 In	1	1375002	1.04	1576174	87.2	30 - 120	
165 Ho	1	2471361	0.80	2717767	90.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

TestAmerica

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#

Date Acquired: Nov 8 2009 02:47 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNC7FP25

Misc Info: SERIAL DILUTION

Vial Number: 4405

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SDIL Dilution Factor: 5.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC :	Rang	e(%)	Flag
9 Be	6	1	0.02	ppb	0.57	0.00	458.7	90	-	110	
51 V	72	1	2.26	ppb	2.18	2.33	97.2	90	-	110	
52 Cr	72	1	3.94	ppb	1.55	3.86	101.9	90	-	110	
55 Mn	72	1	0.83	ppb	10.87	0.80	103.6	90	-	110	
59 Co	72	1	0.02	ppb	18.64	0.02	109.5	90	-	110	
60 Ni	72	1	0.11	ppb	52.76	0.10	106.7	90	-	110	
63 Cu	72	1	0.01	ppb	230.36	0.02	26.5	90	-	110	
66 Zn	72	1	0.47	ppb	7.87	0.74	62.8	90	-	110	
75 As	7,2	1	7.52	ppb	0.96	7.63	98.5	90	_	110	
78 Se	. 72	1	-0.04	ppb	1143.50	0.08	-52.9	90	-	110	
95 Mo	72	1	0.94	ppb	9.86	1.06	88.3	90	_	110	
107 Ag	115	1	0.00	ppb	99.28	0.00	-232.5	90	-	110	
111 Cd	115	1	-0.01	ppb	100.17	0.00	-679.0	90	-	110	
118 Sn	115	1	0.09	ppb	4.94	0.01	892.4	90	_	110	
121 Sb	115	1	0.01	ppb	131.02	0.01	58.5	90	_	110	
137 Ba	115	1	0.94	ppb	4.03	0.95	99.3	90	-	110	
205 Tl	165	1	0.01	ppb	8.96	0.01	141.7	90	-	110	
208 Pb	165	1	0.01	ppb	18.12	0.01	165.2	90	_	110	
232 Th	165	1	0.01	ppb	22.37	0.01	123.4	90	-	110	
238 U	165	1	0.53	ppb	1.52	0.53	100.3	90	-	110	

ISTD elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Rang	e(%)	Flag
6	Li	1	355060	0.39	376079	94.4	30 -	120	
45	Sc	1	1125653	0.19	1186897	94.8	30 -	120	
72	Ge	1	502164	0.65	539567	93.1	30 -	120	
115	In	1	1479317	0.60	1576174	93.9	30 -	120	
165	Но	1	2614578	1.08	2717767	96.2	30 -	120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS)	ICPMS_024	Leading to the second	Reported: 11/09/09 10	:02:46	
Department: 090 (Metals)			Source: Spre	adsheet	
Sample: LNC7FP25	Serial Dilution:	25.00	Sample Dilution: 5.0	0	
Instrument: Agilent7500	Channel 272				
File: AG110709 # 255	Method 6020_				
Acquired: 11/08/2009 02:47:00	ICPMS 024	Matrix: AOUFOUS			

Acquired: 11/08/2009 02:47:00 ICPMS_024 Matrix: AQUEC Calibrated: 11/08/2009 02:25:00 Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	10	0.41625	0.09076	359		*	
7440-62-2	Vanadium	51	15823	56.600	58.240	2.82		*	
7440-47-3	Chromium	52	28379	98.450	96.590	1.93		*	
7439-96-5	Manganese	55	7172	20.725	20.010	3.57		*	
7440-48-4	Cobalt	59	210	0.44850	0.40970	9.47		*	
7440-02-0	Nickel	60	293	2.6645	2.4980	6.67		*	
7440-50-8	Copper	63	483	0.16105	0.60710	73.5		*	
7440-66-6	Zinc	66	1041	11.650	18.550	37.2		*	
7440-38-2	Arsenic	75	6250	187.85	190.70	1.49	0.21	1.5	\square
7782-49-2	Selenium	78	303	-1.0210	1.9300	153	0.70	NC	
7439-98-7	Molybdenum	95	2367	23.385	26.470	11.7		*	
7440-22-4	Silver	107	20	-0.06975	0.02999	333		*	
7440-43-9	Cadmium	111	3	-0.14365	0.02116	779		*	
7440-31 - 5	Tin	118	770	2.2540	0.25260	792		*	
7440-36-0	Antimony	121	176	0.17570	0.30050	41.5		*	
7440-39-3	Barium	137	1831	23.535	23.690	0.654			
7440-28-0	Thallium	205	281	0.32890	0.23210	41.7		*	
7439-92-1	Lead	208	597	0.30195	0.18290	65.1		* *	
7440-61-1	Uranium	238	11545	13.340	13.300	0.301		*	
7440-29-1	Thorium	232	403	0.30120	0.24410	23.4		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			0			*	

^{*} Analyte not requested for this batch, no MDL NC : Serial dilution concentration < 100 X MDL E : Difference greater than Limit (10%)

Reviewed by: Date:

IDB Reports TestAmerica, Inc. Version: 6.02.068

View Page 1 of 1

ISTD:

Pass

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D\#

Date Acquired: Nov 8 2009 02:50 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL Sample Name: LNC7FZ

Misc Info: POST DIGESTION SPIKE

Vial Number: 4406

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: PDS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: ---

Eleme	

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	. 72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	. 1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 บ	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SAMPLE SPIKE

Method; 6020 (ICP/MS) ICPMS_024 Reported: 11/09/09 10:02:49

Department: 090 (Metals) Source: Spreadsheet

Sample: LNC7FZ Spike Dilution: 1.00 Sample Dilution: 5.00

Instrument: **Agilent7500** Channel 272
File: AG110709 # 256 Method 6020_

Acquired: 11/08/2009 02:50:00 ICPMS_024 Matrix: AQUEOUS Calibrated: 11/08/2009 02:25:00 Units: ug/L

<u></u>									
CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		abla
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		\square
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		abla
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		abla
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		abla
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		abla
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0 .				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

	Reviewed by: Da	ite:
IDB Reports	TestAmerica, Inc.	Version: 6.02.068

ISTD:

Pass

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257_MS.D\257_MS.D#

Date Acquired: Nov 8 2009 02:53 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL

Sample Name: LNC7FS 5X
Misc Info: MATRIX SPIKE

Vial Number: 4407

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MS
Prep Dil. Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150
51 V	. 72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150
66 Zn	72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150
205 Tl	165	1	7.17	0.05	ppb	1.41	40	17.9	50 - 150
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120
72 Ge	1	462138	0.38	539567	85.6	30 - 120
115 In	1	1389102	1.17	1576174	88.1	30 - 120
165 Но	1	2485285	0.80	2717767	91.4	30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\258 CCV.D\258 CCV.D#

Date Acquired: Nov 8 2009 02:56 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemer	nts
E1.	mont	тс

Elen	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.17	ppb	1.68	50	102.3	90 - 110	
51	V	72	1	49.76	ppb	0.58	50	99.5	90 - 110	
52	Cr	72	1	50.23	ppb	0.59	50	100.5	90 - 110	
55	Mn	72	1	49.80	ppb	0.45	50	99.6	90 - 110	
59	Co	72	1	48.86	ppb	0.97	50	97.7	90 - 110	
60	Ni	72	1	51.09	ppb	0.38	50	102.2	90 - 110	
63	Cu	72	1	50.55	ppb	1.39	50	101.1	90 - 110	
66	Zn	72	1	51.57	ppb	0.26	50	103.1	90 - 110	
75	As	72	1	50.59	ppb	0.46	50	101.2	90 - 110	
78	Se	72	1	51.92	ppb	0.28	50	103.8	90 - 110	
95	Mo	72	1	50.29	ppb	1.00	50	100.6	90 - 110	
107	Ag	115	1	51.22	ppb	2.07	50	102.4	90 - 110	
111	Cd	115	1	51.60	ppb	0.81	50	103.2	90 - 110	
118	Sn	115	1	50.56	ppb	0.85	50	101.1	90 - 110	
121	Sb	115	1	51.03	ppb	1.10	50	102.1	90 - 110	
137	Ba	115	1	50.92	ppb	1.12	50	101.8	90 - 110	
205	Tl	165	1	52.43	ppb	1.68	50	104.9	90 - 110	
208	Pb	165	1	52.24	ppb	2.12	50	104.5	90 - 110	
232	Th	165	1	51.78	ppb	2.94	50	103.6	90 - 110	
238	U	165	1	52.22	ppb	2.20	50	104.4	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	366110	0.29	376079	97.3	30 - 120	
45	Sc	1	1169831	1.16	1186897	98.6	30 - 120	
72	Ge	1	507682	1.25	539567	94.1	30 - 120	
115	In	1	1542474	0.57	1576174	97.9	30 - 120	
165	Но	1	2664119	1.36	2717767	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259 CCB.D\259 CCB.D#

Date Acquired: Nov 8 2009 02:58 am

QC Summary: Operator: TEL

Sample Name: Analytes: Pass CCB

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB Total Dil Factor: 1.00

QC Elements

Elemen	t IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	_
51 V	72	1	-0.025	ppb	31.75	1.00	
52 Cr	72	1	0.015	ppb	240.08	1.00	
55 Mn	72	1	-0.003	ppb	454.38	1.00	
59 Co	72	1	0.007	ppb	19.00	1.00	
60 Ni	72	1	-0.021	ppb	92.00	1.00	
63 Cu	72	1	-0.023	ppb	91.13	1.00	
66 Zn	72	1	-0.387	ppb	12.46	1.00	
75 As	72	1	0.025	ppb	95.41	1.00	
78 Se	72	1	-0.065	ppb	394.03	1.00	
95 Mo	72	1	-0.040	ppb	70.76	1.00	
107 Ag	115	1	0.007	ppb	79.32	1.00	
111 Cd	115	1	0.012	ppb	73.39	1.00	
118 Sn	115	1	0.112	ppb	71.47	1.00	
121 Sb	115	1	0.150	ppb	17.00	1.00	
137 Ba	115	1	-0.041	ppb	5.14	1.00	
205 Tl	165	1	0.021	ppb	28.23	1.00	
208 Pb	165	1	0.003	ppb	8.31	1.00	
232 Th	165	1	0.048	ppb	25.86	1.00	
238 U	165	1	0.018	ppb	13.31	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%) Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120
72 Ge	1	519534	0.26	539567	96.3	30 - 120
115 In	1	1546385	0.40	1576174	98.1	30 - 120
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#

Date Acquired: Nov 8 2009 03:01 am

Operator: TEL QC Summary:
Sample Name: RLCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

OC	R.I	om/	an.	+-	
UC	EL	eme	311	LS.	

QC Eleme	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 M o	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367841	0.83	376079	97.8	30 - 120	
45 Sc	1	1154162	0.97	1186897	97.2	30 - 120	
72 Ge	1	516753	0.66	539567	95.8	30 - 120	
115 In	1	1524519	0.33	1576174	96.7	30 - 120	
165 Ho	1	2680772	0.38	2717767	98.6	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\261 MSD.D\261 MSD.D#

Date Acquired: Nov 8 2009 03:04 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNC7FD 5X

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 4408

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MSD Dilution Factor: 5.00

OC Elements

208 Pb 165

232 Th 165

165

238 U

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\257 MS.D\257 MS.D\#

_										
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Ве	6	1	7.15	ppb	4.97	7.56	5.64	20	
51	V	72	1	19.44	ppb	0.87	19.50	0.31	20	
52	Cr	72	1	27.63	ppb	0.44	27.55	0.29	20	
55	Mn	72	1	11.89	ppb	0.71	11.53	3.07	20	
59	Co	72	1	6.96	ppb	0.22	6.92	0.55	20	
60	Ni	72	1	7.63	ppb	4.71	7.47	2.13	20	
63	Cu	72	1	6.96	ppb	2.26	6.92	0.55	20	
66	Zn	. 72	1	11.24	ppb	0.91	12.20	8.19	20	
75	As	72	1	47.18	ppb	1.02	47.40	0.47	20	
78	Se	72	1	8.49	ppb	8.60	8.21	3.34	20	
95	Mo	72	1	12.08	ppb	2.93	12.33	2.05	20	
107	Ag	115	1	6.86	ppb	1.67	6.98	1.81	20	
111	Cd	115	1	7.38	ppb	2.12	7.47	1.12	20	
118	Sn	115	1	0.11	ppb	30.03	0.39	111.83	20	
121	Sb	115	1	6.82	ppb	2.78	6.89	1.02	20	
137	Ba	115	1	12.78	ppb	1.44	12.69	0.71	20	
205	Tl	165	1	7.29	ppb	1.19	7.17	1.61	20	

ISTD Elements							
Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329103	0.78	376079	87.5	30 - 120	
45 Sc	1	1057955	1.12	1186897	89.1	30 - 120	
72 Ge	1	456662	0.47	539567	84.6	30 - 120	
115 In	1	1365390	0.56	1576174	86.6	30 - 120	
165 Ho	1	2474617	1.07	2717767	91.1	30 - 120	

2.38

2.55

1.44

7.25

7.88

10.53

0.51

0.19

0.08

20

20

20

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

1

1

1

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

7.29 ppb

7.89 ppb

10.55 ppb

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#

Date Acquired: Nov 8 2009 03:07 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7L 5X ISTD: Pass

Sample Name: LNC7L 5X
Misc Info: D9J270263

Vial Number: 4409

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	157.59	3600	
51 V	72	1	46.85	9.37	ppb	1.89	3600	
52 Cr	72	1	12.39	2.48	ppb	5.61	3600	
55 Mn	72	. 1	171.35	34.27	ppb	1.07	3600	
59 Co	72	1	264.35	52.87	ppb	1.02	3600	
60 Ni	72	1	102.35	20.47	ppb	3.34	3600	
63 Cu	72	1	53.95	10.79	ppb	1.03	3600	
66 Zn	72	1	17.02	3.40	ppb	3.85	3600	
75 As	72	1	69.40	13.88	ppb	0.45	3600	
78 Se	72	1	3.99	0.80	ppb	47.95	3600	
95 Mo	72	1	6.46	1.29	ppb	6.25	3600	
107 Ag	115	1	0.02	0.00	ppb	159.25	3600	
111 Cd	115	1	0.13	0.03	ppb	54.73	3600	
118 Sn	115	1	0.20	0.04	ppb	29.32	3600	
121 Sb	115	1	0.23	0.05	ppb	27.91	3600	
137 Ba	115	1	43.61	8.72	ppb	1.89	3600	
205 Tl	165	1	0.08	0.02	ppb	8.14	3600	
208 Pb	165	1	1.84	0.37	ppb	5.27	3600	
232 Th	165	1	0.14	0.03	ppb	17.77	1000	
238 U	165	1	38.02	7.60	ppb	1.66	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	343401	0.74	376079	91.3	30 - 120	
45 Sc	1	1089536	0.75	1186897	91.8	30 - 120	
72 Ge	1	479909	1.11	539567	88.9	30 - 120	
115 In	1	1451981	1.22	1576174	92.1	30 - 120	
165 Ho	1	2546093	0.95	2717767	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#

Date Acquired: Nov 8 2009 03:09 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: LNFGD 5X ISTD: Pass

Misc Info: D9J280280 Vial Number: 4410

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	- 1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	. 1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	· Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

537

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#

Date Acquired: Nov 8 2009 03:12 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNFG2 5X
Misc Info: D9J280283

Vial Number: 4411

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	· 1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

D:\ICPCHEM\1\RPTTMP\sam.qct

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D\#

Date Acquired: Nov 8 2009 03:15 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNH2J 5X ISTD: Pass

Sample Name: LNH2J 5X ISTD: Pas Misc Info: D9J290310

Vial Number: 4412

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	.72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#

Date Acquired: Nov 8 2009 03:18 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2K 5X ISTD: Pass Misc Info: D9J290310

Vial Number: 4501

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267 CCV.D\267 CCV.D\

Date Acquired: Nov 8 2009 03:21 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

2C 1	e T émé	ii Co								
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	51.22	ppb	2.08	50	102.4	90 - 110	
51	V	72	1	49.65	ppb	0.54	50	99.3	90 - 110	
52	Cr	72	1	50.22	ppb	0.76	50	100.4	90 - 110	
55	Mn	72	1	49.57	ppb	0.78	50	99.1	90 - 110	
59	Co	72	1	48.62	ppb	0.28	50	97.2	90 - 110	
60	Ni	72	1	50.60	ppb	1.48	50	101.2	90 - 110	
63	Cu	72	1	50.08	ppb	0.86	50	100.2	90 - 110	
66	Zn	72	1	52.09	ppb	0.68	50	104.2	90 - 110	
75	As	72	1	50.33	ppb	0.35	50	100.7	90 - 110	
78	Se	72	1	50.70	ppb	1.91	50	101.4	90 - 110	
95	Mo.	72	1	50.34	ppb	1.97	50	100.7	90 - 110	
107	Ag	115	1	50.13	ppb	2.37	50	100.3	90 - 110	
111	Cd	115	1	50.15	ppb	1.77	50	100.3	90 - 110	
118	Sn	115	1	49.99	ppb	1.62	50	100.0	90 - 110	
121	Sb	115	1	50.52	ppb	2.60	50	101.0	90 - 110	
137	Ba	115	1	50.62	ppb	1.41	50	101.2	90 - 110	
205	Tl	165	1	51.11	ppb	0.42	50	102.2	90 - 110	
208	Pb	165	1	51.54	ppb	1.74	50	103.1	90 - 110	
232	Th	165	1	51.26	ppb	1.28	50	102.5	90 - 110	
238	U	165	1	51.53	ppb	0.94	50	103.1	90 - 110	
IST	D Ele	ments								
Eler	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	360685		1.10	376079	95.9	30 - 120	

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360685	1.10	376079	95.9	30 - 120	
45	Sc	1	1157595	0.85	1186897	97.5	30 - 120	
72	Ge	1	507944	1.20	539567	94.1	30 - 120	
115	In	1	1559749	0.93	1576174	99.0	30 - 120	
165	Но	1	2711611	1.14	2717767	99.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268 CCB.D\268 CCB.D#

Date Acquired: Nov 8 2009 03:23 am

Operator: TEL QC Summary:
Sample Name: CCB Analytes: Pass
Misc Info: ISTD: Pass

Misc Info: Vial Number: 1

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

1305

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element IS Ref Tune	Conc.	RSD(%)	High Limit	Flag
9 Be 6 1	-0.008 p	0.00	1.00	
51 V 72 1	-0.025 p	ppb 19.15	1.00	
52 Cr 72 1	-0.002 p	ppb 789.67	1.00	
55 Mn 72 1	-0.001 p	opb 1184.70	1.00	
59 Co 72 1	0.000 p	opb 707.73	1.00	
60 Ni 72 1	-0.014 p	ppb 130.22	1.00	
63 Cu 72 1	-0.051 p	opb 28.29	1.00	
66 Zn 72 1	-0.413 p	opb 3.98	1.00	
75 As 72 1	0.005 p	opb 390.64	1.00	
78 Se 72 1	_	opb 260.94	1.00	
95 Mo 72 1	_	ppb 12.59	1.00	
107 Ag 115 1	_	ppb 126.88	1.00	
111 Cd 115 1		opb 7618.50	1.00	
118 Sn 115 1	0.047 p	opb 150.30	1.00	
121 Sb 115 1	0.138 p	opb 23.66	1.00	
137 Ba 115 1	-0.038 p	opb 11.83	1.00	
205 Tl 165 1	0.021 p	opb 17.52	1.00	
208 Pb 165 1	~	opb 111.74	1.00	
232 Th 165 1		opb 16.07	1.00	
238 U 165 1	-	opb 14.92	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#

Date Acquired: Nov 8 2009 03:26 am

Operator: TEL QC Summary: Sample Name: Analytes: Pass RLCV

ISTD: Pass Misc Info:

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9	Ве	6	1	0.901 ppb	17.96	1.30	
51	V	72	1	4.935 ppb	2.34	6.50	
52	Cr	72	1	2.001 ppb	2.44	2.60	
55	Mn	72	1	1.030 ppb	4.04	1.30	
59	Co	72	1	0.990 ppb	2.41	1.30	
60	Ni	72	1	2.129 ppb	7.48	2.60	
63	Cu	72	1	1.903 ppb	4.00	2.60	
66	Zn	72	1	9.748 ppb	0.16	13.00	
75	As	72	1	4.893 ppb	4.12	6.50	
78	Se	72	1	5.130 ppb	8.01	6.50	
95	Mo	72	1	1.974 ppb	8.49	2.60	
107	Ag	115	1	5.301 ppb	1.96	6.50	
111	. Cd	115	1	1.056 ppb	7.93	1.30	
118	Sn	115	1	10.460 ppb	2.46	13.00	
121	Sb	115	1	2.083 ppb	0.79	2.60	
137	Ba	115	1	1.029 ppb	5.53	1.30	
205	Tl	165	1	1.089 ppb	0.37	1.30	
208	Pb	165	1	1.075 ppb	0.39	1.30	
232	Th	165	1	2.216 ppb	0.39	2.60	
238	U	165	1	1.111 ppb	0.42	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts



	Lot ID:	DITE	280283		-
	Client:	Northg	te Environ	menta)	•
	Batch(es) #:	93	03185		-
Associa	ted Samples:		1		
	I certify that, to ti	he best of my kn	owledge, the att	ached package	3
Signature	represents a com				

TestAmerica

Metals Raw Data RoadMap

LotID		Metal	WorkOrder	Anal Date TestDesc		Batch	File Id	Instr	
D9J280283	1	SE	LNFG21AC	20091108	6020TOTA	9303185	AG110709	024	
D9J280283	1	AS	LNFG21AA	20091108	6020TOTA	9303185	AG110709	024	

METALS PREPARATION LOGS ICP-MS



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 546

Batch Number:

9303185

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By: 1 AM

Prep Date: Due Date:

11/09/09

Lot	Work Order			Initial Weight/Volume
D9J300000 Water	LNJNV	В	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJNV	С	Due Date: SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	S	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	D	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270263 Water	LNC7L Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280280 Water	LNFGD Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280283 Water	LNFG2 Total		Due Date: 11/09/09 SDG:	50 mL
D9J290310 Water	LNH2J Total		Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2K Total		Due Date: 11/10/09 SDG:	50 mL

Comments:

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

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

METALS PREP SHEET SOP: DEN-IP-0014



TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH#	9303185	ALLIQ	UOTTED BY:	KS
PREP DATE:	11/2/2009	DIGES	STED BY:	JRW
CONSUMABLES U	ISED			
Digestion Cups:	Manufacturer:	Environmental Express	Lot #:	A901LS268
One or more samples	were filtered prior to ar	nalysis at the instrume	nt. Yes	No
If "yes", then the method	d blank and the LCS were	e also filtered in the sam	e manner using the sam	ne type of filter.
			Analyst(s) Initials:	
STANDARDS USE	D			
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15
		19 mars		4.500
REAGENTS USED				
Reagent	Manufacturer	Lot #	Volume Used (mL)	
HNO ₃	JT Baker	H14024	3	
TEMPERATURE C	YCLES			
Thermometer ID:	4082	Block &	& Cup # : 4 2	
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	45	1845	५६
HNO3	1900	45	1 430	43
HNO3				
Samples and QC re	volumed to:	50 mL	Analyst's Initials	JAM
COMMENTS:				

I certify that	t all in	formation	above is	s correct	t and	compi	let	e.
----------------	----------	-----------	----------	-----------	-------	-------	-----	----

Signature: Amwith

Date: 11/2/04

TestAmerica 548

METALS SAMPLE DATA ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 549

G:\Metals\Hidden\Forms\MassSpec\ICP-MS Std and Spike True Values.doc

550

ICP-MS Standard and Spike True Values

Post	Digestion	Spike	200	200	200	200	200	200	200	200	200	200	200	200	200	200	20	200	200	200	200	200			
Matrix Spike	Sample and	Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	rv for the	ICSAB.	
Laboratory	Control Sample	and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	ution. the % recover	the ICSA from the	
Interference	Check	Sample AB	1	100	100	100	100	100	100	100	100	100	ŀ	100	100	100	100	100	100	100	100	100	in the ICSA sol	ng the levels in	
Interference Check	Sample A		100,000 Aluminum	100,000 Calcium	100,000 Iron	100,000 Magnesium	100,000 Sodium	100,000 Phosphorus	100,000 Potassium	100,000 Sulfur	200,000 Carbon	1,000,000 Chloride	2000 Molybdenum	2000 Titanium									Due to the presence of trace containing in the ICSA solution, the % recovery for the	ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB	
Continuing	Calibration	Standard	20	20	20	20	50	20	50	20	20	20	20	20	20	20	50	20	20	50	20	50	to the presence	SAB solution is	
Initial	Calibration	Standard	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
Cal.	Std.	100 ppb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	All unit	ug/L.)
Element			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc			

Quality Control Standards

CCB = Continuing Calibration Blank ICB = Initial Calibration Blank ICV = Initial Calibration Verification (Second Source) CCV = Continuing Calibration Verification

TestAmerica Denver

Standards Preparation Logbook Record

Nov-09-2009

Analyst: trudelll

Logbook: \Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Lot No.: B2-SE02003 Vendor's Expiration

Vendor's Expiration Date: 12-01-2009

Vendor's Expiration Date: 03-01-2010

Solvent: 2% HNO3

Date Prep./Opened: 11-25-2008

Vendor: Inorganic Ventures

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 Vendor: Inorganic Ventures Analyst: trudelll

Solvent: 1% HNO3

Date Prep./Opened: 03-02-2009

Date Received: 03-02-2009

Lot No.: B2-SN02016

Date Expires(1): 03-01-2010 (None) Date Expires(2): 03-01-2010 (None)

(METALS)-Inventory ID: 833

 $\begin{array}{c|c} \underline{\text{Component}} & \underline{\text{Initial Conc (mg/L)}} & \underline{\text{Final Conc (mg/L)}} \\ \underline{\text{Sn}} & 1,000.0 & 1,000.0 \end{array}$

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

Page 1 of 12

STD2483-09, 1000 Zn (Inorganic Ventures)

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

Final Conc (mg/L) Component Initial Conc (mg/L) 1.000.0 1000 Zn 1,000.0

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

Solvent: 5% HNO3

Lot No.: H14024

Analyst: DIAZL Volume (ml): 250.00

Analyst: trudelll

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

Initial Conc (mg/L)

1,000.0

Final Conc (ug/L)

Ge

3,000.0 1.000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Parent Date Expires(1): 04-07-2010

Parent Date Expires(2): 05-01-2010

Aliquot Amount (ml): 1.0000

Component

Final Conc (ug/L)

Lithium6

Component

Initial Conc (mg/L)

4,000.0

Parent Std No.: STD1973-09, Indium Stock

Parent Date Expires(2): 05-01-2010

Aliquot Amount (ml): 0.2500

Component

Parent Date Expires(1): 04-07-2010

Final Conc (ug/L)

In

Initial Conc (mg/L)

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

Parent Std No.: STD6532-09, Holmium stock

1,000.0

Aliquot Amount (ml): 0.2500

2,000.0

Parent Date Expires(1): 10-26-2010

Parent Date Expires(2): 11-01-2010

Initial Conc (mg/L)

Final Conc (ug/L)

Component Ho

1,000.0

1,000.0

Page 2 of 12

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

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Analyst: DIAZL

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

STD6795-09, ICP-MS ICSA

Analyst: DIAZL

Analyst: LILLT

Volume (ml): 50.000

Solvent: 5% HNO3 Lot No.: H14024

Date Prep./Opened: 11-05-2009

Date Expires(1): 12-05-2009 (1 Month) Date Expires(2): 11-01-2010 (None)

pipettes: Met 8

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000

Initial Conc (ug/ml)	Final Conc (ug/L)
1,000.0	100,000
2,000.0	200,000
1,000.0	100,000
10,000	1,000,000
1,000.0	100,000
1,000.0	100,000
1,000.0	100,000
20.000	2,000.0
1,000.0	100,000
1,000.0	100,000
1,000.0	100,000
20.000	2,000.0
	2,000.0 1,000.0 10,000 1,000.0 1,000.0 20.000 1,000.0 1,000.0 1,000.0

STD6836-09, ICP-MS BLANK

Solvent: Water Volume (ml): 1,000.0

Date Prep./Opened: 11-07-2009

Date Expires(1): 05-07-2010 (6 Months)
Date Expires(2): 05-07-2010 (6 Months)

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

Page 3 of 12

Parent Std No.: STD6835-09, NITRIC ACID	Aliquot Amount (ml): 50.000
---	-----------------------------

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

STD6837-09, ICP-MS HIGH CAL STD Analyst: LILLT

Volume (ml): 100.00 Solvent: 5% HNO3 Lot No.: H14024

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

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

Component Initial Conc (mg/L) Final Conc (mg/L) Ag 20.000 0.1000 As 20.000 0.1000 Be 20.000 0.1000 Cd 20.000 0.1000 Co 20.000 0.1000 Cr 20.000 0.1000 Mn 20.000 0.1000 Mn 20.000 0.1000 Ni 20.000 0.1000 Se 20.000 0.1000 Se 20.000 0.1000 Th 20.000 0.1000 Tl 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 Sb 20.000 0.1000 Sb 20.000 0.1000 Sb 20.000 0.1000 Sb 20.000 0.1000 Sb 20.000 0.1000 Sb 20.000	_	* 11 3 67 (7)	TI 10 (11)
As 20,000 0.1000 Ba 20,000 0.1000 Be 20,000 0.1000 Co 20,000 0.1000 Cr 20,000 0.1000 Cr 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 U 20,000 0.1000 V 20,000 0.1000 Zn 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 Sh 20,000 0.1000 Sh 20,000 0.1000 Sh 20,000 0.1000 Component Initial Conc (mg/L) Final Conc (mg/L) Aliquot Amo	Component	Initial Conc (mg/L)	
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Mo 20.000 0.1000 Sb 20.000 0.1000 Sn 20.000 0.1000 Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.5000 Component Initial Conc (mg/L) Final Conc (mg/L) Al 2,000.0 10.000 Ca 2,000.0 10.000 Fe 2,000.0 10.000 K 2,000.0 10.000	Parent Std No.: STD3110-09, ICP-MS CALSTD 2	Aliquo	t Amount (ml): 0.5000
Sb 20,000 0.1000 Sn 20,000 0.1000 Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.5000 Component Initial Conc (mg/L) Final Conc (mg/L) Al 2,000.0 10.000 Ca 2,000.0 10.000 Fe 2,000.0 10.000 K 2,000.0 10.000	Component	Initial Conc (mg/L)	Final Conc (mg/L)
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Parent Std No.: STD3111-09, ICP-MS CALSTD 3 Aliquot Amount (ml): 0.5000 Component Initial Conc (mg/L) Final Conc (mg/L) Al 2,000.0 10.000 Ca 2,000.0 10.000 Fe 2,000.0 10.000 K 2,000.0 10.000			
Component Initial Conc (mg/L) Final Conc (mg/L) Al 2,000.0 10.000 Ca 2,000.0 10.000 Fe 2,000.0 10.000 K 2,000.0 10.000	Sn	20.000	0.1000
Al 2,000.0 10.000 Ca 2,000.0 10.000 Fe 2,000.0 10.000 K 2,000.0 10.000	Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	t Amount (ml): 0.5000
Ca 2,000.0 10.000 Fe 2,000.0 10.000 K 2,000.0 10.000	Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ca 2,000.0 10.000 Fe 2,000.0 10.000 K 2,000.0 10.000	Al	2,000.0	
Fe 2,000.0 10.000 K 2,000.0 10.000			
K 2,000.0 10.000			
,			
	Mg	2,000.0	10.000

2,000.0 2,000.0

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Na

10.000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
	20.000	
STD6838-09, ICP-MS HIGH CCV STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 100.00
Date Prep./Opened: 11-07-2009		
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Alique	ot 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	Alique	ot Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	ot Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000
*****	2,000.0	5.0000

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Na	2,000.0	5.0000
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Alique	ot Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
STD6839-09, ICP-MS HIGH RL STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		(,
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn	-	ot Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2):		T 10 (T)
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090
Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD	Aliqu	ot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

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Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W.	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

EE RL STD Analyst: LILLT Lot No.: H14024 Volume (ml): 10.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Solvent: 5% HNO3

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD Aliquot Amount (ml): 2.0000

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 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 V 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Wo 0.0010 0.0002 Sb 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sh 0.0010 0.0002 Ca 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Na 0.1000 0.0200	Component	Initial Conc (mg/L)	Final Conc (mg/L)
As 0.0010 0.0002 Ba 0.0010 0.0002 Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 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 Ti 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Al 0.1000 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0000 0.0004 Pt 0.0010 0.0002 Nb 0.0010 0.0002 Pt 0.0010 0.0002	Ag	0.0010	0.0002
Be 0.0010 0.0002 Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 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 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sh 0.0010 0.0002 Ca 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Nb 0.1000 0.0200 Nb 0.0002 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0001 <		0.0010	0.0002
Cd 0.0010 0.0002 Co 0.0010 0.0002 Cr 0.0010 0.0002 Mn 0.0010 0.0002 Mi 0.0010 0.0002 Pb 0.0010 0.0002 Se 0.0010 0.0002 Th 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 Sh 0.0010 0.0002 Al 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Na 0.1000 0.0200 Na 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0002 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Ba	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 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sh 0.0010 0.0002 Sn 0.0010 0.0002 AI 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0040 Pd 0.0010 0.0002 Nb 0.0010 0.0002 W 0.0010	Be	0.0010	
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 U 0.0010 0.0002 V 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 K 0.1000 0.0200 K 0.1000 0.0200 Ng 0.1000 0.0200 Ng 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0010 0.0002	Cd		
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TI 0.0010 0.0002 U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Se		
U 0.0010 0.0002 V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018	Th	0.0010	
V 0.0010 0.0002 Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018	Tl		
Zn 0.0010 0.0002 Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0010 0.0002 Sn 0.0090 0.0018			
Mo 0.0010 0.0002 Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	V		
Sb 0.0010 0.0002 Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	Zn		
Sn 0.0010 0.0002 Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 Sn 0.0090 0.0018	Mo	0.0010	
Al 0.1000 0.0200 Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Sb		
Ca 0.1000 0.0200 Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Sn		
Fe 0.1000 0.0200 K 0.1000 0.0200 Mg 0.1000 0.0200 Na 0.1000 0.0200 Nb 0.0020 0.004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Al		
K0.10000.0200Mg0.10000.0200Na0.10000.0200Nb0.00200.0004Pd0.00100.0002Pt0.00100.0002W0.00100.0002Sn0.00900.0018			
Mg0.10000.0200Na0.10000.0200Nb0.00200.0004Pd0.00100.0002Pt0.00100.0002W0.00100.0002Sn0.00900.0018	Fe		
Na 0.1000 0.0200 Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
Nb 0.0020 0.0004 Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018	Mg		
Pd 0.0010 0.0002 Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
Pt 0.0010 0.0002 W 0.0010 0.0002 Sn 0.0090 0.0018			
W 0.0010 0.0002 Sn 0.0090 0.0018	Pd	0.0010	
Sn 0.0090 0.0018			
1000 Zn 0.0090 0.0018	Sn	0.0090	0.0018
	1000 Zn	0.0090	0.0018

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TestAmerica 557

STD6841-09, ICP-MS HIGH ICSAB

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

Analyst: LILLT

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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

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	Aliquo	Amount (ml): 0.0500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Aliquo	Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

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W	20.000	1.0000
Parent Std No.: STD4542-09, ICPMS Interferent Chec	k Standard Alique	ot Amount (ml): 1.0000
- · · · · · · · · · · · · · · · · · · ·	pires(2): 08-01-2010	
Component	Initial Conc (ug/ml)	Final Conc (mg/L)
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000
D6842-09, ICP-MS HIGH LR STD1		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H1402	24	Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Alian	-
	Alique	ot Amount (mi): 0.5000
	·	
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Component Ag	Initial Conc (mg/L) 20.000	Final Conc (mg/L)
Component Ag As	Initial Conc (mg/L) 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000
Component Ag As Ba	Initial Conc (mg/L) 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000
Component Ag As Ba Be	Initial Conc (mg/L) 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cr	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb	Initial Cone (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se	Initial Cone (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Ti	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn	Initial Conc (mg/L) 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn	Initial Conc (mg/L) 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	Final Conc (mg/L) 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Ti U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component Mo	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	Final Conc (mg/L) 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000

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STD6843-09, ICP-MS HIGH ICV STD

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA IC		quot Amount (ml): 0.1000
· · · · · · · · · · · · · · · · · · ·	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	
Co	20.000	
Cr	20.000	
Cu	20.000	
Mn	20.000	
Ni	20.000	
Pb	20.000	
Se	20.000	
Th	20.000	
Tl	20.000	
U	20.000	
V	20.000	
Zn	20.000	0.0400
	Date Expires(2): 04-21-2010	quot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0400
Mo	20.000	
Sb	20.000	
Sn	20.000	0.0400
Parent Std No.: STD3115-09, ICP-MS TA IC		quot Amount (ml): 0.1000
•	Date Expires(2): 04-21-2010	Einel Cons (mag)
Component	Initial Conc (mg/L)	
Al	2,000.0	
<u>C</u> a	2,000.0	
Fe	2,000.0	
K	2,000.0	
Mg	2,000.0	
Na	2,000.0	4.0000
	'V BRC Alic	quot Amount (ml): 0.1000
Parent Std No.: STD3116-09, ICP-MS TA IC Parent Date Expires(1): 04-21-2010 Parent		1
Parent Date Expires(1): 04-21-2010 Parent	Date Expires(2): 04-21-2010	
Parent Date Expires(1): 04-21-2010 Parent Component	Date Expires(2): 04-21-2010 Initial Conc (mg/L)	Final Conc (mg/L)
Parent Date Expires(1): 04-21-2010 Parent	Date Expires(2): 04-21-2010	Final Conc (mg/L) 0.0800

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Analyst: LILLT

W 20.000 0.0400

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

 $\begin{tabular}{ll} \hline Component & & \underline{Initial\ Conc\ (mg/L)} \\ \hline Se & & 1.0000 & \hline \\ \hline \end{tabular} \begin{tabular}{ll} Final\ Conc\ (mg/L) \\ \hline 0.0020 \\ \hline \end{tabular}$

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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	Alio	quot Amount (ml): 1.0000

Component	Initial Conc (mg/L)	Final Conc (ug/L)	
Mo	0.2000	2.0000	
Sb	0.2000	2.0000	
Sn	1.0000	10.000	
Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1	Aliquot Amount (ml): 1.00		
Component	Initial Conc (mg/L)	Final Conc (ug/L)	
Nb	4.0000	40.000	
Pd	0.1000	1.0000	
Pt	0.1000	1.0000	
***	0.5000	5 0000	

0.5000

5.0000

Reviewed By:

W

RUN SUMMARY

File II	D: AG110	709				Ana	lyst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
3	Cal Blank			T	1.0	11/07/09 15:09		
4	100 ppb		,		1.0	11/07/09 15:12		
5	ICV				1.0	11/07/09 15:15		
6	RLIV				1.0	11/07/09 15:18		
7	ICB				1.0	11/07/09 15:20		
8	RL STD				1.0	11/07/09 15:23		
9	AFCEE RL			1 1	1.0	11/07/09 15:26		
10	ALTSe				1.0	11/07/09 15:29		
11	ICSA				1.0	11/07/09 15:31		
12	ICSAB				1.0	11/07/09 15:34		
13	RINSE			1	1.0	11/07/09 15:37		
14	LR1				1.0	11/07/09 15:40		
15	RINSE				1.0	11/07/09 15:42		
16	CCV				1.0	11/07/09 15:45		
17	ССВ	·		1	1.0	11/07/09 15:48		
18	RLCV				1.0	11/07/09 15:50		
19	LNDMKB	D9J280000	9301081	46	1.0	11/07/09 15:53		
20	LNDMKC	D9J280000	9301081	46	1.0	11/07/09 15:56		
21	LM9FJ	D9J240188-1	9301081	46	1.0	11/07/09 15:59		
22	LM9FJP5	D9J240188	9301081		5.0	11/07/09 16:01		
23	LM9FJZ	D9J240188-1	9301081	1	1.0	11/07/09 16:04		
24	LM9FJS	D9J240188-1	9301081	46	1.0	11/07/09 16:07		
25	LM9FJD	D9J240188-1	9301081	46	1.0	11/07/09 16:09		
26	LM9FK	D9J240188-2	9301081	46	1.0	11/07/09 16:12		
27	CCV				1.0	11/07/09 16:15	Mark P.	
28	ССВ				1.0	11/07/09 16:18		
29	RLCV			11	1.0	11/07/09 16:20	,,	
30	LNJT4B	D9J300000	9303213	MS	1.0	11/07/09 16:23	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
31	LNJT4C	D9J300000	9303213	мѕ	1.0	11/07/09 16:26		
32	LM8A7	D9J230367-1	9303213	MS	1.0	11/07/09 16:29		
33	LM8CG	D9J230367-2	9303213	мѕ	1.0	11/07/09 16:32		
34	LM8CV	D9J230367-3	9303213	мѕ	1.0	11/07/09 16:34		
35	LM8C1	D9J230367-4	9303213	мѕ	1.0	11/07/09 16:37		
36	LM8C1P5	D9J230367	9303213		5.0	11/07/09 16:40		
37	LM8C1Z	D9J230367-4	9303213		1.0	11/07/09 16:43		
38	LM8C1S	D9J230367-4	9303213	мѕ	1.0	11/07/09 16:45		
39	LM8C1D	D9J230367-4	9303213	мѕ	1.0	11/07/09 16:48		
40	CCV				1.0	11/07/09 16:51	, p., p., p., p., p., p., p., p., p., p.	
41	ССВ				1.0	11/07/09 16:53		
42	RLCV			1	1.0	11/07/09 16:57		
43	LNDMTB	D9J280000	9301086	46	1.0	11/07/09 17:00		$\neg \neg \neg$
44	LNDMTC	D9J280000	9301086	46	1.0	11/07/09 17:02	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
45	LM8E2	D9J230373-1	9301086	46	1.0	11/07/09 17:05		
46	LM8E2P5	D9J230373	9301086		5.0	11/07/09 17:08		
47	LM8E2Z	D9J230373-1	9301086	+	1.0	11/07/09 17:11		$\neg \neg$
48	LM8E2S	D9J230373-1	9301086	46	1.0	11/07/09 17:13		$\neg \neg$

RUN SUMMARY

File II	D: AG110	709				Ana	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16		
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19		
51	CCV				1.0	11/07/09 17:22		
52	ССВ				1.0	11/07/09 17:24		
53	RLCV				1.0	11/07/09 17:27		
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30		
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33		
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35		
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38		
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41		
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44		
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47		
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51		
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53		
63	CCV				1.0	11/07/09 17:56		
64	CCB				1.0	11/07/09 17:59		
65	RLCV				1.0	11/07/09 18:02		
66	LNNVDB	D9K020000	9306332	04	2.5	11/07/00-18:04	WI 1/9/09 Did notuse.	
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07		
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10		
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13		
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16		
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18		
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21		
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24		
74	CCV				1.0	11/07/09 18:27		
75	ССВ				1.0	11/07/09 18:29		
76	RLCV				1.0	11/07/09 18:32		
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35		
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38		
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40		
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43		
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46		
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49		
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51		
84	CCV				1.0	11/07/09 18:54		
85	CCB				1.0	11/07/09 18:57		
86	RLCV				1.0	11/07/09 19:00		
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03		
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05		
89	LM8DL	D9J230370-11	9301083	46	1.0	11/07/09 19:08		
90	LM8DN	D9J230370-12	9301083	46	1.0	11/07/09 19:11		
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14		
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17] 🗆
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19		
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22		

RUN SUMMARY

# Sample ID Lot No. Batch DF Analyzed Date 95 CCV	Comment C
96 CCB	
97 RLCV	
98 ICSA	
99 ICSAB 1.0 11/07/09 19:36 100 WASH 1.0 11/07/09 19:39 101 CCV 1.0 11/07/09 19:41 102 CCB 1.0 11/07/09 19:44 103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FPSQ D9K020448 9307099 5.0 11/07/09 19:58	
100 WASH 1.0 11/07/09 19:39 101 CCV 1.0 11/07/09 19:41 102 CCB 1.0 11/07/09 19:44 103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FPSQ D9K020448 9307099 5.0 11/07/09 19:58	
101 CCV 1.0 11/07/09 19:41 102 CCB 1.0 11/07/09 19:44 103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FPSQ D9K020448 9307099 5.0 11/07/09 19:58	
102 CCB 1.0 11/07/09 19:44 103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
103 RLCV 1.0 11/07/09 19:47 104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FPSQ D9K020448 9307099 5.0 11/07/09 19:58	
104 LNPKXBQ D9K030000 9307099 U1 1.0 11/07/09 19:50 105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
105 LNPKXCQ D9K030000 9307099 U1 1.0 11/07/09 19:52 106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
106 LNN4FQ D9K020448-1 9307099 U1 1.0 11/07/09 19:55 107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
107 LNN4FP5Q D9K020448 9307099 5.0 11/07/09 19:58	
108 I NN4EZO D9K020448-1 9307099 1.0 11/07/09 20:01	
100 ENTER DEMOZETTO" 100 11/01/08 20:01	
109 LNN4FSQ D9K020448-1 9307099 U1 1.0 11/07/09 20:03	
110 LNN4FDQ D9K020448-1 9307099 U1 1.0 11/07/09 20:06	
111 CCV 1.0 11/07/09 20:09	
112 CCB 1.0 11/07/09 20:12	
113 RLCV 1.0 11/07/09 20:14	
114 LNNVDB D9K020000 9306332 04 2.5 11/07/09 20:17	
115 LNNVDC D9K020000 9306332 04 2.5 11/07/09_26:20	
116 LNKT9 D9J300258-1 9306332 04 2.5 14/07/09 20:23	
117 LNKT9S D9J300258-1 9306332 04 2.5 11/07/09 20:25	
118 LNKT9D D9J300258-1 9306332 04 2.5 11/07/09 20:28	
119 CCV 1.0 11/07/09 20:31	
120 CCB 1.0 11/07/09 20:34	
121 RLCV 1.0 11/07/09 20:36	
122 RINSE 1.0 11/07/09 20:39	
123 RINSE 1.0 11/07/09 20:42 .	,
124 Gal Blank 1:0 11/07/09 20:45 // 1//9/	by Did notuse.
125 Cal Blank 1.0 11/07/09 20:47	
126 100 ppb 1.0 11/07/09 20:50	
127 CCV 1.0 11/07/09 20:53	
128 CCB 1.0 11/07/09 20:56	
129 RLCV 1.0 11/07/09 20:58	
130 ENNQ5BF D9K020000 9306285 MD 1.0 11/07/09-21:01	
131 LNNQ5CF D9K020000 9306285 MD 1.0 11/07/09 24:04	
132 LNLGXF 2X D9J300326-1 9306285 MD 2.0 11/07/09 21:07	
133 LNLG3F D9J300326-2 9306285 MD 1-0 11/07/09 21:10	
134 LNLG4F D9J300326-3 9306285 MP 1.0 11/07/09 21:12	
135 LNLHHF D9J300329-1 9306298 MD 1.0 11/07/09 21:15	
136 LNLHMF D9J300329-2 9306285 MD 1.0 11/07/09 21:18	
137 CCV 1.0 11/07/09 21:21	
138 CCB 1.0 11/07/09 21:23	
139 BLCV 1.0 11/07/09 21:26	,
140 LNCHPF D9J300329-3 9306285 MD 1.0 11/07/09 21:29	9 pid notuse.

RUN SUMMARY

File ID:	AG110709	Analyst: TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	ENLIJF	D9J300340-1	9306285	MD	1.0	11/07/09 21:32		
142	LNLJJP5F	D9J300340	9306285	+	5.0	11/07/09 21:35		$\exists \Box$
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37		╛
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40	1000	
145	LNLJJDF	D9J 300340-1	9306285	MD	1.0	11/07/09 21:43	. 1	╗
146	LNE	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	1/1/1/19 Pidnotuse	
147	CCV				1.0	11/07/09 21:48		
148	ССВ				1.0	11/07/09 21:51		╗
149	RLCV				1.0	11/07/09 21:54		
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57		
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59		
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02		
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05		
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08		
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10		
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13		
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16		
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19		
159	CCV				1.0	11/07/09 22:21		
160	CCB				1.0	11/07/09 22:24		
161	RLCV				1.0	11/07/09 22:27		
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30		
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32		
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35		
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38		
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41		ַם
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43		╛
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46		╛
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49		ַ□
170	ccv				1.0	11/07/09 22:52		ַ□
171	ССВ				1.0	11/07/09 22:54		
172	RLCV				1.0	11/07/09 22:57		
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00		
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03		ַם
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06		
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08		ַם
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11		
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14		
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17		
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19		
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22		
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25		
183	CCV				1.0	11/07/09 23:28		
184	CCB				1.0	11/07/09 23:30		
185	RLCV				1.0	11/07/09 23:33		
186	RINSE			1	1.0	11/07/09 23:36	:	

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709 Analyst: TEL

RINSE		Q
189][
189	tuse [
191 CCV		
192 CCB		
193 RLCV		C
194		
195		
NEMBRDF D9J280200-5 9302146 MD 1.0 11/08/09 00:03		
197		□
198		
LNEM3F		
200 LNEM4F D9J280200-9 9302146 MD 1.0 11/08/09 00:15 201 LNEM7F D9J280200-10 9302146 MD 1.0 11/08/09 00:20 202 CCV 1.0 11/08/09 00:20 203 CCB 1.0 11/08/09 00:23 204 RLCV 1.0 11/08/09 00:26 205 LNON2B D9K060000 9310060 04 2.5 11/08/09 00:28 206 LNON2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW6E D9K050485-4 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45] □
LNEMTF D9J280200-10 9302146 MD 1.0 11/08/09 00:17		
202 CCV 1.0 11/08/09 00:20 203 CCB 1.0 11/08/09 00:23 204 RLCV 1.0 11/08/09 00:28 205 LN0N2B D9K060000 9310060 04 2.5 11/08/09 00:28 206 LN0N2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNWSP D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNWSE D9K050485-6 9310060 04 2.5 11/08/09 00:37 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:40 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:51		
203 CCB 1.0 11/08/09 00:23 204 RLCV 1.0 11/08/09 00:26 205 LN0N2B D9K060000 9310060 04 2.5 11/08/09 00:28 206 LN0N2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW55 D9K050485-4 9310060 04 2.5 11/08/09 00:37 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:45 212 CCV 1.0 11/08/09 00:51 213 LNF42B D9J2] [
RLCV		ַוֹן
205 LN0N2B D9K060000 9310060 04 2.5 11/08/09 00:28 206 LN0N2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW6E D9K050485-4 9310060 04 2.5 11/08/09 00:37 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:42 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:45 212 CCV 1.0 11/08/09 00:48 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 1.0 11/08/09 00:53 214 RLCV 1.0 11/08/09 00:56 1.0 11/08/09 00:59 215 LNF		
206 LN0N2C D9K060000 9310060 04 2.5 11/08/09 00:31 207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW65 D9K050485-4 9310060 04 2.5 11/08/09 00:40 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:48 212 CCV 1.0 11/08/09 00:51 1.0 11/08/09 00:51 213 CCB 1.0 11/08/09 00:53 1.0 11/08/09 00:56 214 RLCV 1.0 11/08/09 00:59 1.0 11/08/09 00:59 </td <td></td> <td>]⊏</td>]⊏
207 LNW5P D9K050485-2 9310060 04 2.5 11/08/09 00:34 208 LNW55 D9K050485-4 9310060 04 2.5 11/08/09 00:40 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:45 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 1.0 11/08/09 00:53 214 RLCV 1.0 11/08/09 00:53 1.0 11/08/09 00:56 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:05][
208 LNW55 D9K050485-4 9310060 04 2.5 11/08/09 00:37 209 LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40 210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 5.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:10][
LNW6E D9K050485-6 9310060 04 2.5 11/08/09 00:40		וֹב
210 LNW6ES D9K050485-6 9310060 04 2.5 11/08/09 00:42 211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 1.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:16 223 RLCV 1.0	T C	
211 LNW6ED D9K050485-6 9310060 04 2.5 11/08/09 00:45 212 CCV 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 1.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:2]⊏
212 CCV 1.0 11/08/09 00:48 213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
213 CCB 1.0 11/08/09 00:51 214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
214 RLCV 1.0 11/08/09 00:53 215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21] □
215 LNF42B D9J290000 9302121 MS 1.0 11/08/09 00:56 216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41 P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21] C
216 LNF42C D9J290000 9302121 MS 1.0 11/08/09 00:59 217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21]⊏
217 LNE4T D9J280246-1 9302121 MS 1.0 11/08/09 01:02 218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21] [
218 LNE40 10X D9J280246-2 9302121 MS 10.0 11/08/09 01:05 219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		ַב
219 LNE41 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:07 220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
220 LNE41P25 D9J280246 9302121 25.0 11/08/09 01:10 221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		ַב
221 CCV 1.0 11/08/09 01:13 222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21	[]⊏
222 CCB 1.0 11/08/09 01:16 223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
223 RLCV 1.0 11/08/09 01:19 224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		1⊏
224 LNE41Z D9J280246-3 9302121 1.0 11/08/09 01:21		
	[
		Ī⊏
200 LINETIO ON DOUGULTOTO		
226 LNE41D 5X D9J280246-3 9302121 MS 5.0 11/08/09 01:27		
227 LNE44 5X D9J280246-4 9302121 MS 5.0 11/08/09 01:30		□
228 LNE47 2X D9J280246-5 9302121 MS 2.0 11/08/09 01:32		ֹן⊏
229 LNE5A 2X D9J280246-6 9302121 MS 2.0 11/08/09 01:35		
230 CCV 1.0 11/08/09 01:38		
231 CCB 1.0 11/08/09 01:41		
232 RLCV 1.0 11/08/09 01:44		C

RUN SUMMARY

File ID:	AG110709		Anaiyst: IEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46		
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49		
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52		
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55		
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58		
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00		
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03		
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06		
241	CCV				1.0	11/08/09 02:09		
242	CCB				1.0	11/08/09 02:11		
243	RLCV				1.0	11/08/09 02:14		
244	RINSE				1.0	11/08/09 02:17		
245	RINSE				1.0	11/08/09 02:20		
246.	Cal Blank				1.0	11/08/09 02:22	-KF11969 Pidnotuse	
247	Cal Blank				1.0	11/08/09 02:25	:	
248	100 ppb				1.0	11/08/09 02:28		
249	CCV				1.0	11/08/09 02:31		
250	ССВ				1.0	11/08/09 02:33		
251	RLCV				1.0	11/08/09 02:36		
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39		
253	LNJNVC	D9J300000	9303185	MS	1.0	11/08/09 02:42		
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44		
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47		
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50		
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53		
258	CCV	, , , , , , , , , , , , , , , , , , , ,			1.0	11/08/09 02:56		
259	ССВ				1.0	11/08/09 02:58		
260	RLCV				1.0	11/08/09 03:01		
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04		
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07		
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09	·	
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12		
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15		
266	LNH2K 5X	D9J290310-2	9303185	мѕ	5.0	11/08/09 03:18		
267	CCV				1.0	11/08/09 03:21		
268	ССВ				1.0	11/08/09 03:23		
269	RLCV				1.0	11/08/09 03:26		
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29		
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32		
272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34		
273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37		
274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40		
275	LNHRP	D9J290285-4	9303310	04	1.0	11/08/09 03:43		
276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:46		
277	CCV			1	1.0	11/08/09 03:48		
278	ССВ				1.0	11/08/09 03:51		
		· · · · · · · · · · · · · · · · · · ·						

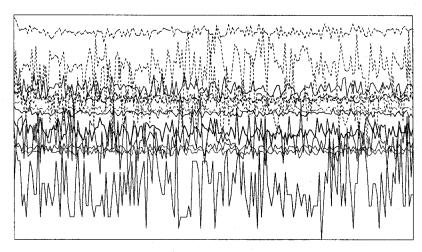
File II	File ID: AG110709 Analyst: TEL								
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	C	Comment	Q
279	RLCV				1.0	11/08/09 03:54			
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57			
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59		:	
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02			
283	LNHRTS	D9J290285-6	9303310	04	1.0	11/08/09 04:05			
284	LNHRTD	D9J290285-6	9303310	04	1.0	11/08/09 04:08			
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10			
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13			
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16			🗆
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19			
289	CCV				1.0	11/08/09 04:21			
290	ССВ				1.0	11/08/09 04:24			
291	RLCV				1.0	11/08/09 04:27		· · · · · · · · · · · · · · · · · · ·	
292	Cal Blank				1.0	11/08/09 04:30	NJ 11/9/19	Did notuse.	
293	Cal Blank				1.0	11/08/09 04:32			
294	100 ppb				1.0	11/08/09 04:35			
295	CCV				1.0	11/08/09 04:38			
296	ССВ				1.0	11/08/09 04:41			
297	RLCV				1.0	11/08/09 04:43			
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46			
299	CCV				1.0	11/08/09 04:49			
300	CCB				1.0	11/08/09 04:52			
301	RLCV	Dolfooooo	0000010		1.0	11/08/09 04:54			
302	LNNVOD	D9K020000	9300340	04	1.0	11/08/09 04.57	<u></u>		
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:00			
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 05:03			
305 306	LNJ05 LNJ1A	D9J300168-1	9306340 9306340	04 04	1.0	11/08/09 05:05 11/08/09 05:08			
307	LNJ1C	D9J300168-2 D9J300168-3	9306340	04	1.0	1/08/09 05:08			
308	LNJ1D	D9J300168-4	9306340	04	1.0	11/08/09 05:14			
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16			
310	CCV	D00000100 0	0000040	0-1	1.0	11/08/09 05:19			
311	ССВ				1.0	11/08/09 05:22			$\neg \Box$
312	RLCV				1.0	11/08/09 05:25		· · · · · · · · · · · · · · · · · · ·	
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27			
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30			
315	LNJ44	D9J300188-3	2306340	04	1.0	11/08/09 05:33			
	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36			
317	LNMA5 5X	D9J310124	9306340	04	5.0	11/08/09 05:38		,	
318	LNMCH	D9J3101/27-1	9306340	04	1.0	11/08/09 05:41			
319	CCV				1.0	11/08/09 05:44			
320	ССВ				1.0	11/08/09 05:47		······································	
321	RLCV				1.0	11/08/09 05:49			
322	LNMCN	D9J310127-2	9306340	04	1.0	11/08/09 05:52	_		
323	LNMONP5	D9J310127	9306340		5.0	11/08/09 05:55	1		
324	LMMCNZ	D9J310127-2	9306340		1.0	11/08/09_05:58	-6/1/1/9	69 pid notust	4 . \Box

331 BLCV

RUN SUMMARY

nod: 6020 (IC	IC	PMS	_024 (0	24)	Reported: 11/09/09 1	0:00:55	
D: AG110	709				Analys	t: TEL	
Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
LNMCNS	D9J310127-2	9306340	04	1.0	11/08/09 06:00		
LNMCND	D9J310127-2	9306340	04	1.0	11/08/09 06:03		
LNMCP	D9J310127-3	9306340	04	1.0	11/08/09 06:06		
LNMCQ	D9J310127-4	9306340	04	1.0	11/08/09 06:09		
CCV				1.0	11/08/09 06:11		
ССВ				1.0	11/08/09 06:14	-, 11	
	Sample ID Sample ID LNMCNS LNMCND LNMCP LNMCQ CCV	Sample ID Lot No. LNMCNS D9J310127-2 LNMCND D9J310127-2 LNMCP D9J310127-3 LNMCQ D9J310127-4 CCV D9J310127-4	D: AG110709 Sample ID Lot No. Batch LNMCNS D9J310127-2 9306340 LNMCND D9J310127-2 9306340 LNMCP D9J310127-3 9306340 LNMCQ D9J310127-4 9306340 CCV	D: AG110709 Sample ID Lot No. Batch LNMCNS D9J310127-2 9306340 04 LNMCND D9J310127-2 9306340 04 LNMCP D9J310127-3 9306340 04 LNMCQ D9J310127-4 9306349 04 CCV	D: AG110709 Sample ID Lot No. Batch DF LNMCNS D9J310127-2 9306340 04 1.0 LNMCND D9J310127-2 9306340 04 1.0 LNMCP D9J310127-3 9306340 04 1.0 LNMCQ D9J310127-4 9306340 04 1.0 CCV 1.0	D: AG110709 Analyse Sample ID Lot No. Batch DF Analyzed Date LNMCNS D9J310127-2 9306340 04 1.0 11/08/09 06:00 LNMCND D9J310127-2 9306340 04 1.0 11/08/09 06:03 LNMCP D9J310127-3 9306340 04 1.0 11/08/09 06:06 LNMCQ D9J310127-4 9306340 04 1.0 11/08/09 06:09 CCV 1.0 11/08/09 06:11 11/08/09 06:11	C: AG110709 Analyst: TEL Sample ID Lot No. Batch DF Analyzed Date Comment LNMCNS D9J310127-2 9306340 04 1.0 11/08/09 06:00 LNMCND LNMCP D9J310127-3 9306340 04 1.0 11/08/09 06:06 LNMCQ LNMCQ D9J310127-4 9306340 04 1.0 11/08/09 06:09 CCV 1.0 11/08/09 06:11

Tune File : NORM.U Comment : AG110709

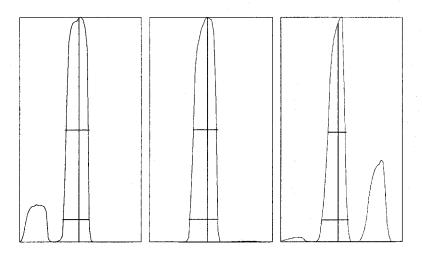


Integration Time: 0.1000 sec Sampling Period: 1.5300 sec

200 n:

Oxide: 156/140 1.612% Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
	-				_
. 6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
₩-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec Acquisition Time: 22.7600 sec

Y axis : Linear

Page: 1

Generated: Nov 07, 2009 14:09:07 Printed: Nov 07, 2009 14:09:09

Tune Report

Tune File : NORM.U Comment : AG110709

Tuning Paramet		===		===Ion Lenses==	=		===O-Pole Param	et	ers===	
RF Power	:	1600	W	Extract 1	:	0 V	AMU Gain	:	134	
RF Matching	:	1.7	٧	Extract 2	:	-170 V	AMU Offset	:	125	
Smpl Depth	:	8	mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007	
Torch-H	:	-0.8	mm	Omega Lens-ce	:	1.4 V	Axis Offset	:	-0.03	
Torch-V	:	-0.3	mm	Cell Entrance	:	-30 V	QP Bias	:	-3	V
Carrier Gas	:	0.81	L/min	QP Focus	:	7 V				
Makeup Gas	:	0.23	L/min	Cell Exit	:	-30 V	===Detector Par	am	eters===	=
Optional Gas									_	
operonal Gas	:		용				Discriminator	:	8	mV
Nebulizer Pump			% rps	===Octopole Par	ame	ters===	Discriminator Analog HV			
-	:	0.1	-	•	ame	ters=== 180 V			1770	V
Nebulizer Pump	:	0.1	rps	OctP RF			Analog HV	:	1770	V
Nebulizer Pump Sample Pump	:	0.1	rps rps	OctP RF	:	180 V	Analog HV	:	1770	V
Nebulizer Pump Sample Pump S/C Temp ===Reaction Cel	:	0.1	rps rps	OctP RF	:	180 V	Analog HV	:	1770	V

Page: 2

Generated : Nov 07, 2009 14:09:07 Printed : Nov 07, 2009 14:09:12

P/A Factor Tuning Report

Acquired:Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor		
6	Li	0.054257		
7 9	(Li) Be	Sensitivity 0.059350	too	TOM
23	Na	0.063944		
24	Mg	0.064875		
27	Αĺ	0.065819		
39	K	0.066026		
43	Ca	Sensitivity	too	low
45	Sc	0.066849		
51 52	V Cr	0.067403 0.068152		
53	(Cr)	Sensitivity	too	low
55 55	Mn	0.068773	200	TOW
57	Fe	Sensitivity	too	low
59	Co	0.069652		
60	Ni	Sensitivity	too	low
63	Cu	0.069964		
66	Zn	0.070153		,
72 75	Ge	Sensitivity		low
73 77	As (Se)	Sensitivity Sensitivity		low low
78	Se	Sensitivity	too	low
82	(Se)	Sensitivity	too	low
83	(Se)	Sensitivity		
93	Nb	Sensitivity	too	low
95	Мо	0.072052		
98	(Mo)	0.071277		
99 105	(Mo)	Sensitivity 0.071221	too	TOM
106	Pd (Cd)	0.070815		
107	Aq	Sensitivity	too	low
108	(Cd)	0.071381		10"
111	Cd	0.070975		
115	In	0.070220		
118	Sn	0.070317		
121	Sb	0.070422		
137 165	Ba	Sensitivity	too	
182	Ho W	Sensitivity Sensitivity	too too	low low
195	Pt.	Sensitivity	too	low
205	Tl	0.071611		
206	(Pb)	0.070464		
207	(Pb)	0.070565		
208	Pb	0.069648		
232	Th	0.069671		
238	Ū	0.069782		

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

- 1 -

573 TestAmerica

200.8 QC Tune Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D

Date Acquired:

Nov 7 2009 03:04 pm

Acq. Method:

tun_isis.M

Operator:

TEL

Sample Name:

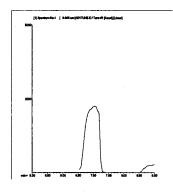
200.8 TUNE

Misc Info:

Vial Number: Current Method:

C:\ICPCHEM\1\METHODS\tun_isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	-
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



7 Li

Mass Calib.

Actual: 7.00

Required: 6.90

7.10

9.10

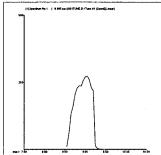
Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:



9 Be

Mass Calib.

Actual: 9.00

Required:8.90

Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:

[1] Geodesia Piec. 0.001 bes[0017UME_D/Turn 01]Count[@mind]	24 Mg		
2000	Mass Calib.		
	Actual: 24.00		
	Required:23.90	_	24.10
1000	Flag:		21.10
	Peak Width		
	Actual: 0.60		
	Required: 0.90		
mb-2 25 56 24 29 24 50 25 60 25 50 37 50 38 50	Flag:		
	- -		
(1) Sovieton Re. 1 8 MS secjoo1TLME D/Ture 41 (2)-urig\u00e4rever)	59 Co		
	Mass Calib.		
	Actual: 59.00		
	Required: 58.90	-	59.10
500	Flag:		
	Peak Width		
	Actual: 0.55		
'	Required: 0.90		
may 57 50 54 605 58 ECO 58 600 56 EGO 50 50 50	Flag:		
[1] Specimen No. 1 8.005 sec)(continue () / Turn ex (Count) Largery	115 In		
25%	Mass Calib.		
	Actual: 115.00		
	Required: 114.90	<u>.</u>	115.10
	Flag:		113.10
	Peak Width		
	Actual: 0.60		
	Required: 0.90		
	Flag:		
[1] Sprathwill Ro. S. [8:005 serij901TLREED / Turb 61] County (Exhaus) (Ex	208 Pb		
	Mass Calib.		
\wedge	Actual: 207.95		
	Required: 207.90	- -	208.10
1000	Flag:		
	Peak Width		
	Actual: 0.55		
/	Required: 0.90		
max-2005.50 2006.60 2006.50 2017.00 2017.50 2006.60 Year 50	Flag:		
	238 U		
500	Mass Calib.		
	Actual: 237.95		
	Required: 237.90	<u>_</u>	238.10
\	Flag:		200.10
/	Peak Width		
	Actual: 0.55		
	Required: 0.90		

11/7/09 3:05 PM

Tune Result:

Pass

C:\ICPCHEM\1\RPTTMP\2008tn.qct

Flag:

Page 2 of 2

/ 11

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#

Date Acquired: Nov 7 2009 03:07 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

			The same of the sa		phyhlas	
QC E	lement	:s	`		JONA 00	7
Elem	ent	IS Ref	Tune	OPS Mean	RSD(%)	
9	Вe	6	1	0	0.00	
51	V	72	1	130	55.47	
52	Cr	72	1	2920	1.23	
55	Mn	72	1	487	11.32	
59	Co	72	1	43	35.25	
60	Ni	72	1	67	56.79	
63	Cu	72	1	247	16.39	
66	Zn	72	1	177	1.72	
75	As	72	1	38	36.8¥	
78	Se	72	1	290	18.25	
95	Mo	72	1	17	69.28	
107	Ag	115	1	17	91.65	· ·
111	Cd	115	1	6	90.67	
118	Sn	115	1	120	25.00	
121	Sb	115	1	. 7	0.00	
137	Ва	115	1	11	17.32	N. A. A. A. A.
205	Tl	165	1	53	12.50	A contract of the contract of
208	Pb	165	1	250	7.42	
232	Th	165	1	93	59.01	
238	U	165	1	83	36.66	
						The second second
		standard				· · · · · · · · · · · · · · · · · · ·
Elem			Tune	CPS Mean	RSD(%)	. 3
6	Li		1	450969	0.62	
45	Sc		1	1353461	1.72	
72	Ge		1	599452	0.37	
115	In		1	1813996	0.92	
165	Но		1	3291682	1.21	

Tune File# 1 c:\icpchem\1\7500\he.u

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Date Acquired: Nov 7 2009 03:09 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

QC Elements

Eleme	nt	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0 .	0.00
51	V	72	1	107	14.32
52	\mathtt{Cr}	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	T1	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

Internal Standard Elements

Eleme	nt	Tune	CPS Mean	RSD(%)
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Но	1	3253654	1.35

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#

Date Acquired: Nov 7 2009 03:12 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:10 pm

Sample Type: ICAL

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Вe	6	1	52398	1.41
51	V .	72	1	764367	2.20
52	Cr	72	1	771475	1.19
55	Mn	72	1	912002	1.09
59	Co	72	1	914930	2.11
60	Ni	72	1	193364	2.37
63	Cu	72	1	465989	1.20
66	Zn	72	1	112029	1.18
75	As	72	1	90135	1.29
78	Se	72	1	18683	1.97
95	Mo	72	1	260394	0.61
107	Ag	115	1	765784	1.36
111	Cd	115	1	157700	1.34
118	Sn	115	1	441054	2.17
121	Sb	115	1	510967	1.02
137	Вa	115	1	213858	1.06
205	Tl	165	1	1838240	1.05
208	Pb	165	1	2519619	0.58
232	Th	165	1	2643067	0.57
238	U	165	1	2792671	0.69

ISTD Elements

Elemen	nt	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120	
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120	
72	Ge	1	575467	1.00	598490	96.2	30 - 120	
115	In	1	1781328	1.07	1797032	99.1	30 - 120	
165	Но	1	3275522	1.43	3253654	100.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0:Element Failures 0
0:ISTD Failures 0

11/7/09 3:13 PM

D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\005 ICV.D\005 ICV.D#

Date Acquired: Nov 7 2009 03:15 pm

Operator: TEL QC Summary:
Sample Name: ICV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 2103

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICV
Total Dil Factor: 1.00

oc ı	Eleme:	nts								
Eler		IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	40.37	ppb	1.43	40	100.9	90 - 110	
51	V	72	1	38.46	ppb	0.46	40	96.2	90 - 110	
52	Cr	72	1	39.20	ppb	1.19	40	98.0	90 - 110	
55	Mn	72	1	39.82	ppb	0.12	40	99.6	90 - 110	
59	Co	72	1	38.88	ppb	0.70	40	97.2	90 - 110	
60	Ni	72	1	40.10	ppb	0.16	40	100.3	90 - 110	
63	Cu	72	1	39.43	ppb	0.82	40	98.6	90 - 110	
66	Zn	72	1	40.09	ppb	0.20	40	100.2	90 - 110	
75	As	72	1	39.44	ppb	0.27	40	98.6	90 - 110	
78	Se	72	1	38.96	ppb	4.82	40	97.4	90 - 110	
95	Mo	72	1	39.50	ppb	0.72	40	98.8	90 - 110	
107	Ag	115	1	38.87	ppb	1.47	40	97.2	90 - 110	
111	Cd	115	1	39.30	ppb	0.98	40	98.3	90 - 110	
118	Sn	115	1	39.04	ppb	1.08	40	97.6	90 - 110	
121	Sb	115	1	39.64	ppb	1.29	40	99.1	90 - 110	
137	Ва	115	1	38.76	ppb	1.35	40	96.9	90 - 110	
205	Tl	165	1	39.29	ppb	2.05	40	98.2	90 - 110	
208	Pb	165	1	40.72	ppb	2.07	40	101.8	90 - 110	
232	Th	165	1	41.00	ppb	0.86	40	102.5	90 - 110	
238	U	165	1	40.29	ppb	1.06	40	100.7	90 - 110	
IST	Ele	ments								
Flor	ment		Tuno	CDS Maan		PCD (%)	Pof Value	Pac (&)	OC Pance (%)	Flag

121	Premeucs							
Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	448116	0.63	455621	98.4	30 - 120	
45	Sc	1	1362171	0.61	1356727	100.4	30 - 120	
72	Ge	1	576140	0.97	598490	96.3	30 - 120	
115	In	1	1802991	1.36	1797032	100.3	30 - 120	
165	Но	1	3291704	0.83	3253654	101.2	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D\

Date Acquired: Nov 7 2009 03:18 pm

Operator: TEL QC Summary:
Sample Name: RLIV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements	
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

Initial Calibration Blank (ICB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\007 ICB.D\007 ICB.D#

Date Acquired: Nov 7 2009 03:20 pm QC Summary:
Operator: TEL Analytes: Pass
Sample Name: ICB ISTD: Pass

Misc Info:

Vial Number: 2104

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	. 6	1	0.00	ppb	0.00	1.00	
51 V	72	1	0.01	ppb	78.95	1.00	
52 Cr	72	1	0.00	ppb	801.07	1.00	
55 Mn	72	1	0.00	ppb	167.97	1.00	
59 Co	72	1	0.00	ppb	88.12	1.00	
60 Ni	72	1	0.00	ppb	330.87	1.00	
63 Cu	72	1	-0.02	ppb	18.87	1.00	
66 Zn	72	1	-0.08	ppb	16.28	1.00	
75 As	72	1	0.00	ppb	320.71	1.00	
78 Se	72	1	-0.34	ppb	104.80	1.00	
95 Mo	72	1	0.03	ppb	28.62	1.00	
107 Ag	115	1	0.01	ppb	75.43	1.00	
111 Cd	115	1	0.01	ppb	156.14	1.00	
118 Sn	115	1	0.05	ppb	28.25	1.00	
121 Sb	115	1	0.08	ppb	20.91	1.00	
137 Ba	115	1	-0.02	ppb	26.22	1.00	
205 Tl	165	1	0.04	ppb	12.74	1.00	
208 Pb	165	1	0.00	ppb	28.23	1.00	
232 Th	165	1	0.02	ppb	38.30	1.00	
238 U	165	1	0.00	ppb	35.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

D:\ICPCHEM\1\RPTTMP\6020ICB.qct

RL STD QC Report

QC Elements

232 Th 165

165

238 U

Data File: C:\ICPCHEM\1\DATA\AG110709.B\008RLST.D\008RLST.D\

Date Acquired: Nov 7 2009 03:23 pm

Operator: TEL QC Summary:
Sample Name: RL STD Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 2105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: RLSTD Total Dil Factor: 1.00

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	1.03	ppb	7.07	1	102.9	50 - 150	
51	V	72	1	0.95	ppb	2.40	1	94.6	50 - 150	
52	Cr	72	1	0.95	ppb	9.15	1	94.9	50 - 150	
55	Mn	72	1	0.98	ppb	3.40	1	97.8	50 - 150	
59	Co	72	1	0.99	ppb	1.20	1	99.3	50 - 150	
60	Νi	72	1	0.99	ppb	1.44	1	98.7	50 - 150	
63	Cu	72	1	0.97	ppb	3.25	1	96.6	50 - 150	
66	Zn	72	1	9.84	ppb	1.62	10	98.4	50 - 150	
75	As	72	1	1.01	ppb	1.47	1	100.9	50 - 150	
78	Se	72	1	0.85	ppb	29.55	1	85.1	50 - 150	
95	Mo	72	1	0.98	ppb	3.69	1	98.3	50 - 150	
107	Ag	115	1	0.98	ppb	6.91	1	98.4	50 - 150	
111	Cd	115	1	0.98	ppb	2.94	1	97.7	50 - 150	
118	Sn	115	1	9.90	ppb	3.50	10	99.0	50 - 150	
121	Sb	115	1	1.06	ppb	2.89	1	105.8	50 - 150	
137	Ва	115	1	0.93	ppb	4.92	1	92.9	50 - 150	
205	Tl	165	1	1.05	ppb	1.24	1	104.9	50 - 150	
208	Pb	165	1	1.05	ppb	0.65	1	104.5	50 - 150	

IST	Elements							
Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	452942	1.17	455621	99.4	30 - 120	
45	Sc	1	1350845	0.67	1356727	99.6	30 - 120	
72	Ge	1	590050	0.39	598490	98.6	30 - 120	
115	In	1	1791700	1.48	1797032	99.7	30 - 120	
165	Но	1	3276677	0.55	3253654	100.7	30 - 120	

1.07 ppb 0.78

1.09 ppb 0.98

1

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

106.6 50 - 150

50 - 150

109.3

ISTD: Pass

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#

Date Acquired: Nov 7 2009 03:26 pm

Operator: TEL QC Summary: Sample Name: AFCEE RL Analytes: Pass

Misc Info:

Vial Number: 2106

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL Total Dil Factor: 1.00

QC Elements								
Element IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be 6	1	0.18	ppb	4.87	0	85.7	80 - 120	,
51 V 72	1	0.19	ppb	1.60	0	98.1	80 - 120	
52 Cr 72	1	0.17	ppb	19.24	0	88.9	80 - 120	
55 Mn 72	1	0.24	ppb	0.90	0	122.4	80 - 120	
59 Co 72	1	0.21	ppb	2.54	0	105.0	80 - 120	
60 Ni 72	1	0.19	ppb	33.14	0	95.0	80 - 120	
63 Cu 72	1	0.19	ppb	26.00	0	96.8	80 - 120	
66 Zn 72	1	1.99	ppb	0.59	2	101.2	80 - 120	
75 As 72	1	0.22	ppb	3.49	0	111.1	80 - 120	
78 Se 72	1	-0.03	ppb	493.20	0	-19.4	80 - 120	
95 Mo 72	1	0.20	ppb	10.11	0	102.9	80 - 120	
107 Ag 115	1	0.19	ppb	9.51	0 .	98.0	80 - 120	
111 Cd 115	1	0.20	ppb	6.38	0	102.8	80 - 120	
118 Sn 115	1	1.96	ppb	1.89	2	99.1	80 - 120	
121 Sb 115	1	0.22	ppb	4.04	0	104.0	80 - 120	
137 Ba 115	1	0.19	ppb	4.99	0	101.2	80 - 120	
205 Tl 165	1	0.21	ppb	2.78	0	101.1	80 - 120	
208 Pb 165	1	0.21	ppb	2.60	0	100.1	80 - 120	
232 Th 165	1	0.21	ppb	3.95	0	98.4	80 - 120	
238 U 165	1	0.21	ppb	3.63	0	98.0	80 - 120	
ISTD Elements								
Element	Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 I.i	1	153567		1 20	455621	99 5	30 - 120	

TST) Flewents							
Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	453567	1.29	455621	99.5	30 - 120	
45	Sc	1	1337172	0.83	1356727	98.6	30 - 120	
72	Ge	1	590407	0.86	598490	98.6	30 - 120	
115	In	1	1781901	0.99	1797032	99.2	30 - 120	
165	Но	1	3288568	1.80	3253654	101.1	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D#

Date Acquired: Nov 7 2009 03:29 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: ALTSe ISTD: Pass

Misc Info: 2 ppb Vial Number: 2107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

El∈	ment	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.00	0.00	ppb	0.00	3600	
51	V	72	1	0.00	0.00	ppb	62.04	3600	
52	Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55	Mn	72	1	0.00	0.00	ppb	140.46	3600	
59	Co	72	1	0.00	0.00	ppb	189.04	3600	
60	Ni	72	1	0.00	0.00	ppb	522.21	3600	
63	Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66	Zn	72	1	0.05	0.05	ppb	55.06	3600	
75	As	72	1	0.00	0.00	ppb	1812.70	3600	
78	Se	72	1	2.16	2.16	ppb	11.88	3600	
95	Mo	72	1	0.00	0.00	ppb	222.57	3600	
107	' Ag	115	1	0.01	0.01	ppb	10.07	3600	
111	Cd	115	1	0.00	0.00	ppb	89.77	3600	
118	Sn	115	1	0.00	0.00	ppb	293.54	3600	
121	Sb	115	1	0.02	0.02	ppb	23.95	3600	
137	Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205	Tl	165	1	0.01	0.01	ppb	2.14	3600	
208	Pb	165	1	0.00	0.00	ppb	39.67	3600	
232	Th	165	1	0.00	0.00	ppb	17.19	1000	
238	Ü	165	1	0.00	0.00	ppb	388.10	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D\

Date Acquired: Nov 7 2009 03:31 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA
Dilution Factor: 1.00

QC	El	emen	ts
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Eler	Element IS Ref Tune Conc.		Conc.	RSD(%)	High Limit ppb	Flag	
9	Вe	6	1	0.00 ppb	0.00	1.00	
51	V	72	1	2.45 ppb	8.60	1.00	
52	\mathtt{Cr}	72	1	1.86 ppb	3.80	1.00	
55	Mn	72	1	3.11 ppb	0.88	1.00	
59	Co	72	1	0.12 ppb	10.19	1.00	
60	Ni	72	1	1.23 ppb	9.98	1.00	
63	Cu	72	1	0.56 ppb	5.58	1.00	
66	Zn	72	1	4.20 ppb	1.79	10.00	
75	As	72	1	0.35 ppb	13.35	1.00	
78	Se	72	1	0.47 ppb	67.55	1.00	
95	Мо	72	1	2055.00 ppb	1.11	2000.00	
107	Ag	115	1	0.03 ppb	8.56	1.00	
111	Cd	115	1	0.40 ppb	30.97	1.00	
118	Sn	115	1	0.93 ppb	18.89	10.00	
121	Sb	115	1	0.95 ppb	3.56	1.00	
137	Ва	115	1	0.00 ppb	326.02	1.00	
205	Tl	165	1	0.04 ppb	20.03	1.00	
208	Pb	165	1	1.04 ppb	2.03	1.00	
232	Th	165	1	0.02 ppb	5.48	1.00	
238	U	165	1	0.00 ppb	14.89	1.00	

ISTD Elements

Elen	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120	
45	Sc	1	939322	1.85	1356727	69.2	30 - 120	
72	Ge	1	429449	0.82	598490	71.8	30 - 120	
115	In	1	1325081	0.92	1797032	73.7	30 - 120	
165	Но	1	2485688	0.47	3253654	76.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D#

Date Acquired: Nov 7 2009 03:34 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSAB ISTD: Pass

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSAB
Dilution Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	108.90	0.75	100	108.9	80 - 120	
51 V	72	1	92.27	0.38	100	92.3	80 - 120	
52 Cr	72	1	90.40	0.96	100	90.4	80 - 120	
55 Mn	72	1	92.59	1.18	100	92.6	80 - 120	
59 Co	72	1	88.85	0.30	100	88.9	80 - 120	
60 Ni	72	1	89.72	0.28	100	89.7	80 - 120	
63 Cu	72	1	85.14	0.90	100	85.1	80 - 120	
66 Zn	72	1	95.65	0.49	100	95.7	80 - 120	
75 As	72	1	99.50	0.47	100	99.5	80 - 120	
78 Se	72	1	105.90	0.80	100	105.9	80 - 120	
95 Mo	72	1	2149.00	1.99	2100	102.3	80 - 120	
107 Ag	115	1	84.00	7.96	100	84.0	80 - 120	
111 Cd	115	1	93.62	2.89	100	93.6	80 - 120	
118 Sn	115	1	96.78	1.78	100	96.8	80 - 120	
121 Sb	115	1	100.10	2.32	100	100.1	80 - 120	
137 Ba	115	1	96.82	2.12	100	96.8	80 - 120	
205 Tl	165	1	94.83	0.67	100	94.8	80 - 120	
208 Pb	165	1	93.97	0.82	100	94.0	80 - 120	
232 Th	165	1	101.90	0.67	100	101.9	80 - 120	
238 U	165	1	100.20	0.45	100	100.2	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272241	2.18	455621	59.8	30 - 120	
45 Sc	1	935334	1.15	1356727	68.9	30 - 120	
72 Ge	1	419509	1.32	598490	70.1	30 - 120	
115 In	1	1327038	1.55	1797032	73.8	30 - 120	
165 Ho	1	2524289	0.15	3253654	77.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

ISTD:

Pass

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

Date Acquired: Nov 7 2009 03:37 pm

Operator: TEL QC Summary: Sample Name: RINSE Analytes: Pass

Misc Info: Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

1101

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL
Total Dil Factor: 1.00

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OC.	ЕТ	ements

El	ement	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	0.00	ppb	0.00	0	0.0	80 - 120	
51	V	72	1	0.06	ppb	15.15	0	29.2	80 - 120	
52	Cr	72	1	0.00	ppb	941.54	0	-2.5	80 - 120	
55	Mn	72	1	0.00	ppb	87.90	0	-2.5	80 - 120	
59	Co	72	1	0.00	ppb	138.19	0	-0.5	80 - 120	
60	Ni	72	1	-0.01	ppb	79.76	0	-6.6	80 - 120	
63	Cu	72	1	-0.02	ppb	11.32	0	-10.3	80 - 120	
66	Zn	72	1	-0.12	ppb	4.66	2	-6.1	80 - 120	
75	As	72	1	0.00	ppb	172.97	0	2.3	80 - 120	
78	Se	72	1	0.18	ppb	157.63	0 -	105.8	80 - 120	
95	Mo	72	1	0.92	ppb	26.25	0	470.1	80 - 120	
10	7 Ag	115	1	0.01	ppb	38.83	0	5.1	80 - 120	
11	1 Cd	115	1	0.00	ppb	268.01	0	2.2	80 - 120	
11	3 Sn	115	1	-0.03	ppb	57.94	2	-1.3	80 - 120	
12	l Sb	115	1	0.13	ppb	22.58	0	60.8	80 - 120	
13	7 Ba	115	1	-0.03	ppb	10.98	0	-13.6	80 - 120	
20	5 Tl	165	1	0.00	ppb	35.28	0	1.1	80 - 120	
20	B Pb	165	1	0.00	ppb	109.50	0	-0.7	80 - 120	
23	2 Th	165	1	0.03	ppb	14.09	0	14.5	80 - 120	
23	8 U	165	1	0.02	ppb	14.78	0	7.9	80 - 120	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120	
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120	
72	Ge	1	563469	0.48	598490	94.1	30 - 120	
115	In	1	1720438	0.38	1797032	95.7	30 - 120	
165	Но	1	3228952	0.84	3253654	99.2	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014 LR.D\014 LR.D#

Date Acquired: Nov 7 2009 03:40 pm

Acq. Method: NormISIS.M QC Summary:
Operator: TEL Analytes: Pass
Sample Name: LR1 ISTD: Pass

Misc Info:

Vial Number: 2110

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: LR
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

:3

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 T1	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 но	1	3245351	1.45	3253654	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#

Date Acquired: Nov 7 2009 03:42 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass Sample Name: RINSE ISTD: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	- 6	1	0.01	0.01	ppb	173.22	3600	
51 V	72	1	0.03	0.03	ppb	5.05	3600	
52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
59 Co	72	1	0.00	0.00	ppb	73.71	3600	
60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
75 As	72	1	0.03	0.03	ppb	18.58	3600	
78 Se	72	1	0.26	0.26	ppb	60.51	3600	
95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
232 Th	165	1	0.12	0.12	ppb	15.82	1000	
238 U	165	1	0.14	0.14	ppb	23.45	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\016 CCV.D\016 CCV.D\

Date Acquired: Nov 7 2009 03:45 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

165

165

1

232 Th

238 U

OC Elements

T-3		TO Def	m	0		DOD (0.)	T	D (0)	00.5 (0)	
	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	50.82	ppb	0.98	50	101.6	90 - 110	
51	V	72	1	47.69	ppb	0.85	50	95.4	90 - 110	
52	Cr	72	1	47.81	ppb	0.72	50	95.6	90 - 110	
55	Mn	72	. 1	47.91	ppb	0.63	50	95.8	90 - 110	
59	Co	72	1	48.31	ppb	1.05	50	96.6	90 - 110	
60	Νi	72	1	49.87	ppb	0.51	50	99.7	90 - 110	
63	Cu	72	1	48.27	ppb	0.97	50	96.5	90 - 110	
66	Zn	72	1	49.24	ppb	0.51	50	98.5	90 - 110	
75	As	72	1	49.61	ppb	0.57	50	99.2	90 - 110	
78	Se	72	1	51.34	ppb	3.01	50	102.7	90 - 110	
95	Мо	72	1	49.43	ppb	1.34	50	98.9	90 - 110	
107	Ag	115	1	48.77	ppb	0.60	50	97.5	90 - 110	
111	Cd	115	1	49.46	ppb	1.05	50	98.9	90 - 110	
118	Sn	115	1	49.42	ppb	0.94	50	98.8	90 - 110	
121	Sb	115	1	49.48	ppb	0.82	50	99.0	90 - 110	
137	Ва	115	1	48.65	ppb	1.08	50	97.3	90 - 110	
205	Tl	165	1	49.98	ppb	1.20	50	100.0	90 - 110	
208	Pb	165	1	50.63	ppb	2.15	50	101.3	90 - 110	

IST	D Elements							
Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	424171	1.07	455621	93.1	30 - 120	
45	Sc	1	1298607	1.88	1356727	95.7	30 - 120	
72	Ge	1	570018	0.80	598490	95.2	30 - 120	
115	In	1	1777686	0.76	1797032	98.9	30 - 120	
165	Но	1	3306431	1.43	3253654	101.6	30 - 120	

1.41

0.97

50

50

101.2

101.2

90 - 110

90 - 110

50.61 ppb

50.58 ppb

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\017 CCB.D\017 CCB.D#

Date Acquired:

Nov 7 2009 03:48 pm

Operator:

TEL

QC Summary:

Sample Name:

Analytes: Pass

Misc Info:

CCB

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File:

C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 03:13 pm

Sample Type:

CCB

Total Dil Factor:

1.00

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UC.	ъı	ements

9 Be 6 1 0.000 ppb 0.00 1.00 51 V 72 1 0.018 ppb 26.29 1.00 52 Cr 72 1 0.021 ppb 89.72 1.00 55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 111 Cd 115 1 0.011 ppb 38.12 <t< th=""><th>Element</th><th>IS Ref</th><th>Tune</th><th>Conc.</th><th></th><th>RSD(%)</th><th>High Limit</th><th>Flag</th></t<>	Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
52 Cr 72 1 0.021 ppb 89.72 1.00 55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba	9 Be	6	1	0.000	ppb	0.00	1.00	
55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.026 ppb 8.86 1.00 208 Pb	51 V	72	1	0.018	ppb	26.29	1.00	
59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44	52 Cr	72	1	0.021	ppb	89.72	1.00	
60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 18.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	55 Mn	72	1	-0.002	ppb	258.47	1.00	
63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 16.25 1.00 205 Tl 165 1 0.001 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	59 Co	72	1	0.000	ppb	7.74	1.00	
66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	60 Ni	72	1	-0.003	ppb	365.53	1.00	
75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	63 Cu	72	1	-0.006	ppb	212.36	1.00	
78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	66 Zn	72	1	-0.070	ppb	18.30	1.00	
95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	75 As	72	1	0.022	ppb	32.72	1.00	
107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	78 Se	72	1	0.156	ppb	92.00	1.00	
111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	95 Mo	72	1	0.115	ppb	30.30	1.00	
118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	107 Ag	115	1	0.011	ppb	38.12	1.00	
121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	111 Cd	115	1	0.002	ppb	113.82	1.00	
137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	118 Sn	115	1	0.224	ppb	27.67	1.00	
205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	121 Sb	115	1	0.348	ppb	18.44	1.00	
208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	137 Ba	115	1	-0.026	ppb	8.86	1.00	
232 Th 165 1 0.056 ppb 20.03 1.00	205 Tl	165	1	0.021	ppb	16.25	1.00	
**	208 Pb	165	1	0.000	ppb	463.86	1.00	
238 U 165 1 0.020 ppb 23.07 1.00	232 Th	165	1	0.056	ppb	20.03	1.00	
	238 U	165	1	0.020	ppb	23.07	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#

Date Acquired: Nov 7 2009 03:50 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	. 6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

ISTD Elements

6 Li 1 443603 0.24 455621 97.4 30 - 120	
45 Sc 1 1335995 1.35 1356727 98.5 30 - 120	
72 Ge 1 596206 0.64 598490 99.6 30 - 120	
115 In 1 1804793 1.75 1797032 100.4 30 - 120	
165 Ho 1 3324168 1.02 3253654 102.2 30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

0 :Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095 CCV.D\095 CCV.D#

Date Acquired: Nov 7 2009 07:25 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	50.00	ppb	3.68	50	100.0	90 - 110	
51	V	72	1	49.46	ppb	0.96	50	98.9	90 - 110	
52	Cr	72	1	49.13	ppb	0.63	50	98.3	90 - 110	
55	Mn	72	1	48.00	ppb	0.58	50	96.0	90 - 110	
59	Co	72	1	49.88	ppb	1.19	50	99.8	90 - 110	
60	Ni	72	1	52.70	ppb	0.96	50	105.4	90 - 110	
63	Cu	72	1	50.75	ppb	0.19	50	101.5	90 - 110	
66	Zn	72	1	48.83	ppb	0.18	50	97.7	90 - 110	
75	As	72	1	50.85	ppb	1.33	50°	101.7	90 - 110	
78	Se	72	1	50.97	ppb	2.08	50	101.9	90 - 110	
95	Mo	72	1 .	49.28	ppb	0.59	50	98.6	90 - 110	
107	Ag	115	1	48.69	ppb	1.80	50	97.4	90 - 110	
111	Cd	115	1	48.20	ppb	1.31	50	96.4	90 - 110	
118	Sn	115	. 1	47.65	ppb	1.87	50	95.3	90 - 110	
121	Sb	115	1	47.61	ppb	2.17	50	95.2	90 - 110	
137	Ва	115	1	48.23	ppb	1.87	50	96.5	90 - 110	
205	Tl	165	1	49.17	ppb	1.01	50	98.3	90 - 110	
208	Pb	165	1	50.08	ppb	1.74	50	100.2	90 - 110	
232	Th	165	1	49.66	ppb	0.53	50	99.3	90 - 110	
238	U	165	1	49.60	ppb	0.64	50	99.2	90 - 110	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120	
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120	
72	Ge	1	557000	0.87	598490	93.1	30 - 120	
115	In	1	1717369	0.76	1797032	95.6	30 - 120	
165	Но	1	3017615	0.61	3253654	92.7	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096 CCB.D\096 CCB.D#

Date Acquired: Nov 7 2009 07:28 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Eleme	ent I	S Ref	Tune	Conc.		RSD(%)	High L	imit Flag
9 B	e	6	1	0.000	ppb	0.00	1.00)
51 V	•	72	1 .	-0.006	ppb	24.61	1.00)
52 C	r	72	1	0.005	ppb	16.13	1.00	ָ
55 M	in	72	1	0.012	ppb	40.48	1.00)
59 C	o	72	1	0.003	ppb	90.18	1.00)
60 N	i	72	1	0.005	ppb	115.47	1.00)
63 C	u	72	1	-0.001	ppb	1434.90	1.00)
66 Z	n	72	1	0.040	ppb	39.82	1.00) .
75 A	s	72	1	-0.001	ppb	689.47	1.00)
78 S	е	72	1	0.203	ppb	119.68	1.00)
95 M	io	72	1	0.030	ppb	15.19	1.00)
107 A	.g	115	1	0.009	ppb	17.39	1.00)
111 C	d	115	1	0.008	ppb	214.98	1.00)
118 S	n	115	1	0.033	ppb	87.07	1.00)
121 S	b	115	1,	0.133	ppb	16.18	1.00)
137 B	a	115	1	-0.005	ppb	66.27	1.00)
205 T	1	165	1	0.010	ppb	5.85	1.00)
208 P	b	165	1	0.007	ppb	10.03	1.00)
232 T	h	165	1	0.031	ppb	21.92	1.00)
238 U		165	1	0.010	ppb	23.45	1.00)

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#

Date Acquired: Nov 7 2009 07:30 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

ISTD: Misc Info: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 07 2009 03:13 pm

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	. 72	1	2.031 ppb	2.60	2.60	
66 Zn	. 72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D\#

Date Acquired: Nov 7 2009 07:33 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA
Dilution Factor: 1.00

QC	Element	s	
		_	

Eler	nent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	0.01 ppb	173.15	1.00	-
51	٧	72	1	2.34 ppb	2.35	1.00	
52	Cr	72	1	1.89 ppb	3.80	1.00	
55	Mn	72	1	3.08 ppb	1.35	1.00	
59	Co	72	1	0.13 ppb	9.32	1.00	
60	Ni	72	1	1.54 ppb	6.59	1.00	
63	Cu	72	1	0.62 ppb	13.41	1.00	
66	Zn	72	1	4.36 ppb	1.67	10.00	
75	As	72	1	0.31 ppb	11.37	1.00	
78	Se	72	1	-0.18 ppb	17.27	1.00	
95	Mo	72	1	2024.00 ppb	0.75	2000.00	
107	Ag	115	1	0.04 ppb	30.78	1.00	
111	Cd	115	1	0.44 ppb	34.74	1.00	
118	Sn	115	1	0.41 ppb	9.39	10.00	
121	Sb	115	1	0.94 ppb	2.45	1.00	
137	Ba	115	1	0.02 ppb	61.87	1.00	
205	Tl	165	1	0.04 ppb	26.87	1.00	
208	Pb	165	1	1.05 ppb	0.68	1.00	
232	Th	165	1	0.02 ppb	35.17	1.00	
238	U	165	1	0.01 ppb	14.16	1.00	

ISTD Elements

Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	
6	Li		1	316325	1.25	455621	69.4	30 - 120	
45	Sc		1	945462	1.56	1356727	69.7	30 - 120	
72	Ge		1	429131	0.94	598490	71.7	30 - 120	
115	In		1	1251973	0.62	1797032	69.7	30 - 120	
165	Но		1	2302241	0.67	3253654	70.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

TestAmerica

Interference Check Solution AB (ICS-AB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#

Date Acquired:

Nov 7 2009 07:36 pm

Acq. Method:

NormISIS.M

QC Summary:

Operator:

TEL

Analytes: Pass

Sample Name:

ICSAB

ISTD: Pass

Misc Info:

Vial Number:

2109

Current Method: Calibration File:

C:\ICPCHEM\1\METHODS\NormISIS.M
C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update:

Nov 07 2009 03:13 pm

Sample Type:

ICSAB

Dilution Factor:

1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	- 6	1	101.10	0.81	100	101.1	80 - 120	
51 V	72	1	96.26	0.64	100	96.3	80 - 120	
52 Cr	72	1 ,	92.97	0.53	100	93.0	80 - 120	
55 Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59 Co	72	1	90.72	0.50	100	90.7	80 - 120	
60 Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63 Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66 Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75 As	72	1	101.10	0.38	100	101.1	80 - 120	
78 Se	72	1	105.10	1.94	100	105.1	80 - 120	
95 Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107 Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111 Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118 Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121 Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137 Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205 Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208 Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232 Th	165	1	98.27	1.03	100	98.3	80 - 120	
238 U	165	1	97.38	0.98	100	97.4	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298307	2.13	455621	65.5	30 - 120	
45 Sc	1	951400	0.73	1356727	70.1	30 - 120	
72 Ge	1	417924	0.89	598490	69.8	30 - 120	
115 In	1	1269948	0.83	1797032	70.7	30 - 120	
165 Ho	1	2339416	0.71	3253654	71.9	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#

Date Acquired: Nov 7 2009 07:39 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: WASH

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	. 1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CCV.D\101 CCV.D#

Date Acquired: Nov 7 2009 07:41 pm

Operator: QC Summary: TEL CCV Sample Name: Analytes: Pass Misc Info: ISTD:

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV Total Dil Factor: 1.00

QC	Eleme	nts
Ele	ement	IS

Elen	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.02	ppb	3.60	50	102.0	90 - 110	
51	V	72	1	49.10	ppb	0.68	50	98.2	90 - 110	
52	Cr	72	1	48.80	ppb	0.79	50	97.6	90 - 110	
55	Mn	72	1	48.00	ppb	0.60	50	96.0	90 - 110	
59	Co	72	1	49.55	ppb	0.61	50	99.1	90 - 110	
60	Ni	72	1	52.06	ppb	1.46	50	104.1	90 - 110	
63	Cu	72	1	50.22	ppb	0.56	50	100.4	90 - 110	
66	Zn	72	1	48.51	ppb	1.13	50	97.0	90 - 110	
75	As	72	1	50.95	ppb	0.50	50	101.9	90 - 110	
78	Se	72	1	49.38	ppb	4.19	50	98.8	90 - 110	
95	Mo	. 72	1	50.11	ppb	1.38	50	100.2	90 - 110	
107	Ag	115	1	49.66	ppb	0.85	50	99.3	90 - 110	
111	Cd	115	1	49.01	ppb	1.42	50	98.0	90 - 110	
118	Sn	115	1	48.68	ppb	1.81	50	97.4	90 - 110	
121	Sb	115	1	48.87	ppb	1.17	50	97.7	90 - 110	
137	Ва	115	1	49.35	ppb	1.09	50	98.7	90 - 110	
205	Tl	165	1	49.79	ppb	1.41	50	99.6	90 - 110	
208	Pb	165	1	49.95	ppb	1.13	50	99.9	90 - 110	
232	Th	165	1	49.72	ppb	0.91	50	99.4	90 - 110	
238	U	165	1	49.59	ppb	1.94	50	99.2	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120	
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120	
72	Ge	1	546607	0.97	598490	91.3	30 - 120	
115	In	1	1673358	0.50	1797032	93.1	30 - 120	
165	Но	1	3013021	0.51	3253654	92.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Pass

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102 CCB.D\102 CCB.D#

Date Acquired: Nov 7 2009 07:44 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Elem	ent	IS Ref	Tune	Conc.		RSD(%)	High Limit	t Flag
9	Ве	6	1	0.007	ppb	173.18	1.00	_
51	V	72	1 .	0.072	ppb	11.11	1.00	
52	Cr	72	1	0.002	ppb	1427.90	1.00	:
55 1	Mn	72	1	-0.002	ppb	998.74	1.00	
59	Co	72	1	0.004	ppb	62.33	1.00	
60 1	Ni	72	1	0.095	ppb	21.31	1.00	
63	Cu .	72	1	0.001	ppb	1376.50	1.00	
66	Zn	72	1	0.050	ppb	67.37	1.00	
75	As	72	1	0.009	ppb	154.12	1.00	
78	Se	72	1	0.133	ppb	315.07	1.00	
95	Mo	72	1	0.099	ppb	50.63	1.00	
107	Ag	115	1	0.009	ppb	39.54	1.00	
111	Cd	115	1	0.005	ppb	103.50	1.00	
118	Sn	115	1	0.062	ppb	107.54	-1.00	
121	Sb	115	1	0.138	ppb	16.19	1.00	
137	Ba	115	1	-0.017	ppb	52.66	1.00	
205	T1	165	1	0.016	ppb	15.17	1.00	
208	Pb	165	1	0.005	ppb	21.11	1.00	
232	Th	165	1	0.033	ppb	24.50	1.00	
238	U	165	1	0.010	ppb	34.21	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#

Date Acquired: Nov 7 2009 07:47 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	_
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	. 72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
	1.0/00	
Date:	11/08/09	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

Date Acquired: Nov 7 2009 08:47 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:45 pm

Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	1013	6.79
52	\mathtt{Cr}	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ва	115	1	74	17.43
205	T1	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Но	1	3039108	1.07

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#

Date Acquired: Nov 7 2009 08:50 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:48 pm

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	47883	0.67
51	V	72	1	747976	1.49
52	Cr	72	1	754628	1.13
55	Mn	72	1	865964	0.71
59	Co	72	1	889724	1.22
60	Ni	72	1	191586	1.40
63	Cu	72	1	456036	0.95
66	Zn	72	1	106780	0.65
75	As	72	1	89192	0.61
78	Se	72	1	18229	1.26
95	Mo	72	1	254493	1.19
107	Ag	115	1	752402	0.75
111	Cd	115	1	150239	1.10
118	Sn	115	1	420016	0.73
121	Sb	115	1	483973	0.74
137	Ba	115	1	204383	0.51
205	Tl	165	1	1701616	0.60
208	Pb	165	1	2338107	2.25
232	Th	165	1	2413552	1.92
238	U	165	1	2559276	1.77

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC R	ange(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30	- 120	
45	Sc	1	1260434	1.10	1273788	99.0	30	- 120	
72	Ge	1	556836	0.86	577640	96.4	30	- 120	
115	In	1	1704167	0.61	1726730	98.7	30	- 120	
165	Но	1	3052265	1.25	3039108	100.4	30	- 120	

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures 0 0 :ISTD Failures 0

11/7/09 8:51 PM D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127 CCV.D\127 CCV.D#

Date Acquired: Nov 7 2009 08:53 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemen	nts		
Fla	amant	TC	Pof	

Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Вę	6	1	50.43	ppb	3.83	50	100.9	90 - 110	
51	V	72	1	48.44	ppb	0.77	50	96.9	90 - 110	
52	Cr	72	1	48.00	ppb	0.40	50	96.0	90 - 110	
55	Mn	72	1	48.98	ppb	0.83	50	98.0	90 - 110	
59	Co	72	1	49.19	ppb	0.88	50	98.4	90 - 110	
60	Ni	72	1	51.00	ppb	2.25	50	102.0	90 - 110	
63	Cu	72	1	50.40	ppb	1.04	50	100.8	90 - 110	
66	Zn	72	1	49.66	ppb	0.82	50	99.3	90 - 110	
75	As	72	1	49.96	ppb	1.36	50	99.9	90 - 110	
78	Se	72	1	50.40	ppb	4.89	50	100.8	90 - 110	
95	Mo	72	1	49.49	ppb	0.61	50	99.0	90 - 110	
107	Ag	115	1	48.04	ppb	0.50	50	96.1	90 - 110	
111	Cd	115	1	48.84	ppb	0.25	50	97.7	90 - 110	
118	Sn	115	1	48.90	ppb	0.50	50	97.8	90 - 110	
121	Sb	115	1	49.44	ppb	0.72	50	98.9	90 - 110	
137	Ва	115	1	49.58	ppb	0.98	50	99.2	90 - 110	
205	Tl	165	1	50.08	ppb	0.23	50	100.2	90 - 110	
208	Pb	165	1	49.87	ppb	2.65	50	99.7	90 - 110	
232	Th	165	1	50.94	ppb	1.78	50	101.9	90 - 110	
238	U	165	1	50.49	ppb	2.18	50	101.0	90 - 110	

ISTD Elements

Eler	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	401327	1.29	398155	100.8	30 - 120	
45	Sc	1	1286634	0.38	1273788	101.0	30 - 120	
72	Ge	1	558660	0.70	577640	96.7	30 - 120	
115	In	1	1725819	0.46	1726730	99.9	30 - 120	
165	Но	1	3087824	1.47	3039108	101.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128 CCB.D\128 CCB.D#

Date Acquired: Nov 7 2009 08:56 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.043	ppb	23.48	1.00	
52 Cr	72	1	0.013	ppb	34.25	1.00	
55 Mn	72	1	0.004	ppb	271.40	1.00	
59 Co	72	1	0.003	ppb	58.98	1.00	
60 Ni	72	1	0.013	ppb	122.65	1.00	
63 Cu	72	1 .	-0.010	ppb	116.03	1.00	
66 Zn	72	1	-0.311	ppb	3.85	1.00	
75 As	72	1	0.007	ppb	208.78	1.00	
78 Se	72	1	0.060	ppb	542.70	1.00	
95 Mo	72	1	0.010	ppb	195.90	1.00	
107 Ag	115	1	0.008	ppb	34.15	1.00	
111 Cd	115	1	-0.003	ppb	158.97	1.00	
118 Sn	115	1	0.071	ppb	72.17	1.00	
121 Sb	115	1	0.186	ppb	24.43	1.00	
137 Ba	115	1	-0.019	ppb	41.26	1.00	
205 Tl	165	1	0.019	ppb	3.88	1.00	
208 Pb	165	1	0.007	ppb	24.82	1.00	
232 Th	165	1	0.050	ppb	27.19	1.00	
238 U	165	1	0.014	ppb	24.25	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D\#

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Page 1 of 1

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#

Date Acquired: Nov 7 2009 08:58 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: RLCV

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Date Acquired: Nov 7 2009 11:44 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank Misc Info:

MISC INIO:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:42 pm

Sample Type: CalBlk

QC Elements

-					
Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	Ü	165	1	122	7.26

Internal Standard Elements

Elem	ent	Tune	CPS Mean	RSD(%)
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Но	1	2681412	0.51

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#

Date Acquired: Nov 7 2009 11:47 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:45 pm

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	45518	1.54
51	V	72	1	700879	1.29
52	Cr	. 72	1	693042	2.18
55	Mn	72	1	795858	1.60
59	Co	72	1	850264	1.89
60	Ni	72	1	181428	0.41
63	Cu	72	1	431089	0.73
66	Zn	72	1	95751	0.48
75	As	72	1	84617	1.05
78	Se	72	1	17278	1.91
95	Mo	72	1	230286	0.80
107	Ag	115	1	661266	1.42
111	Cd	115	1	131853	1.14
118	Sn	115	1	371875	2.20
121	Sb	115	1	432362	1.85
137	Ва	115	1	187475	1.78
205	Tl	165	1	1498644	1.03
208	Pb	165	1	2042776	1.12
232	Th	165	1	2142976	0.23
238	U	165	1	2200342	0.40

ISTD Elements

Eleme	nt	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120	
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120	
72	Ge	1 .	507906	1.25	533218	95.3	30 - 120	
115	In	1	1532161	1.02	1552104	98.7	30 - 120	
165	Но	1	2672323	0.90	2681412	99.7	30 - 120	

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

ISTD Ref File:

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0:Element Failures 0
0:ISTD Failures 0

11/7/09 11:48 PM D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

ISTD:

Pass

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191 CCV.D\191 CCV.D#

Date Acquired: Nov 7 2009 11:50 pm

Operator: TEL QC Summary: Sample Name: CCV Analytes: Pass

Misc Info: Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	49.23	ppb	3.26	50	98.5	90 - 110	
51	V	72	1	48.52	ppb	1.74	50	97.0	90 - 110	
52	Cr	72	1	48.49	ppb	0.29	50	97.0	90 - 110	
55	Mn	72	1	48.47	ppb	1.24	50	96.9	90 - 110	
59	Co	72	1	48.02	ppb	0.67	50	96.0	90 - 110	
60	Ni	72	1	49.69	ppb	1.50	50	99.4	90 - 110	
63	Cu	72	1	49.62	ppb	0.90	50	99.2	90 - 110	
66	Zn	72	1	48.96	ppb	1.42	50	97.9	90 - 110	
75	As	72	1	49.10	ppb	0.76	50	98.2	90 - 110	
78	Se	72	1	48.52	ppb	4.63	50	97.0	90 - 110	
95	Mo	72	1	49.23	ppb	0.82	50	98.5	90 - 110	
107	Ag	115	1	49.55	ppb	1.37	50	99.1	90 - 110	
111	Cd	115	1	49.69	ppb	1.93	50	99.4	90 - 110	
118	Sn	115	1	49.87	ppb	1.50	50	99.7	90 - 110	
121	Sb	115	1	49.85	ppb	1.58	50	99.7	90 - 110	
137	Ва	115	1	49.38	ppb	1.63	50	98.8	90 - 110	
205	Tl	165	1	50.07	ppb	0.63	50	100.1	90 - 110	
208	Pb	165	1	50.67	ppb	1.87	50	101.3	90 - 110	
232	Th	165	1	50.33	ppb	1.25	50	100.7	90 - 110	
238	U	165	1	51.37	ppb	0.78	50	102.7	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	391774	1.28	401411	97.6	30 - 120	
45	Sc	1	1173327	0.14	1190683	98.5	30 - 120	
72	Ge	1	511730	0.36	533218	96.0	30 - 120	
115	In	1	1536232	0.41	1552104	99.0	30 - 120	
165	Но	1	2663987	0.61	2681412	99.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\192 CCB.D\192 CCB.D#

Date Acquired:

Nov 7 2009 11:52 pm

Operator:

TEL

QC Summary:

Sample Name:

ССВ

Analytes: Pass

Misc Info:

CCB

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.M
C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 11:48 pm

Sample Type:

ССВ

Total Dil Factor:

1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.021	ppb	99.86	1.00	
51 V	72	1	-0.024	ppb	36.47	1.00	
52 Cr	72	1	0.015	ppb	57.14	1.00	
55 Mn	72	1	0.032	ppb	9.94	1.00	
59 Co	72	1	0.000	ppb	241.41	1.00	
60 Ni	72	1	-0.008	ppb	160.82	1.00	
63 Cu	72	1	-0.035	ppb	57.76	1.00	
66 Zn	72	1	-0.363	ppb	4.76	1.00	
75 As	72	1	0.004	ppb	177.30	1.00	
78 Se	72	1	0.169	ppb	283.55	1.00	
95 Mo	72	1	-0.009	ppb	169.70	1.00	
107 Ag	115	1	0.008	ppb	60.74	1.00	
111 Cd	115	1	0.009	ppb	130.00	1.00	
118 Sn	115	1	0.105	ppb	79.70	1.00	
121 Sb	115	1	0.172	ppb	19.79	1.00	
137 Ba	115	1	-0.007	ppb	70.67	1.00	
205 Tl	165	1	0.024	ppb	16.62	1.00	
208 Pb	165	1	0.009	ppb	31.16	1.00	
232 Th	165	1	0.066	ppb	21.79	1.00	
238 U	165	1	0.019	ppb	10.85	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#

Date Acquired: Nov 7 2009 11:55 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 Ho	1	2673393	1.59	2681412	99.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Date Acquired: Nov 8 2009 02:25 am

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:23 am

Sample Type: CalBlk

QC Elements

ent	IS Ref	IS Ref Tune CPS Mean		RSD(%)
Вe	- 6	1	3	173.21
V	72	1	620	12.63
Cr	72	1	2680	1.78
Mn	72	1	813	8.79
Co	72	1	67	30.95
Ni	72	1	113	13.08
Cu	72	1	490	11.82
Zn	72	1	656	6.46
As	72	1	45	17.63
Se	72	1	333	20.05
Mo	72	1	257	16.03
Ag	115	1	40	74.94
Cd	115	1	11	116.88
Sn	115	1	477	0.80
Sb	115	1	156	24.28
Ba	115	1	152	14.20
Tl	165	1	96	21.83
Pb	165	1	372	9.02
Th	165	1.	160	32.65
U	165	1	140	10.99
	Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sn Sb Ba Tl Pb Th	Be 6 V 72 Cr 72 Mn 72 Co 72 Ni 72 Cu 72 Zn 72 As 72 Se 72 Mo 72 Ag 115 Cd 115 Sn 115 Sb 115 Ba 115 Tl 165 Pb 165 Th 165	Be 6 1 V 72 1 Cr 72 1 Mn 72 1 Co 72 1 Ni 72 1 Cu 72 1 Zn 72 1 As 72 1 Se 72 1 Mo 72 1 Ag 115 1 Cd 115 1 Sn 115 1 Sb 115 1 Ba 115 1 Tl 165 1 Pb 165 1 Th 165 1	Be 6 1 3 V 72 1 620 Cr 72 1 2680 Mn 72 1 813 Co 72 1 67 Ni 72 1 113 Cu 72 1 490 Zn 72 1 45 Se 72 1 333 Mo 72 1 257 Ag 115 1 40 Cd 115 1 11 Sn 115 1 477 Sb 115 1 156 Ba 115 1 152 Tl 165 1 96 Pb 165 1 372 Th 165 1 160

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	376079	0.79
45	Sc	1	1186897	1.34
72	Ge	1	539567	0.45
115	In	1	1576174	1.52
165	Но	1	2717767	0.30

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#

Date Acquired: Nov 8 2009 02:28 am

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:26 am

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	42446	1.21
51	Λ.	72	1	684937	3.17
52	Cr	72	1	670667	0.81
55	Mn	72	1	787843	0.97
59	Co	72	1	839400	0.67
60	Ni	72	1	178958	0.70
63	Cu	72	1	424705	0.79
66	Zn	72	1	94491	0.73
75	As	72	. 1	84032	1.05
78	Se	72	1	16841	1.85
95	Mo.	72	1	231498	1.15
107	Ag	115	1	664263	0.80
111	Cd	115	1	132542	1.42
118	Sn	115	1	376743	0.98
121	Sb	115	1	435060	0.49
137	Ba	115	1	188704	0.74
205	Tl	165	1	1479617	0.97
208	Pb	165	1	2033413	0.75
232	Th	165	1	2126721	0.55
238	Ū	165	1	2198988	0.53

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120	
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120	
72	Ge	1	510601	1.68	539567	94.6	30 - 120	
115	In	. 1	1555316	0.82	1576174	98.7	30 - 120	
165	Но	1	2687981	0.46	2717767	98.9	30 - 120	

0

0

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0 :ISTD Failures

11/8/09 2:28 AM D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CCV.D\249 CCV.D#

Date Acquired: Nov 8 2009 02:31 am

Operator: QC Summary: TEL Analytes: Sample Name: CCV Pass ISTD: Pass Misc Info:

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV Total Dil Factor: 1.00

Element	IS	Re

QC Elements

Ele	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Вe	6	1	50.21	ppb	0.59	50	100.4	90 - 110	
51	V	72	1	49.66	ppb	0.22	50	99.3	90 - 110	
52	Cr	72	1	50.51	ppb	0.78	50	101.0	90 - 110	
55	Mn	72	1	49.52	ppb	0.42	50	99.0	90 - 110	
59	Co	72	1	48.78	ppb	0.64	50	97.6	90 - 110	
60	Ni	72	1	50.96	ppb	0.39	50	101.9	90 - 110	
63	Cu	72	1	50.45	ppb	0.98	50	100.9	90 - 110	
66	Zn	72	1	51.04	ppb	1.32	50	102.1	90 - 110	
75	As	72	1	50.22	ppb	0.79	50	100.4	90 - 110	
78	Se	72	1	52.93	ppb	2.64	50	105.9	90 - 110	
95	Mo	72	1	50.88	ppb	0.45	50	101.8	90 - 110	
107	Ag	115	1	50.92	ppb	2.20	50	101.8	90 - 110	
111	Cd	115	1	51.72	ppb	2.62	50	103.4	90 - 110	
118	Sn	115	1	51.06	ppb	2.41	50	102.1	90 - 110	
121	Sb	115	1	51.12	ppb	1.48	50	102.2	90 - 110	
137	Ва	115	1	50.77	ppb	1.68	50	101.5	90 - 110	
205	Tl	165	1	51.85	ppb	1.16	50	103.7	90 - 110	
208	Pb	165	1	51.54	ppb	2.32	50	103.1	90 - 110	
232	Th	165	1	51.27	ppb	1.18	50	102.5	90 - 110	
238	U	165	1	51.61	ppb	0.90	50	103.2	90 - 110	

ISTD Elements

Element	Tur	e CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	360601	1.23	376079	95.9	30 - 120	
45 Sc	1	1152210	0.10	1186897	97.1	30 - 120	
72 Ge	1	506331	0.64	539567	93.8	30 - 120	
115 In	. 1	1532589	0.89	1576174	97.2	30 - 120	
165 Ho	1	2667156	1.17	2717767	98.1	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250 CCB.D\250 CCB.D#

Date Acquired: Nov 8 2009 02:33 am

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Ве	6	1	0.016	ppb	147.29	1.00	_
51	V	72	1	-0.021	ppb	31.34	1.00	
52	Cr	72	1	0.037	ppb	45.39	1.00	
55	Mn	72	1	-0.003	ppb	461.47	1.00	
59	Co	72	1	0.004	ppb	46.27	1.00	
60	Ni	72	1	-0.025	ppb	13.04	1.00	
63	Cu	72	1	-0.035	ppb	22.37	1.00	
66	Zn	72	1	-0.398	ppb	5.33	1.00	
75	As	72	1	0.015	ppb	70.97	1.00	
78	Se	72	1	-0.320	ppb	40.38	1.00	
95	Mo	72	1	-0.054	ppb	35.32	1.00	
107	Ag	115	1	0.008	ppb	9.23	1.00	
111	Cd	115	1	0.005	ppb	52.43	1.00	
118	Sn	115	1	0.107	ppb	31.44	1.00	
121	Sb	115	1	0.188	ppb	20.19	1.00	
137	Ba	115	1	-0.042	ppb	4.94	1.00	
205	Tl	165	1	0.020	ppb	20.00	1.00	
208	Pb	165	1	-0.001	ppb	65.74	1.00	
232	Th	165	1	0.055	ppb	6.90	1.00	
238	U	165	1	0.016	ppb	10.74	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

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

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

Wash QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D#

Date Acquired:

Nov 8 2009 02:36 am

Operator:

TEL

QC Summary:

Sample Name:

RLCV

Analytes: Pass

Misc Info:

ISTD: Pass

Vial Number:

1206

Current Method:

C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 08 2009 02:28 am

Sample Type:

WASH

Total Dil Factor:

1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1 .	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252 BLK.D\252 BLK.D#

Date Acquired: Nov 8 2009 02:39 am

Operator: TEL QC Summary:
Sample Name: LNJNVB Analytes: Pass
Misc Info: BLANK 9303185 6020 ISTD: Pass

Vial Number: 4402

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: BLK
Total Dil Factor: 1.00

QC Elements	OC	Elemen	ıts	
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Oc rieme	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Ho	1	2647917	1.14	2717767	97.4	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

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

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253 LCS.D\253 LCS.D#

Date Acquired: Nov 8 2009 02:42 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass Sample Name: LNJNVC ISTD: Pass

Sample Name: LNJNVC
Misc Info: LCS
Vial Number: 4403

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Ele	ment	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Ra	nge(%)	Flag
9	Ве	6	1	35.70	1.01	40	89.3	80	- 120	
51	A	72	· 1	35.52	0.20	40	88.8	80	- 120	
52	Cr	72	1	36.08	0.50	40	90.2	80	- 120	
55	Mn	72	1	35.14	0.07	40	87.9	80	- 120 ·	
59	Co	72	1	34.82	0.49	40	87.1	. 80	- 120	
60	Ni	72	. 1	36.40	0.69	40	91.0	80	- 120 ¹	
63	Cu	72	1	35.92	0.24	40	89.8	80	- 120	
66	Zn	72	1	35.76	1.51	40	89.4	80	- 120	
75	As	. 72	1	34.71	0.72	40	86.8	80	- 120	
78	Se	72	1	35.62	2.21	40	89.1	80	- 120	
95	Mo	72	1	32.10	0.70	40	80.3	80	- 120	
107	Ag	115	1	35.79	2.12	40	89.5	80	- 120	
111	Cd	115	1	35.37	1.53	40	88.4	80	- 120	
118	Sn	115	1	0.02	168.39	40	0.0	80	- 120	
121	Sb	115	1	32.20	2.07	40	80.5	80	- 120	
137	Ba	115	1	35.77	2.20	40	89.4	80	- 120	
205	T1	165	1	36.57	2.09	40	91.4	80	- 120	
208	Pb	165	1	36.87	2.16	40	92.2	80	- 120	
232	Th	165	1	36.61	1.54	40	91.5	80	- 120	
238	U	165	1	36.97	1.94	40	92.4	80	- 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358195	0.31	376079	95.2	30 - 120	
45 Sc	1	1130666	0.47	1186897	95.3	30 - 120	
72 Ge	1	497032	0.74	539567	92.1	30 - 120	
115 In	1	1523173	1.15	1576174	96.6	30 - 120	
165 Ho	1	2638001	1.37	2717767	97.1	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

Date Acquired: Nov 8 2009 02:44 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7F 5X ISTD: Pass

Misc Info: D9J270261
Vial Number: 4404

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: AllRef
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.02	ppb	140.55	3600	
51 V	72	1	58.25	11.65	ppb	0.99	3600	
52 Cr	72	1	96.60	19.32	ppb	0.56	3600	
55 Mn	72	1	20.01	4.00	ppb	1.83	3600	
59 Co	72	1	0.41	0.08	ppb	18.64	3600	
60 Ni	72	1	2.50	0.50	ppb	10.52	3600	
63 Cu	72	1	0.61	0.12	ppb	13.42	3600	
66 Zn	72	1	18.56	3.71	ppb	2.43	3600	
75 As	72	1	190.75	38.15	ppb	0.69	3600	
78 Se	72	1	1.93	0.39	ppb	57.06	3600	
95 Mo	72	1	26.48	5.30	ppb	2.72	3600	
107 Ag	115	1	0.03	0.01	ppb	125.97	3600	
111 Cd	115	1	0.02	0.00	ppb	229.82	3600	
118 Sn	115	1	0.25	0.05	ppb	45.32	3600	
121 Sb	115	1	0.30	0.06	ppb	29.45	3600	
137 Ba	115	1	23.70	4.74	ppb	1.34	3600	
205 Tl	165	1	0.23	0.05	ppb	17.38	3600	
208 Pb	165	1	0.18	0.04	ppb	14.05	3600	
232 Th	165	1	0.24	0.05	ppb	4.71	1000	
238 U	165	1	13.31	2.66	ppb	1.53	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	333341	1.09	376079	88.6	30 - 120	
45 Sc	1	1062523	0.59	1186897	89.5	30 - 120	
72 Ge	1	462502	0.27	539567	85.7	30 - 120	
115 In	1	1375002	1.04	1576174	87.2	30 - 120	
165 Ho	1	2471361	0.80	2717767	90.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#

Date Acquired: Nov 8 2009 02:47 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNC7FP25

Misc Info: SERIAL DILUTION

Vial Number: 4405

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SDIL Dilution Factor: 5.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

^~	-1	
YC.	elements	5

Eleme	ent	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC	Rang	e(%)	Flag
9 B	3e	6	1	0.02	ppb	0.57	0.00	458.7	90	-	110	
51 V	7	72	1	2.26	ppb	2.18	2.33	97.2	90	-	110	
52 C	cr	72	1	3.94	ppb	1.55	3.86	101.9	90	-	110	
55 M	in	72	1	0.83	ppb	10.87	0.80	103.6	90	-	110	
59 C	o	72	. 1	0.02	ppb	18.64	0.02	109.5	90	-	110	
60 N	li	72	1	0.11	ppb	52.76	0.10	106.7	90	-	110	
63 C	Cu	72	1	0.01	ppb	230.36	0.02	26.5	90	-	110	
66 Z	'n	72	1	0.47	ppb	7.87	0.74	62.8	90	-	110	
75 A	s	7,2	1	7.52	ppb	0.96	7.63	98.5	90	-	110	
78 S	ie	. 72	1	-0.04	ppb	1143.50	0.08	-52.9	90	-	110	
95 M	lo	72	1	0.94	ppb	9.86	1.06	88.3	90	_	110	
107 A	ıg	115	1	0.00	ppb	99.28	0.00	-232.5	90	-	110	
111 C	d	115	1	-0.01	ppb	100.17	0.00	-679.0	90	-	110	
118 S	n	115	1	0.09	ppb	4.94	0.01	892.4	90	_	110	
121 S	b	115	1	0.01	ppb	131.02	0.01	58.5	90	_	110	
137 B	la 💮	115	1	0.94	ppb	4.03	0.95	99.3	90	-	110	
205 T	1.	165	1	0.01	ppb	8.96	0.01	141.7	90	-	110	
208 P	b.	165	1	0.01	ppb	18.12	0.01	165.2	90	-	110	
232 T	'h	165	1	0.01	ppb	22.37	0.01	123.4	90	-	110	
238 U	ī	165	1	0.53	ppb	1.52	0.53	100.3	90	-	110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355060	0.39	376079	94.4	30 - 120	
45 Sc	1	1125653	0.19	1186897	94.8	30 - 120	
72 Ge	1	502164	0.65	539567	93.1	30 - 120	
115 In	1	1479317	0.60	1576174	93.9	30 - 120	
165 Ho	1	2614578	1.08	2717767	96.2	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS)	ICPMS_024	least.	Reported: 11/09/09 10:02:46	
Department: 090 (Metals)			Source: Spreadshee	
Sample: LNC7FP25	Serial Dilution:	25.00	Sample Dilution: 5.00	
Instrument: Agilent7500	Channel 272			
File: AG110709 # 255	Method 6020_			
Acquired: 11/08/2009 02:47:00	ICPMS 024	Matrix: AQUEOUS		

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7		9	10	0.41625	0.09076	359		*	
	Vanadium	51	15823	56.600	58.240	2.82		*	
	Chromium	52	28379	98.450	96.590	1.93		*	
	Manganese	55	7172	20.725	20.010	3.57		. *	
7440-48-4		59	210	0.44850	0.40970	9.47	4.5.5	*	
7440-02-0		60	293	2.6645	2.4980	6.67			
7440-50-8		63	483	0.16105	0.60710	73.5		*	
7440-66-6	• •	66	1041	11.650	18.550	37.2		*	
7440-38-2		75	6250	187.85	190.70	1.49	0.21	1.5	\square
7782-49-2		78	303	-1.0210	1.9300	153	0.70	NC	Ø
	Molybdenum	95	2367	23.385	26.470	11.7	0.70	*	ليا
7440-22-4	-	107	2007	-0.06975	0.02999	333		*	
7440-43-9		111	3			779		*	
7440-43-9			=	-0.14365	0.02116				
		118	770	2.2540	0.25260	792			
7440-36-0	•	121	176	0.17570	0.30050	41.5		*	
7440-39-3		137	1831	23.535	23.690	0.654		•	
7440-28-0		205	281	0.32890	0.23210	41.7		*	
7439-92-1		208	597	0.30195	0.18290	65.1		*	
7440-61-1		238	11545	13.340	13.300	0.301		*	
7440-29-1	Thorium	232	403	0.30120	0.24410	23.4		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			. 0			*	

^{*} Analyte not requested for this batch, no MDL NC : Serial dilution concentration < 100 X MDL E : Difference greater than Limit (10%)

Reviewed by: Date:

IDB Reports TestAmerica, Inc. Version: 6.02.068

View Page 1 of 1

ISTD:

Pass

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D\#

Date Acquired: Nov 8 2009 02:50 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL Sample Name: LNC7FZ

Misc Info: POST DIGESTION SPIKE

Vial Number: 4406

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: PDS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: ---

Eleme	

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	. 72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	. 1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 บ	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SAMPLE SPIKE

Method; 6020 (ICP/MS) ICPMS_024 Reported: 11/09/09 10:02:49

Department: 090 (Metals) Source: Spreadsheet

Sample: LNC7FZ Spike Dilution: 1.00 Sample Dilution: 5.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 256 Method 6020_

Acquired: 11/08/2009 02:50:00 ICPMS_024 Matrix: AQUEOUS Calibrated: 11/08/2009 02:25:00 Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		abla
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0 .				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

	Reviewed by:	Date:
IDB Reports	TestAmerica, Inc.	Version: 6.02.068

ISTD:

Pass

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257_MS.D\257_MS.D#

Date Acquired: Nov 8 2009 02:53 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL

Sample Name: LNC7FS 5X Misc Info: MATRIX SPIKE

Vial Number: 4407

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MS
Prep Dil. Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150
51 V	. 72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150
66 Zn	. 72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150
205 Tl	165	1	7,17	0.05	ppb	1.41	40	17.9	50 - 150
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120
72 Ge	1	462138	0.38	539567	85.6	30 - 120
115 In	1	1389102	1.17	1576174	88.1	30 - 120
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\258 CCV.D\258 CCV.D#

Date Acquired: Nov 8 2009 02:56 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemen	nts
Ele	ement	IS

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.17	ppb	1.68	50	102.3	90 - 110	
51	٧	72	1	49.76	ppb	0.58	50	99.5	90 - 110	
52	\mathtt{Cr}	72	1	50.23	ppb	0.59	50	100.5	90 - 110	
55	Mn	72	1	49.80	ppb	0.45	50	99.6	90 - 110	
59	Co	72	1	48.86	ppb	0.97	50	97.7	90 - 110	
60	Ni	72	1	51.09	ppb	0.38	50	102.2	90 - 110	
63	Cu	72	1	50.55	ppb	1.39	50	101.1	90 - 110	
66	Zn	72	1	51.57	ppb	0.26	50	103.1	90 - 110	
75	As	72	1	50.59	ppb	0.46	50	101.2	90 - 110	
78	Se	72	1	51.92	ppb	0.28	50	103.8	90 - 110	
95	Mo	72	1	50.29	ppb	1.00	50	100.6	90 - 110	
107	Ag	115	1	51.22	ppb	2.07	50	102.4	90 - 110	
111	Cd	115	1	51.60	ppb	0.81	50	103.2	90 - 110	
118	Sn	115	1	50.56	ppb	0.85	50	101.1	90 - 110	
121	Sb	115	1	51.03	ppb	1.10	50	102.1	90 - 110	
137	Ва	115	1	50.92	ppb	1.12	50	101.8	90 - 110	
205	Tl	165	1	52.43	ppb	1.68	50	104.9	90 - 110	
208	Pb	165	1	52.24	ppb	2.12	50	104.5	90 - 110	
232	Th	165	1	51.78	ppb	2.94	50	103.6	90 - 110	
238	U	165	1	52.22	ppb	2.20	50	104.4	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	366110	0.29	376079	97.3	30 - 120	
45	Sc	1	1169831	1.16	1186897	98.6	30 - 120	
72	Ge	1	507682	1.25	539567	94.1	30 - 120	
115	In	1	1542474	0.57	1576174	97.9	30 - 120	
165	Но	1	2664119	1.36	2717767	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

TestAmerica

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259 CCB.D\259 CCB.D#

Date Acquired: Nov 8 2009 02:58 am

CCB

QC Summary: Operator: TEL Analytes: Pass Sample Name:

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Last Cal Update:
Sample Type: C:\ICPCHEM\1\CALIB\NormISIS.C

Nov 08 2009 02:28 am

Sample Type: CCB Total Dil Factor: 1.00

QC	Elemen	ts
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Elemen	t IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	_
51 V	72	1	-0.025	ppb	31.75	1.00	
52 Cr	72	1	0.015	ppb	240.08	1.00	
55 Mn	72	1	-0.003	ppb	454.38	1.00	
59 Co	72	1	0.007	ppb	19.00	1.00	
60 Ni	72	1	-0.021	ppb	92.00	1.00	
63 Cu	72	1	-0.023	ppb	91.13	1.00	
66 Zn	72	1	-0.387	ppb	12.46	1.00	
75 As	72	1	0.025	ppb	95.41	1.00	
78 Se	72	1	-0.065	ppb	394.03	1.00	
95 Mo	72	1	-0.040	ppb	70.76	1.00	
107 Ag	115	1	0.007	ppb	79.32	1.00	
111 Cd	115	1	0.012	ppb	73.39	1.00	
118 Sn	115	1	0.112	ppb	71.47	1.00	
121 Sb	115	1	0.150	ppb	17.00	1.00	
137 Ba	115	1	-0.041	ppb	5.14	1.00	
205 Tl	165	1	0.021	ppb	28.23	1.00	
208 Pb	165	1	0.003	ppb	8.31	1.00	
232 Th	165	1	0.048	ppb	25.86	1.00	
238 U	165	1	0.018	ppb	13.31	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%) Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120
72 Ge	1	519534	0.26	539567	96.3	30 - 120
115 In	1	1546385	0.40	1576174	98.1	30 - 120
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#

Date Acquired: Nov 8 2009 03:01 am

Operator: TEL QC Summary:
Sample Name: RLCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

ISTD Elements

Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
1	367841	0.83	376079	97.8	30 - 120	
1	1154162	0.97	1186897	97.2	30 - 120	
1	516753	0.66	539567	95.8	30 - 120	
1	1524519	0.33	1576174	96.7	30 - 120	
1	2680772	0.38	2717767	98.6	30 - 120	
	Tune 1 1 1 1 1	1 367841 1 1154162 1 516753 1 1524519	1 367841 0.83 1 1154162 0.97 1 516753 0.66 1 1524519 0.33	1 367841 0.83 376079 1 1154162 0.97 1186897 1 516753 0.66 539567 1 1524519 0.33 1576174	1 367841 0.83 376079 97.8 1 1154162 0.97 1186897 97.2 1 516753 0.66 539567 95.8 1 1524519 0.33 1576174 96.7	1 367841 0.83 376079 97.8 30 - 120 1 1154162 0.97 1186897 97.2 30 - 120 1 516753 0.66 539567 95.8 30 - 120 1 1524519 0.33 1576174 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\AG110709.B\247CALB.D\247CALB.D\#

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

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

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\261 MSD.D\261 MSD.D#

Date Acquired: Nov 8 2009 03:04 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass ISTD: Operator: Pass

Sample Name: LNC7FD 5X

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 4408

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MSD Dilution Factor: 5.00

OC Elements

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\257 MS.D\257 MS.D#

Ele	ment	IS Ref	Tune	Conc.		RSD(8
9	Re	6	1	7 15	nnh	4 9

1

9	Ве	6	1	7.15	ppb	4.97	7.56	5.64	20	
51	V	72	1	19.44	ppb	0.87	19.50	0.31	20	
52	\mathtt{Cr}	72	1	27.63	ppb	0.44	27.55	0.29	20	
55	Mn	72	1	11.89	ppb	0.71	11.53	3.07	20	
59	Co	72	1	6.96	ppb	0.22	6.92	0.55	20	
60	Ni	72	1	7.63	ppb	4.71	7.47	2.13	20	
63	Cu	72	1	6.96	ppb	2.26	6.92	0.55	20	
66	Zn	72	1	11.24	ppb	0.91	12.20	8.19	20	
75	As	72	1	47.18	ppb	1.02	47.40	0.47	20	
78	Se	72	1	8.49	ppb	8.60	8.21	3.34	20	
95	Mo	72	1	12.08	ppb	2.93	12.33	2.05	20	
107	Ag	115	1	6.86	ppb	1.67	6.98	1.81	20	
111	Cd	115	1	7.38	ppb	2.12	7.47	1.12	20	
118	Sn	115	1	0.11	ppb	30.03	0.39	111.83	20	
121	Sb	115	1	6.82	ppb	2.78	6.89	1.02	20	
137	Ba	115	1	12.78	ppb	1.44	12.69	0.71	20	
205	Tl	165	1	7.29	ppb	1.19	7.17	1.61	20	
208	Pb	165	1	7.29	ppb	2.38	7.25	0.51	20	

Ref Conc Differ(%) High Limit

Flag

ISTD Elements

165

165

232 Th

238 U

Element	T	une	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	329103	0.78	376079	87.5	30 - 120	
45 Sc		1	1057955	1.12	1186897	89.1	30 - 120	
72 Ge		1	456662	0.47	539567	84.6	30 - 120	
115 In		1	1365390	0.56	1576174	86.6	30 - 120	
165 Ho		1	2474617	1.07	2717767	91.1	30 - 120	

2.55

1.44

7.88

10.53

0.08

0.19

20

20

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

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

7.89 ppb

10.55 ppb

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#

Date Acquired: Nov 8 2009 03:07 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7L 5X ISTD: Pass

Sample Name: LNC7L 5X ISTD: 1
Misc Info: D9J270263

Vial Number: 4409

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	157.59	3600	
51 V	72	1	46.85	9.37	ppb	1.89	3600	
52 Cr	72	1	12.39	2.48	ppb	5.61	3600	
55 Mn	72	. 1	171.35	34.27	ppb	1.07	3600	
59 Co	72	1	264.35	52.87	ppb	1.02	3600	
60 Ni	72	1	102.35	20.47	ppb	3.34	3600	
63 Cu	72	1	53.95	10.79	ppb	1.03	3600	
66 Zn	72	1	17.02	3.40	ppb	3.85	3600	
75 As	72	1	69.40	13.88	ppb	0.45	3600	
78 Se	72	1	3.99	0.80	ppb	47.95	3600	
95 Mo	72	1	6.46	1.29	ppb	6.25	3600	
107 Ag	115	1	0.02	0.00	ppb	159.25	3600	
111 Cd	115	1	0.13	0.03	ppb	54.73	3600	
118 Sn	115	1	0.20	0.04	ppb	29.32	3600	
121 Sb	115	1	0.23	0.05	ppb	27.91	3600	
137 Ba	115	1	43.61	8.72	ppb	1.89	3600	
205 Tl	165	1	0.08	0.02	ppb	8.14	3600	
208 Pb	165	1	1.84	0.37	ppb	5.27	3600	
232 Th	165	1	0.14	0.03	ppb	17.77	1000	
238 U	165	1	38.02	7.60	ppb	1.66	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	343401	0.74	376079	91.3	30 - 120	
45 Sc	1	1089536	0.75	1186897	91.8	30 - 120	
72 Ge	1	479909	1.11	539567	88.9	30 - 120	
115 In	1	1451981	1.22	1576174	92.1	30 - 120	
165 Ho	1	2546093	0.95	2717767	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#

Date Acquired: Nov 8 2009 03:09 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass Sample Name: LNFGD 5X ISTD: Pass

Misc Info: D9J280280
Vial Number: 4410

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	- 1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	. 1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	· Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#

Date Acquired: Nov 8 2009 03:12 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNFG2 5X
Misc Info: D9J280283

Vial Number: 4411

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1 .	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	. 1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D\#

Date Acquired: Nov 8 2009 03:15 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2J 5X
Misc Info: D9J290310

Vial Number: 4412

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	.72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#

Date Acquired: Nov 8 2009 03:18 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2K 5X ISTD: Pass Misc Info: D9J290310

Vial Number: 4501

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267 CCV.D\267 CCV.D\

Date Acquired: Nov 8 2009 03:21 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

QC Ele	ments								
Elemen	t IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	51.22	ppb	2.08	50	102.4	90 - 110	,
51 V	72	1	49.65	ppb	0.54	50	99.3	90 - 110	
52 Cr	72	1	50.22	ppb	0.76	50	100.4	90 - 110	
55 Mn	. 72	1	49.57	ppb	0.78	50	99.1	90 - 110	
59 Co	72	1	48.62	ppb	0.28	50	97.2	90 - 110	
60 Ni	72	1	50.60	ppb	1.48	50	101.2	90 - 110	
63 Cu	72	1	50.08	ppb	0.86	50	100.2	90 - 110	
66 Zn	72	1	52.09	ppb	0.68	50	104.2	90 - 110	
75 As	72	1	50.33	ppb	0.35	50	100.7	90 - 110	
78 Se	72	1	50.70	ppb	1.91	50	101.4	90 - 110	
95 Mo	72	1	50.34	ppb	1.97	50	100.7	90 - 110	
107 Ag	115	1	50.13	ppb	2.37	50	100.3	90 - 110	
111 Cd	115	1	50.15	ppb	1.77	50	100.3	90 - 110	
118 Sn	115	. 1	49.99	ppb	1.62	50	100.0	90 - 110	
121 Sb	115	1	50.52	ppb	2.60	50	101.0	90 - 110	
137 Ba	115	1	50.62	ppb	1.41	50	101.2	90 - 110	
205 Tl	165	1	51.11	ppb	0.42	50	102.2	90 - 110	
208 Pb	165	1	51.54	ppb	1.74	50	103.1	90 - 110	
232 Th	165	1	51.26		1.28	50	102.5	90 - 110	
238 U	165	1	51.53	ppb	0.94	50	103.1	90 - 110	
ISTD E	lements								
Elemen	t	Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	360685		1.10	376079	95.9	30 - 120	
45 Sc		1	1157595		0.85	1186897	97.5	30 - 120	
72 Ge		1	507944		1.20	539567	94.1	30 - 120	
115 In		1	1559749		0.93	1576174	99.0	30 - 120	

1

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

2711611 1.14

2717767 99.8 30 - 120

165 Ho

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268 CCB.D\268 CCB.D#

Date Acquired: Nov 8 2009 03:23 am

Operator: TEL QC Summary:
Sample Name: CCB Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	
51 V	72	1	-0.025	ppb	19.15	1.00	
52 Cr	72	1	-0.002	ppb	789.67	1.00	
55 Mn	72	1	-0.001	ppb	1184.70	1.00	
59 Co	72	1	0.000	ppb	707.73	1.00	
60 Ni	72	1	-0.014	ppb	130.22	1.00	
63 Cu	72	1	-0.051	ppb	28.29	1.00	
66 Zn	. 72	1	-0.413	ppb	3.98	1.00	
75 As	72	1	0.005	ppb	390.64	1.00	
78 Se	72	1	0.068	ppb	260.94	1.00	
95 Mo	72	1	-0.051	ppb	12.59	1.00	
107 Ag	115	1	0.003	ppb	126.88	1.00	
111 Cd	115	1	0.000	ppb	7618.50	1.00	
118 Sn	115	1	0.047	ppb	150.30	1.00	
121 Sb	115	1	0.138	ppb	23.66	1.00	
137 Ba	115	1	-0.038	ppb	11.83	1.00	
205 Tl	165	1	0.021	ppb	17.52	1.00	
208 Pb	165	1	0.003	ppb	111.74	1.00	
232 Th	165	1	0.051	ppb	16.07	1.00	
238 U	165	1	0.016	ppb	14.92	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#

Date Acquired: Nov 8 2009 03:26 am

Operator: TEL QC Summary: Sample Name: Analytes: Pass RLCV

Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9	Ве	6	1	0.901 ppb	17.96	1.30	
51	V	72	1	4.935 ppb	2.34	6.50	
52	Cr	72	1	2.001 ppb	2.44	2.60	
55	Mn	72	1	1.030 ppb	4.04	1.30	
59	Co	72	1	0.990 ppb	2.41	1.30	
60	Ni	72	1	2.129 ppb	7.48	2.60	
63	Cu	72	1	1.903 ppb	4.00	2.60	
66	Zn	72	1	9.748 ppb	0.16	13.00	
75	As	72	1	4.893 ppb	4.12	6.50	
78	Se	72	1	5.130 ppb	8.01	6.50	
95	Mo	72	1	1.974 ppb	8.49	2.60	
107	Ag	115	1	5.301 ppb	1.96	6.50	
111	. Cd	115	1	1.056 ppb	7.93	1.30	
118	Sn	115	1	10.460 ppb	2.46	13.00	
121	Sb	115	1	2.083 ppb	0.79	2.60	
137	Ba	115	1	1.029 ppb	5.53	1.30	
205	Tl	165	1	1.089 ppb	0.37	1.30	
208	Pb	165	1	1.075 ppb	0.39	1.30	
232	Th	165	1	2.216 ppb	0.39	2.60	
238	U	165	1	1.111 ppb	0.42	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts



	Lot ID:	<u> </u>	29031	9	
	Client:	Nort	Hyate E	nvironment	ta/
	Batch(es) #:		930318	7,9303	185
Associat	ted Samples:		1-4		
	I certify that, to t represents a com				
Signature	/Date:	11.7	14 (י לטודן <i>י</i>	

TestAmerica

Metals Raw Data RoadMap

LotID		Metal	WorkOrder	Anal Dat	e TestDesc	Batch	File Id	Instr
				,				
D9J290310	1	SE	LNH2J1AC	20091108	6020TOTA	9303185	AG110709	024
D9J290310	1	AS	LNH2J1AA	20091108	6020TOTA	9303185	AG110709	024
D9J290310	2	SE	LNH2K1AC	20091108	6020TOTA	9303185	AG110709	024
D9J290310	2	AS	LNH2K1AA	20091108	6020TOTA	9303185	AG110709	024
D9J290310	3 D	SE	LNH2L1AG	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3 S	SE	LNH2L1AF	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3 D	AS	LNH2L1AE	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3 S	AS	LNH2L1AD	20091108	6020D\$VD	9303187	AG110709	024
D9J290310	3	SE	LNH2L1AC	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3	AS	LNH2L1AA	20091108	6020DSVD	9303187	AG110709	024
D9J290310	4	SE	LNH2N1AC	20091108	6020DSVD	9303187	AG110709	024
D9J290310	4	AS	LNH2N1AA	20091108	6020DSVD	9303187	AG110709	024

METALS PREPARATION LOGS ICP-MS

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 642

Batch Number: 9303187

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By: Skn

Prep Date:

Lot Work Order		Due Date:	Due Date: 11/10/09		
D9J300000 Water	LNJN5	В	Due Date: SDG:		<u>50 mL</u>
D9J300000 Water	LNJN5	С	Due Date: SDG:		<u>50 mL</u>
D9J290310 Water	LNH2L Dissolved		Due Date: 11/10/09 SDG:		<u>50 mL</u>
D9J290310 Water	LNH2L Dissolved	S	Due Date: 11/10/09 SDG:		<u>50 mL</u>
D9J290310 Water	LNH2L Dissolved	D	Due Date: 11/10/09 SDG:		<u>50 mL</u>
D9J290310	LNH2N		Due Date: 11/10/09		<u>50 mL</u>

SDG:

Comments:

Water

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

Dissolved

METALS PREP SHEET SOP: DEN-IP-0014

Signature: Inwith



DISSOLVED WATER DIGESTION FOR ICPMS (Prep code MD)

BATCH#	9303187	ALLIQUOTTED BY: KS					
PREP DATE:	11/2/2009	DIGES	STED BY:	JRW			
000000000000000000000000000000000000000			·				
CONSUMABLES	USED			1			
Digestion Cups:	Manufacturer:	Environmental Express	Lot #:	A901LS268			
Were samples filtere	d in the lab?		Yes	No.			
If "yes", then the meth							
• .			Analyst(s) Initials:				
STANDARDS US	FD						
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID			
2008Cal-1	STD-6471-09	11/1/10	100uL	15			
2008Cal-2	STD-5356-09	1/10/10	100uL	15			
		500	2.6				
REAGENTS USE	D						
Reagent	Manufacturer	Lot #	Volume Used (mL)				
HNO ₃	JT Baker	H14024	2				
TEMPERATURE	CYCLES						
Thermometer ID	1137	Block &	& Cup #: 11 37				
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)			
HNO3/HCI	1430	96	1430	96			
Samples and QC r	evolumed to:	50mL	Analyst's Initials	JRW_			
COMMENTS:	·						
I certify that all infor	mation above is correct	and complete.					

TestAmerica 644

Batch Number: 9303185

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By: 1 AM

Prep Date: Due Date:

11/09/09

Lot	Work Order			Initial Weight/Volume
D9J300000 Water	LNJNV	В	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJNV	C	Due Date: SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	S	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	D	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270263 Water	LNC7L Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280280 Water	LNFGD Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280283 Water	LNFG2 Total		Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2J Total		Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2K Total		Due Date: 11/10/09 SDG:	<u>50 mL</u>

Comments:

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

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

METALS PREP SHEET

SOP: DEN-IP-0014



TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH #	9303185	_ ALLIQ	KS	
PREP DATE:	11/2/2009	DIGES	JRW	
CONSUMABLES	USED			
Digestion Cups:	Manufacturer:	Environmental Express	s Lot #:	A901LS268
One or more samples	were filtered prior to a	nalysis at the instrume	nt. Yes	No
If "yes", then the metho	od blank and the LCS wer	e also filtered in the sam	ne manner using the sam	ne type of filter.
			Analyst(s) Initials:	
STANDARDS USE	E D			
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15
·				
REAGENTS USEL)			
Reagent	Manufacturer	Lot #	Volume Used (mL)	
HNO₃	JT Baker	H14024	3	
TEMPERATURE (CYCLES			
Thermometer ID	: ५०४२	Block &	& Cup # : 4/2	All of the Control of
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	95	1845	45
HNO3	1900	45	1 430	43
HNO3				
Samples and QC re	evolumed to:	50mL	Analyst's Initials	JAN

COMMENTS:

I certify that all	l information	above is	correct a	nd complete
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Signature: Amwith

Date: 11/2/04

TestAmerica 646

METALS SAMPLE DATA ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

G:\Metals\Hidden\Forms\MassSpec\ICP-MS Std and Spike True Values.doc

ICP-MS Standard and Spike True Values

Post	Digestion	Spike	200	200	200	200	200	200	200	200	200	200	200	200	200	200	20	200	200	200	200	200			
Matrix Spike	Sample and	Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	rv for the	ICSAB.	
Laboratory	Control Sample	and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	ution. the % recover	the ICSA from the	
Interference	Check	Sample AB	1	100	100	100	100	100	100	100	100	100	ŀ	100	100	100	100	100	100	100	100	100	in the ICSA sol	ng the levels in	
Interference Check	Sample A		100,000 Aluminum	100,000 Calcium	100,000 Iron	100,000 Magnesium	100,000 Sodium	100,000 Phosphorus	100,000 Potassium	100,000 Sulfur	200,000 Carbon	1,000,000 Chloride	2000 Molybdenum	2000 Titanium									Due to the presence of trace containing in the ICSA solution, the % recovery for the	ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB	
Continuing	Calibration	Standard	20	20	20	20	50	20	50	20	20	20	20	20	20	20	50	20	20	50	20	50	to the presence	SAB solution is	
Initial	Calibration	Standard	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
Cal.	Std.	100 ppb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	All unit	ug/L.)
Element			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc			

Quality Control Standards

CCB = Continuing Calibration Blank ICB = Initial Calibration Blank ICV = Initial Calibration Verification (Second Source) CCV = Continuing Calibration Verification

TestAmerica Denver

Standards Preparation Logbook Record

Nov-09-2009

Analyst: trudelll

Logbook: \Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Lot No.: B2-SE02003

Vendor's Expiration Date: 12-01-2009

Solvent: 2% HNO3

Date Prep./Opened: 11-25-2008

Vendor: Inorganic Ventures

Date Received: 11-25-2008

Date Expires(1): 12-01-2009 (None) Date Expires(2): 12-01-2009 (None)

(METALS)-Inventory ID: 803

Component Se

Initial Conc (mg/L)

Final Conc (mg/L)

Analyst: trudelll

1.000.0

1,000.0

STD1198-09, 1000 mg/L Sn Vendor: Inorganic Ventures

Lot No.: B2-SN02016

Lot No.: H02026

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 Solvent: 5% HN03

Analyst: DIAZL Volume (ml): 100.00

Date Prep./Opened: 04-01-2009

Date Expires(1): 12-01-2009 (1 Year)

pipette: Met 21

Component

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

Initial Conc (mg/L)

Final Conc (mg/L)

Se

1,000.0

1.0000

Page 1 of 12

STD2483-09, 1000 Zn (Inorganic Ventures)

Vendor: Inorganic Ventures Lo

Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010

Analyst: trudelll

Analyst: DIAZL

Aliquot Amount (ml): 1.0000

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

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
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

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

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Analyst: DIAZL

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

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

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

STD6795-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-05-2009

Date Expires(1): 12-05-2009 (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

Initial Conc (ug/ml)	Final Conc (ug/L)
1,000.0	100,000
2,000.0	200,000
1,000.0	100,000
10,000	1,000,000
1,000.0	100,000
1,000.0	100,000
1,000.0	100,000
20.000	2,000.0
1,000.0	100,000
1,000.0	100,000
1,000.0	100,000
20.000	2,000.0
	2,000.0 1,000.0 10,000 1,000.0 1,000.0 20.000 1,000.0 1,000.0 1,000.0

STD6836-09, ICP-MS BLANK

Analyst: LILLT Solvent: Water Volume (ml): 1,000.0

Date Prep./Opened: 11-07-2009

Date Expires(1): 05-07-2010 (6 Months) Date Expires(2): 05-07-2010 (6 Months)

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

Page 3 of 12

Parent Std No.: STD6835-09, NITRIC ACID	Aliquot Amount (ml): 50.000
---	-----------------------------

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

STD6837-09, ICP-MS HIGH CAL STD Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

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

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	Aliquo	Aliquot Amount (ml): 0.5000		
Component	Initial Conc (mg/L)	Final Conc (mg/L)		
Mo	20.000	0.1000		
Sb	20.000	0.1000		
Sn	20.000	0.1000		
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	t Amount (ml): 0.5000		
Component	Initial Conc (mg/L)	Final Conc (mg/L)		
Al	2,000.0	10.000		
Ca	2,000.0	10.000		
Fe	2,000.0	10.000		
K	2,000.0	10.000		
Mg	2,000.0	10.000		
	2,500.0	20.000		

2,000.0

Page 4 of 12

Na

10.000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
STD6838-09, ICP-MS HIGH CCV STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 100.00
Date Prep./Opened: 11-07-2009		volume (mi). 100.00
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Aliquo	t 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	Aliquo	t Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500
Parent Std No.: STD3111-09, ICP-MS CALSTD 3		t Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000
1716	2,000.0	2.0000

Page 5 of 12

Na	2,000.0	5.0000
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Aliqu	ot Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000
STD6839-09, ICP-MS HIGH RL STD		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		volume (mr): 10.000
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn	Aliau	ot Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2):	•	()
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn 1000 7	1.0000	0.0090 0.0090
1000 Zn	1.0000	
Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD	Aliqu	ot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

Page 6 of 12

Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W.	0.1000	0.0010

Lot No.: H14024

STD6840-09, ICP-MS HIGH AFCEE RL STD

Analyst: LILLT

Solvent: 5% HNO3

Volume (ml): 10.000

Aliquot Amount (ml): 2.0000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002
Al	0.1000	0.0200
Ca	0.1000	0.0200
Fe	0.1000	0.0200
K	0.1000	0.0200
Mg	0.1000	0.0200
Na	0.1000	0.0200
Nb	0.0020	0.0004
Pd	0.0010	0.0002
Pt	0.0010	0.0002
W	0.0010	0.0002
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018

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STD6841-09, ICP-MS HIGH ICSAB

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

Analyst: LILLT

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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

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	Aliquo	Amount (ml): 0.0500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD3111-09, ICP-MS CALSTD 3	Aliquo	Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00
Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1	Aliquo	Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

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W	20.000	1.0000
Parent Std No.: STD4542-09, ICPMS Interferent Chec	k Standard Alique	ot Amount (ml): 1.0000
- · · · · · · · · · · · · · · · · · · ·	pires(2): 08-01-2010	
Component	Initial Conc (ug/ml)	Final Conc (mg/L)
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000
D6842-09, ICP-MS HIGH LR STD1		Analyst: LILLT
Solvent: 5% HNO3 Lot No.: H1402	24	Volume (ml): 10.000
Date Prep./Opened: 11-07-2009		
Date Expires(1): 11-08-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Alian	-
	Alique	ot Amount (mi): 0.5000
	·	
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Component Ag	Initial Conc (mg/L) 20.000	Final Conc (mg/L) 1.0000
Component Ag As	Initial Conc (mg/L) 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000
Component Ag As Ba	Initial Conc (mg/L) 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000
Component Ag As Ba Be	Initial Conc (mg/L) 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cr	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb	Initial Cone (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se	Initial Cone (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Ti	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn	Initial Conc (mg/L) 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn	Initial Conc (mg/L) 20.000	Final Conc (mg/L) 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	Final Conc (mg/L) 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Ti U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component Mo	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	Final Conc (mg/L) 1.0000
Component Ag As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl U V Zn Parent Std No.: STD3110-09, ICP-MS CALSTD 2 Component	Initial Conc (mg/L) 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 Alique	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000

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STD6843-09, ICP-MS HIGH ICV STD

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000

Analyst: LILLT

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA ICV A	•	ot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2)		E' 10 (T)
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 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 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2)	<u>-</u>	ot Amount (ml): 0.1000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400
Parent Std No.: STD3115-09, ICP-MS TA ICV Alt	-	ot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2)		
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	4.0000
Ca	2,000.0	4.0000
Fe	2,000.0	4.0000
K	2,000.0	4.0000
Mg	2,000.0	4.0000
Na	2,000.0	4.0000
Parent Std No.: STD3116-09, ICP-MS TA ICV BRC	<u>-</u>	ot Amount (ml): 0.1000
Parent Date Expires(1): 04-21-2010 Parent Date Expires(2)		
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.0800
Pd	20.000	0.0400
*		

20.000

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Pt

0.0400

20.000 0.0400 W

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (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) 1.0000 0.0020 Se

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009 Date Expires(1): 11-08-2009 (1 Day)

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

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Parent Std No.:	STD3107-09.	ICP-MS LLCCV 2	

Initial Conc (mg/L)	Final Conc (ug/L)
0.2000	2.0000
0.2000	2.0000
1.0000	10.000

Aliquot Amount (ml): 1.0000

Parent Std No.: STD3108-0	9, ICP-MS BRC LLCCV 1	Aliquot Amount (ml): 1.0000
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Component	Initial Conc (mg/L)	Final Conc (ug/L)
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

Reviewed By: 11/9/09

Component

Mo Sb Sn

RUN SUMMARY

File II	D: AG110	709				Ana	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	11/07/09 15:09		
4	100 ppb				1.0	11/07/09 15:12		
5	ICV				1.0	11/07/09 15:15		
6	RLIV				1.0	11/07/09 15:18		
7	ICB				1.0	11/07/09 15:20		
8	RL STD				1.0	11/07/09 15:23		
9	AFCEE RL				1.0	11/07/09 15:26		
10	ALTSe				1.0	11/07/09 15:29		
11	ICSA				1.0	11/07/09 15:31		
12	ICSAB				1.0	11/07/09 15:34		
13	RINSE				1.0	11/07/09 15:37		
14	LR1				1.0	11/07/09 15:40		
15	RINSE				1.0	11/07/09 15:42		
16	CCV				1.0	11/07/09 15:45		
17	CCB				1.0	11/07/09 15:48		
18	RLCV				1.0	11/07/09 15:50		
19	LNDMKB	D9J280000	9301081	46	1.0	11/07/09 15:53		
20	LNDMKC	D9J280000	9301081	46	1.0	11/07/09 15:56		
21	LM9FJ	D9J240188-1	9301081	46	1.0	11/07/09 15:59		
22	LM9FJP5	D9J240188	9301081		5.0	11/07/09 16:01		
23	LM9FJZ	D9J240188-1	9301081		1.0	11/07/09 16:04		
24	LM9FJS	D9J240188-1	9301081	46	1.0	11/07/09 16:07	·	
25	LM9FJD	D9J240188-1	9301081	46	1.0	11/07/09 16:09		
26	LM9FK	D9J240188-2	9301081	46	1.0	11/07/09 16:12		
27	CCV				1.0	11/07/09 16:15		
28	CCB				1.0	11/07/09 16:18		
29	RLCV				1.0	11/07/09 16:20		
30	LNJT4B	D9J300000	9303213	MS	1.0	11/07/09 16:23	-	
31	LNJT4C	D9J300000	9303213	MS	1.0	11/07/09 16:26		
32	LM8A7	D9J230367-1	9303213	MS	1.0	11/07/09 16:29		
33	LM8CG	D9J230367-2	9303213	MS	1.0	11/07/09 16:32		
34	LM8CV	D9J230367-3	9303213	MS	1.0	11/07/09 16:34		
35	LM8C1	D9J230367-4	9303213	MS	1.0	11/07/09 16:37		
36	LM8C1P5	D9J230367	9303213		5.0	11/07/09 16:40		
37	LM8C1Z	D9J230367-4	9303213		1.0	11/07/09 16:43		
38	LM8C1S	D9J230367-4	9303213	MS	1.0	11/07/09 16:45		
39	LM8C1D	D9J230367-4	9303213	MS	1.0	11/07/09 16:48		
40	CCV				1.0	11/07/09 16:51		
41	CCB				1.0	11/07/09 16:53		
42	RLCV				1.0	11/07/09 16:57		
43	LNDMTB	D9J280000	9301086	46	1.0	11/07/09 17:00		
44	LNDMTC	D9J280000	9301086	46	1.0	11/07/09 17:02		
45	LM8E2	D9J230373-1	9301086	46	1.0	11/07/09 17:05		
46	LM8E2P5	D9J230373	9301086		5.0	11/07/09 17:08		
47	LM8E2Z	D9J230373-1	9301086	1	1.0	11/07/09 17:11		
48	LM8E2S	D9J230373-1	9301086	46	1.0	11/07/09 17:13		

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:	

File II	D: AG110	709				Ana	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16		
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19		
51	CCV				1.0	11/07/09 17:22		
52	ССВ				1.0	11/07/09 17:24		
53	RLCV				1.0	11/07/09 17:27		
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30		
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33		
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35		
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38		
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41		
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44		
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47		
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51		
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53		
63	CCV				1.0	11/07/09 17:56		
64	CCB				1.0	11/07/09 17:59		
65	RLCV				1.0	11/07/09 18:02		
66	LNNVDB	D9K020000	9306332	04	2.5	11/07/00-18:04	WI 1/9/09 Did notuse.	
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07		
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10		
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13		
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16		
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18		
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21		
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24		
74	CCV				1.0	11/07/09 18:27		
75	ССВ				1.0	11/07/09 18:29		
76	RLCV				1.0	11/07/09 18:32		
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35		
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38		
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40		
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43		
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46		
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49		
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51		
84	CCV				1.0	11/07/09 18:54		
85	CCB				1.0	11/07/09 18:57		
86	RLCV				1.0	11/07/09 19:00		
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03		
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05		
89	LM8DL	D9J230370-11	9301083	46	1.0	11/07/09 19:08		
90	LM8DN	D9J230370-12	9301083	46	1.0	11/07/09 19:11		
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14		
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17] 🗆
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19		
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22		

RUN SUMMARY

File II	D: AG110	709				Anal	lvst: TEL	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
95	CCV				1.0	11/07/09 19:25		
96	ССВ				1.0	11/07/09 19:28		
97	RLCV				1.0	11/07/09 19:30		
98	ICSA				1.0	11/07/09 19:33		
99	ICSAB				1.0	11/07/09 19:36		
100	WASH				1.0	11/07/09 19:39		
101	CCV				1.0	11/07/09 19:41		
102	ССВ				1.0	11/07/09 19:44		
103	RLCV				1.0	11/07/09 19:47		
104	LNPKXBQ	D9K030000	9307099	U1	1.0	11/07/09 19:50		
105	LNPKXCQ	D9K030000	9307099	U1	1.0	11/07/09 19:52		
106	LNN4FQ	D9K020448-1	9307099	U1	1.0	11/07/09 19:55		
107	LNN4FP5Q	D9K020448	9307099		5.0	11/07/09 19:58		
108	LNN4FZQ	D9K020448-1	9307099		1.0	11/07/09 20:01		
109	LNN4FSQ	D9K020448-1	9307099	U1	1.0	11/07/09 20:03		
110	LNN4FDQ	D9K020448-1	9307099	U1	1.0	11/07/09 20:06		
111	CCV				1.0	11/07/09 20:09		
112	ССВ				1.0	11/07/09 20:12		
113	RLCV				1.0	11/07/09 20:14		
114	LNNVDB	D9K050000	9306332	-04	2.5	11/07/09 20:17		
115	LNNVDC	D9K020000	9306332	04	2.5	11/07/09 20:20		
116	LNKT9	D9J300258-1	9306332	04	2.5	14/07/09 20:23		
117	LNKT9S	D9J300258-1	9306332	04	2.5	11/07/09 20:25		
118	LNKT9D	D9J300258-1	9306332	04	2.5	11/07/09 20:28		
119	ccv				1.0	11/07/09 20:31		
120	CCB				1.0	11/07/09 20:34		
121	RLCV				1.0	11/07/09 20:36		
122	RINSE	<u> </u>			1.0	11/07/09 20:39		
123	RINSE				1.0	11/07/09 20:42	11 dal - 1 +	
124	Gal Blank				1.0	11/07/09 20:45	- At 11/9/19 Did notuse.	
125	Cal Blank				1.0	11/07/09 20:47		
126 127	100 ppb				1.0	11/07/09 20:50		
128	CCV				1.0	11/07/09 20:53		
129	RLCV				1.0	11/07/09 20:56 11/07/09 20:58		
130	LNNQ5BF	-D9K020000	000000		1.0			
131	LNNQ5CF	D9K020000	9306285 9306285	MD MD	1.0	11/07/09 21:01 11/07/09 21:04		
132	LNLGXF 2X	D9J300326-1	9306285	MD	2.0	11/07/09 21:07	<u> </u>	
133	LNLG3F	D9J300326-2	9306285	MD	2.0 مبلہ	11/07/09 21:10		
134	LNLG4F	D9J300326-3	9306285	MB	1.0	11/07/09 21:12	<u> </u>	
135	LNLHHF	D9J300329-1	9306285	MD	1.0	11/07/09 21:12		
136	LNLHMF	D9J300329-2	9306285	MD	1.0	11/07/09 21:18		
137	CCV	2505000202	2000200	1,5,0	1.0	11/07/09 21:21		
138	CCB		<u> </u>		1.0	11/07/09 21:23		
139	RLCV			$\vdash \vdash$	1.0	11/07/09 21:26		
140	LMCHPF	D9J300329-3	9306285	MD	1.0	11/07/09 21:29	- Ktulyba pid notuse.	
							TIME YOUR	_

RUN SUMMARY

File ID:	AG110709	Analyst: TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
141	<u>tnljj</u> F	D9J300340-1	9306285	MD	1.0	- -11/07/09 -21:32		
142	LNLJJP5F	D9J300340	9306285	IVID	5.0	11/07/09 21:35		
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37		
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40		
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43		
146	LNLIME	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	11/9/2 Pidnotuse	
147	CCV				1.0	11/07/09 21:48	77 77 7 7 10 710 700 7	
148	ССВ			+	1.0	11/07/09 21:51		
149	RLCV			1 1	1.0	11/07/09 21:54		
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57		
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59		
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02		
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05		
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08		
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	:	
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13		
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16		
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19		
159	CCV				1.0	11/07/09 22:21		
160	CCB				1.0	11/07/09 22:24		
161	RLCV				1.0	11/07/09 22:27		
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30		
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32		
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35		
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38		
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41		
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43		
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46		
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49		
170	CCV				1.0	11/07/09 22:52		
171	ССВ				1.0	11/07/09 22:54		
172	RLCV				1.0	11/07/09 22:57		
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00		
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03		
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06		
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08		
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11		
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14		
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17		
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19		
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22		
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25		
183	CCV				1.0	11/07/09 23:28		
184	CCB				1.0	11/07/09 23:30		
185	RLCV				1.0	11/07/09 23:33		
186	RINSE				1.0	11/07/09 23:36	:	
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RUN SUMMARY

File ID:	AG110709	Analyst: TEL

#	Sample ID	Lot No.	Batch		DF	Analyzed Date		Con	nment	Q
187	RINSE				1.0	11/07/00 23:30	- ,		A .	
188	Cal-Blank			1	1.0	11/07/09 23:41	WI	11/9/09	Didnotuse.	
189	Cal Blank				1.0	11/07/09 23:44		777		
190	100 ppb				1.0	11/07/09 23:47				
191	CCV				1.0	11/07/09 23:50				
192	ССВ				1.0	11/07/09 23:52				
193	RLCV				1.0	11/07/09 23:55			:	
194	LNEMRZF	D9J280200-5	9302146		1.0	11/07/09 23:58				
195	LNEMRSF	D9J280200-5	9302146	MD	1.0	11/08/09 00:01				
196	LNEMRDF	D9J280200-5	9302146	MD	1.0	11/08/09 00:03				
197	LNEMWF	D9J280200-6	9302146	MD	1.0	11/08/09 00:06				
198	LNEMOF	D9J280200-7	9302146	MD	1.0	11/08/09 00:09				
199	LNEM3F	D9J280200-8	9302146	MD	1.0	11/08/09 00:12				
200	LNEM4F	D9J280200-9	9302146	MD	1.0	11/08/09 00:15				
201	LNEM7F	D9J280200-10	9302146	MD	1.0	11/08/09 00:17				
202	CCV				1.0	11/08/09 00:20				
203	CCB				1.0	11/08/09 00:23				
204	RLCV				1.0	11/08/09 00:26				
205	LN0N2B	D9K060000	9310060	04	2.5	11/08/09 00:28				
206	LN0N2C	D9K060000	9310060	04	2.5	11/08/09 00:31				
207	LNW5P	D9K050485-2	9310060	04	2.5	11/08/09 00:34	T			
208	LNW55	D9K050485-4	9310060	04	2.5	11/08/09 00:37				
209	LNW6E	D9K050485-6	9310060	04	2.5	11/08/09 00:40				
210	LNW6ES	D9K050485-6	9310060	04	2.5	11/08/09 00:42				
211	LNW6ED	D9K050485-6	9310060	04	2.5	11/08/09 00:45				
212	CCV				1.0	11/08/09 00:48			:	
213	CCB				1.0	11/08/09 00:51				
214	RLCV				1.0	11/08/09 00:53				
215	LNF42B	D9J290000	9302121	MS	1.0	11/08/09 00:56				
216	LNF42C	D9J290000	9302121	MS	1.0	11/08/09 00:59				
217	LNE4T	D9J280246-1	9302121	MS	1.0	11/08/09 01:02				
218	LNE40 10X	D9J280246-2	9302121	MS	10.0	11/08/09 01:05				
219	LNE41 5X	D9J280246-3	9302121	MS	5.0	11/08/09 01:07				
220	LNE41P25	D9J280246	9302121		25.0	11/08/09 01:10				
221	CCV				1.0	11/08/09 01:13				
222	ССВ				1.0	11/08/09 01:16				
223	RLCV				1.0	11/08/09 01:19				
224	LNE41Z	D9J280246-3	9302121		1.0	11/08/09 01:21				
225	LNE41S 5X	D9J280246-3	9302121	MS	5.0	11/08/09 01:24				
226	LNE41D 5X	D9J280246-3	9302121	MS	5.0	11/08/09 01:27				
227	LNE44 5X	D9J280246-4	9302121	MS	5.0	11/08/09 01:30	<u> </u>			
228	LNE47 2X	D9J280246-5	9302121	MS	2.0	11/08/09 01:32				
229	LNE5A 2X	D9J280246-6	9302121	MS	2.0	11/08/09 01:35				
230	CCV				1.0	11/08/09 01:38				
231	ССВ				1.0	11/08/09 01:41				
232	RLCV				1.0	11/08/09 01:44				

RUN SUMMARY

File ID: AG110709 Anal	vst: TEL
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#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46		
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49		
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52		
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55		
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58		
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00		
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03		
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06		
241	CCV				1.0	11/08/09 02:09		
242	CCB				1.0	11/08/09 02:11		
243	RLCV				1.0	11/08/09 02:14		
244	RINSE				1.0	11/08/09 02:47		
245	RINSE				1.0	11/08/09 02:20		
246_	Cal Blank				1.0	-11/08/00 -02:22 -	-NF11969 Pidnotuse	
247	Cal Blank				1.0	11/08/09 02:25		
248	100 ppb				1.0	11/08/09 02:28		
249	CCV				1.0	11/08/09 02:31		
250	ССВ				1.0	11/08/09 02:33		
251	RLCV				1.0	11/08/09 02:36		
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39		
253	LNJNVC	D9J300000	9303185	MS	1.0	11/08/09 02:42		
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44		
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47		
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50		
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53		
258	CCV				1.0	11/08/09 02:56		
259	ССВ				1.0	11/08/09 02:58		
260	RLCV			ļļ.	1.0	11/08/09 03:01	- Marie and the second section of the section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the	
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04		
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07		
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09	· · · · · · · · · · · · · · · · · · ·	
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12		
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15		
266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18		
267	CCV			-	1.0	11/08/09 03:21	PH 14	
268	CCB			ļļ.	1.0	11/08/09 03:23		
269	RLCV	Do lococo	0000010	0.4	1.0	11/08/09 03:26		
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29		
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32		
272 273	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34		
		D9J290285-2	9303310	04	1.0	11/08/09 03:37		
274 275	LNHRN	D9J290285-3 D9J290285-4	9303310	04	1.0	11/08/09 03:40		
276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:43 11/08/09 03:46		
277	CCV	D30230203-5	3000310	"	1.0	11/08/09 03:48		
278	CCB			++	1.0	11/08/09 03:48		
210	- COB		L	LL	1.0	11/00/08 03.31	<u> </u>	ا ا

# Sample ID Lot No. Batch DF Analyzed Date Comment RICV 1.0 11/08/09 03:54	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
280 LNHRT	
281 LNHRTP5 D9J290285 9303310 5.0 11/08/09 03:59	
LNHRTZ	0 0
LNHRTS D9J290285-6 9303310 04 1.0 11/08/09 04:05	
LNHRTD D9J290285-6 9303310 04 1.0 11/08/09 04:08 LNHRV D9J290285-7 9303310 04 1.0 11/08/09 04:10 LNHRW D9J290285-8 9303310 04 1.0 11/08/09 04:10 LNHRX D9J290285-9 9303310 04 1.0 11/08/09 04:16 LNHRD D9J290285-10 9303310 04 1.0 11/08/09 04:16 LNHRD D9J290285-10 9303310 04 1.0 11/08/09 04:19 CCV	
LNHRV D9J290285-7 9303310 04 1.0 11/08/09 04:10	
LNHRW D9J290285-8 9303310 04 1.0 11/08/09 04:13 1.0 11/08/09 04:16 1.0 11/08/09 04:16 1.0 11/08/09 04:16 1.0 11/08/09 04:19 1.0 11/08/09 04:19 1.0 11/08/09 04:21 1.0 11/08/09 04:21 1.0 11/08/09 04:24 1.0 11/08/09 04:24 1.0 11/08/09 04:27 1.0 11/08/09 04:27 1.0 11/08/09 04:32 1.0 11/08/09 04:32 1.0 11/08/09 04:32 1.0 11/08/09 04:35 1.0 11/08/09 04:35 1.0 11/08/09 04:35 1.0 11/08/09 04:34 1.0 11/08/09 04:41 1.0 11/08/09 04:41 1.0 11/08/09 04:41 1.0 11/08/09 04:41 1.0 11/08/09 04:44 1.0 11/08/09 04:44 1.0 11/08/09 04:45 1.0 11/08/09 04:45 1.0 11/08/09 04:52 1.0 11/08/09 04:52 1.0 11/08/09 04:52 1.0 11/08/09 04:52 1.0 11/08/09 04:52 1.0 11/08/09 04:53 1.0 11/08/09 04:54 1.0 11/08/09 04:55 1.0 11/08/09 04:55 1.0 11/08/09 04:55 1.0 11/08/09 04:55 1.0 11/08/09 04:55 1.0 11/08/09 04:55 1.0 11/08/09 04:50 1.0 11/08/09 05:05 1.0 11/08/09 05:05 1.0 11/08/09 05:05 1.0 11/08/09 05:05 1.0 11/08/09 05:05 1.0 11/08/09 05:05 1.0 11/08/09 05:11 1.0 11/08/09 05:11 1.0 11/08/09 05:14 1.0 11/08/09 05:14 1.0 11/08/09 05:15 1.0 1	
LNHRX D9J290285-9 9303310 04 1.0 11/08/09 04:16 LNHR0 D9J290285-10 9303310 04 1.0 11/08/09 04:19 CCV 1.0 11/08/09 04:21 289 CCV 1.0 11/08/09 04:21 290 CCB 1.0 11/08/09 04:27 291 RLCV 1.0 11/08/09 04:30 Cal Blank 1.0 11/08/09 04:32 293 CCV 1.0 11/08/09 04:35 CCV 1.0 11/08/09 04:35 CCV 1.0 11/08/09 04:35 CCV 1.0 11/08/09 04:41 295 CCV 1.0 11/08/09 04:41 297 RLCV 1.0 11/08/09 04:41 298 LM7XN 10X D9J230319-2 9299274 04 1.0 11/08/09 04:49 CCB 1.0 11/08/09 04:49 CCB 1.0 11/08/09 04:52 301 RLCV 1.0 11/08/09 04:52 301 RLCV 1.0 11/08/09 04:54 302 LMNVOC D9K020000 9306340 04 1.0 11/08/09 05:05 304 LNLGN 5X D9J300319-1 9306340 04 1.0 11/08/09 05:03 305 LNJ05 D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1A D9J300168-2 9306340 04 1.0 11/08/09 05:05 307 LNJ1C D9J300168-3 9306340 04 1.0 11/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:11 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:19	
LINHRO D9J290285-10 9303310 O4 1.0 11/08/09 O4:19	
CCV	
CCB	
RLCV	
Cal Blank	
293 Cal Blank 1.0 11/08/09 04:32 294 100 ppb 1.0 11/08/09 04:35 295 CCV 1.0 11/08/09 04:38 296 CCB 1.0 11/08/09 04:41 297 RLCV 1.0 11/08/09 04:43 298 LM7XN 10X D9J230319-2 9299274 04 1.0 11/08/09 04:46 299 CCV 1.0 11/08/09 04:49 1.0 11/08/09 04:52 300 CCB 1.0 11/08/09 04:52 1.0 11/08/09 04:54 302 LNIVOB D9K020000 9306340 04 1.0 11/08/09 04:57 303 LNNVOC D9K020000 9306340 04 1.0 11/08/09 05:05 304 LNLGN 5X D9J300319-1 9306340 04 1.0 11/08/09 05:05 305 LNJ1A D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1C D9J300168-2 9306340 04 1.0 11/08/09 05:01	
293 Cal Blank 1.0 11/08/09 04:32 294 100 ppb 1.0 11/08/09 04:35 295 CCV 1.0 11/08/09 04:38 296 CCB 1.0 11/08/09 04:41 297 RLCV 1.0 11/08/09 04:43 298 LM7XN 10X D9J230319-2 9299274 04 1.0 11/08/09 04:46 299 CCV 1.0 11/08/09 04:49 1.0 11/08/09 04:52 300 CCB 1.0 11/08/09 04:52 1.0 11/08/09 04:54 302 LNIVOB D9K020000 9306340 04 1.0 11/08/09 04:57 303 LNNVOC D9K020000 9306340 04 1.0 11/08/09 05:05 304 LNLGN 5X D9J300319-1 9306340 04 1.0 11/08/09 05:05 305 LNJ1A D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1C D9J300168-2 9306340 04 1.0 11/08/09 05:01	0.
295 CCV 1.0 11/08/09 04:38 296 CCB 1.0 11/08/09 04:41 297 RLCV 1.0 11/08/09 04:43 298 LM7XN 10X D9J230319-2 9299274 04 1.0 11/08/09 04:46 299 CCV 1.0 11/08/09 04:49 300 CCB 1.0 11/08/09 04:52 301 RLCV 1.0 11/08/09 04:54 302 LNNVOB D9K020000 9306340 04 1.0 11/08/09 04:03 303 LNNVOC D9K020000 9306340 04 1.0 11/08/09 05:03 304 LNLGN 5X D9J300168-1 9306340 04 1.0 11/08/09 05:03 305 LNJ1A D9J300168-2 9306340 04 1.0 11/08/09 05:05 306 LNJ1C D9J300168-3 9306340 04 1.0 11/08/09 05:11	
296 CCB 1.0 11/08/09 04:41 297 RLCV 1.0 11/08/09 04:43 298 LM7XN 10X D9J230319-2 9299274 04 1.0 11/08/09 04:46 299 CCV 1.0 11/08/09 04:49 300 CCB 1.0 11/08/09 04:52 301 RLCV 1.0 11/08/09 04:54 302 LNVOB D9K020000 9306340 04 1.0 11/08/09 05:05 303 LNVOC D9K020000 9306340 04 1.0 11/08/09 05:05 304 LNLGN 5X D9J300319-1 9306340 04 5.0 11/08/09 05:05 305 LNJ1S D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1C D9J300168-2 9306340 04 1.0 11/08/09 05:11 308 LNJ1D D9J300168-3 9306340 04 1.0	
297 RLCV	
298 LM7XN 10X D9J230319-2 9299274 04 1.0 11/08/09 04:46 299 CCV 1.0 11/08/09 04:49 300 CCB 1.0 11/08/09 04:52 301 RLCV 1.0 11/08/09 04:54 302 LNNVOB D9K020000 9306340 04 1.0 11/08/09 05:00 303 LNLGN 5X D9J300319-1 9306340 04 1.0 11/08/09 05:00 305 LNJ05 D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1A D9J300168-2 9306340 04 1.0 11/08/09 05:08 307 LNJ1C D9J300168-3 9306340 04 1.0 11/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 1.0 11/08/09 05:22	
299 CCV 1.0 11/08/09 04:49 300 CCB 1.0 11/08/09 04:52 301 RLCV 1.0 11/08/09 04:54 302 LNNVOB D9K020000 9306340 04 1.0 11/08/09 05:90 303 LNNVOC D9K020000 9306340 04 1.0 11/08/09 05:90 304 LNLGN 5X D9J300319-1 9306340 04 5.0 11/08/09 05:03 305 LNJ05 D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1A D9J300168-2 9306340 04 1.0 11/08/09 05:08 307 LNJ1C D9J300168-3 9306340 04 1.0 11/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 1.0 11/08/09 05:22	
300 CCB 1.0 11/08/09 04:52 301 RLCV 1.0 11/08/09 04:54 302 LNNVOB D9K020000 9306340 04 1.0 11/08/09 04:37 303 LNNVOC D9K020000 9306340 04 1.0 11/08/09 05:03 304 LNLGN 5X D9J300319-1 9306340 04 5.0 11/08/09 05:03 305 LNJ05 D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1A D9J300168-2 9306340 04 1.0 11/08/09 05:08 307 LNJ1C D9J300168-3 9306340 04 1.0 11/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19	
RICV	
Solution Solution	
303 LNNVOC D9K020000 9306340 04 1.0 11/08/09 05:90 304 LNLGN 5X D9J300319-1 9306340 04 5.0 11/08/09 05:03 305 LNJ05 D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1A D9J300168-2 9306340 04 1.0 11/08/09 05:08 307 LNJ1C D9J300168-3 9306340 04 1.0 1/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:22	
304 LNLGN 5X D9J300319-1 9306340 04 5.0 11/08/09 05:03 305 LNJ05 D9J300168-1 9306340 04 1.0 11/08/09 05:05 306 LNJ1A D9J300168-2 9306340 04 1.0 11/08/09 05:08 307 LNJ1C D9J300168-3 9306340 04 1.0 11/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:22	
305 LNJ05 D9J300168-1 9306340 04 1.0 11/08/08 05:05 306 LNJ1A D9J300168-2 9306340 04 1.0 11/08/09 05:08 307 LNJ1C D9J300168-3 9306340 04 1.0 1/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:22	
306 LNJ1A D9J300168-2 9306340 04 1.0 11/98/09 05:08 307 LNJ1C D9J300168-3 9306340 04 1.0 1/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:22	
307 LNJ1C D9J300168-3 9306340 04 1.0 1/08/09 05:11 308 LNJ1D D9J300168-4 9306340 04 1.9 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:22	
308 LNJ1D D9J300168-4 9306340 04 1.0 11/08/09 05:14 309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:22	
309 LNJ1F D9J300168-5 9306340 04 1.0 11/08/09 05:16 310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:22	
310 CCV 1.0 11/08/09 05:19 311 CCB 1.0 11/08/09 05:22	
311 CCB 1.0 11/08/09 05:22	
312 RLCV 1.0 11/08/09 05:25	
313 LNJ41 D9J300188-1 9306340 04 1.0 11/08/09 05:27	
314 LNJ43 D9J300188-2 9306340 04 1.0 11/08/09 05:30	
315 LNJ44 D9J300188-3 9 306340 04 1.0 11/08/09 05:33	
316 LNJ45 D9J300188-4 9306340 04 1.0 11/08/09 05:36	
317 LNMA5 5X D9J310124 9306340 04 5.0 11/08/09 05:38	
318 LNMCH D9J310127-1 9306340 04 1.0 11/08/09 05:41	
319 CCV 1.0 11/08/09 05:44	
320 CCB 1.0 11/08/09 05:47	
321 RLCV 1.0 11/08/09 05:49	
322 LNMCN D9J310127-2 9306340 04 1.0 11/08/09 05:52	
323 LNMONP5 D9J310127 9306340 5.0 11/08/09 05:55	
324 LMMCNZ D9J310127-2 9306340 1.0 11/08/09 05:58 44 11/9/09 Did no	

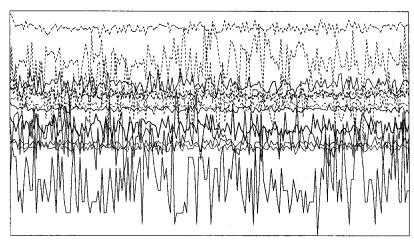
Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/09/09 10:00:55

RUN SUMMARY

File ID:	AG110709	Analyst: TEl
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#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
325	LNMCNS	D9J310127-2	9306340	04	1.0	11/08/09 06:00	•	
326	LNMCND	D9J310127-2	9306340	04	1.0	11/08 /09 06:03		
327	LNMCP	D9J310127-3	9306340	04	1.0	11/08/09 06:06		
328	LNMCQ	D9J310127-4	9306340	04	1.0	11/08/09 06:09		
329	CCV				1.0	11/08/09 06:11		
330	ССВ				1.0	11/08/09 06:14	11	
331	BLCV				- 1.0	-11/08/09 08:17	Not 11/9/09 Pil not use.	

Tune File : NORM.U Comment : AG110709

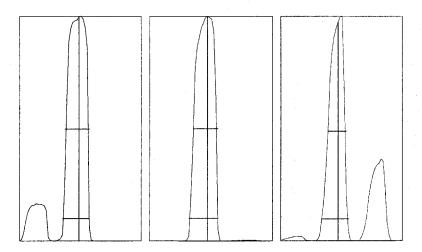


0.1000 sec 1.5300 sec Integration Time: Sampling Period:

n: 200

Oxide: 156/140 Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
. 6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
. 115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
₩-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec Acquisition Time: 22.7600 sec

Y axis : Linear

Page: 1

Generated: Nov 07, 2009 14:09:07 Printed: Nov 07, 2009 14:09:09

Tune Report

Tune File : NORM.U Comment : AG11070

Comment

: AG110709

Tuning Parame	ters									
===Plasma Cond:	ition			===Ion Lenses==	==		===Q-Pole Param	iet:	ers===	
RF Power	:	1600	W	Extract 1	:	0 V	AMU Gain	:	134	
RF Matching	:	1.7	V	Extract 2	:	-170 V	AMU Offset	:	125	
Smpl Depth	:	8	mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007	
Torch-H	:	-0.8	mm	Omega Lens-ce	:	1.4 V	Axis Offset	:	-0.03	
Torch-V	:	-0.3	mm	Cell Entrance	:	-30 V	QP Bias	:	-3	V
Carrier Gas	:	0.81	L/min	QP Focus	:	7 V				
Makeup Gas	:	0.23	L/min	Cell Exit	:	-30 V	===Detector Par	ame	eters==	=
Optional Gas	:		용				Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Pa:	rame	ters===	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 Ce	11===									
Reaction Mode	:	OFF								
H2 Gas	:	0	mL/min	He Gas	:	0 mL/min	Optional Gas	:		ક

Page: 2

Generated : Nov 07, 2009 14:09:07 Printed : Nov 07, 2009 14:09:12

P/A Factor Tuning Report

Acquired:Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor		
6	Li	0.054257		
7 9	(Li)	Sensitivity 0.059350	too	TOM
23	Be Na	0.059350		
24	Mg	0.064875		
27	Al	0.065819		
39	K	0.066026		
43	Ca	Sensitivity	too	low
45	Sc	0.066849		
51	V	0.067403		
52 53	Cr	0.068152		,
53 55	(Cr) Mn	Sensitivity 0.068773	too	low
57	Fe	Sensitivity	too	low
5 <i>7</i> 59	Co	0.069652	200	TOW
60	Ni	Sensitivity	too	low
63	Cu	0.069964		
66	Zn	0.070153		
72	Ge	Sensitivity		low
75	As	Sensitivity		low
77	(Se)	Sensitivity		low
78 82	Se (Se)	Sensitivity Sensitivity	too	low low
83	(Se)	Sensitivity		low
93	Nb	Sensitivity		low
95	Mo	0.072052		
98	(Mo)	0.071277		
99	(Mo)	Sensitivity	too	low
105	Pd	0.071221		
106	(Cd)	0.070815		-
107 108	Ag (Cd)	Sensitivity 0.071381	too	TOM
111	(Cd) Cd	0.071361		
115	In	0.070220		
118	Sn	0.070317		
121	Sb	0.070422		
137	Ba		too	low
165	Но	Sensitivity	too	low
182	_ W	Sensitivity	too	low
195	Pt	Sensitivity	too	low
205 206	Tl (Pb)	0.071611 0.070464		
207	(Pb)	0.070565		
208	Pb	0.069648		
232	Th	0.069671		
238	U	0.069782		

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

- 1 -

671 TestAmerica

200.8 QC Tune Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D

Date Acquired:

Nov 7 2009 03:04 pm

Acq. Method:

tun_isis.M

Operator:

TEL

Sample Name:

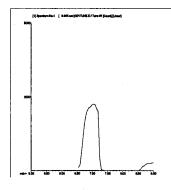
200.8 TUNE

Misc Info:

Vial Number: Current Method:

C:\ICPCHEM\1\METHODS\tun_isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



7 Li

Mass Calib.

Actual: 7.00

Required: 6.90

7.10

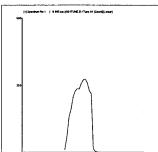
Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:



9 Be

Mass Calib.

Actual: 9.00

Required:8.90 9.10

Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:

[1] Specialism Res. 8 - 200 to 1550 TTUNE D/Tune Pf (Count) School	24 Mg		
****	Mass Calib.		
	Actual: 24.00		
^	Required: 23.90	_	24.10
	Flag:		
	Peak Width		
	Actual: 0.60		
	Required:0.90		
#\$>33.88 34.38 34.88 32.00 32.20 34.00 38.00	Flag:		
(1) Souther No. 1 8 MS sec(001TURE D/Ture of Zouright Rever]	59 Co		
	Mass Calib.		
	Actual: 59.00		
	Required: 58.90	_	59.10
***	Flag:		
	Peak Width		
	Actual: 0.55		
	Required: 0.90		
Mail-19.50 54.00 56.50 58.00 56.60 69.60 69.90	Flag:		
[1] Specimen He 1 8 MM see) on True (I) (Count) Extern) 2 MM	115 In		
	Mass Calib.		
	Actual: 115.00		
	Required: 114.90		115.10
1864	Flag:		
	Peak Width		
	Actual: 0.60		
	Required: 0.90		
AB-311250 11d 66 11d 50 11d 50 11d 50 11d 50 11d 50	Flag:		
(1) Sevident No. 1 8-995 soc)50 1110-R.D./Tota 41 (Case(QL/meet)	208 Pb		
	Mass Calib.		
Λ	Actual: 207.95		
/\	Required: 207.90	-	208.10
1000	Flag:		
	Peak Width		
	Actual: 0.55		
/ \	Required: 0.90		
eendra waa waa waa waa waa	Flag:		
[1] Sentrum Ha. 1 9 MS exc)001TAME 0 / Then 61 (Court) (3-heart)	238 U		
	Mass Calib.		
	Actual: 237.95		
Λ	Required: 237.90	_	238.10
2000	Flag:		
	Peak Width		
	Actual: 0.55		
	Required: 0.90		

11/7/09 3:05 PM

Tune Result:

Pass

C:\ICPCHEM\1\RPTTMP\2008tn.qct

Flag:

Page 2 of 2

/ 11

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#

Date Acquired: Nov 7 2009 03:07 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

			1		abuhla	•
QC E	lement	:s	`		JOHN D	7
Elem	ent	IS Ref	Tune	OPS Mean	RSD(%)	
9	Вe	6	1	\0	0.00	
51	V	72	1	130	55.47	
52	Cr	72	1	2920	1.23	
55	Mn	72	1	487	11.32	
59	Co	72	1	43	₹ 35.25	
60	Ni	72	1	67	56.79	
63	Cu	72	1	247	1 6.39	
66	Zn	72	1	177	1.72	
75	As	72	1	38	36.84	
78	Se	72	1	290	18.25	
95	Mo	72	1	17	69.28	
107	Ag	115	1	17	91.65	N. Committee of the Com
111	Cd	115	1	6	90.67	
118	Sn	115	1	120	25.00	
121	Sb	115	1	, 7	0.00	
137	Ba	115	1	11	17.32	***************************************
205	Tl	165	1	53	12.50	
208	Pb	165	1	250	7.42	
232	Th	165	1	93	59.01	\
238	U	165	1	83	36.66	
Inte	rnal S	Standard	Element	ts		
Elem	ent		Tune	CPS Mean	RSD(%)	
6	Li		1	450969	0.62	
45	Sc		1	1353461	1.72	
72	Ge		1	599452	0.37	
115	In		1	1813996	0.92	
165	Но		1	3291682	1.21	

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

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

Date Acquired: Nov 7 2009 03:09 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:07 pm

Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	107	14.32
52	\mathtt{Cr}	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	T1	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Но	1	3253654	1.35

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#

Date Acquired: Nov 7 2009 03:12 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:10 pm

Sample Type: ICAL

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Вe	6	1 ,	52398	1.41
51	٧.	72	1	764367	2.20
52	Cr	72	1	771475	1.19
55	Mn	72	1	912002	1.09
59	Co	72	1	914930	2.11
60	Ni	72	1 .	193364	2.37
63	Cu	72	1	465989	1.20
66	Zn	72	1	112029	1.18
75	As	72	1	90135	1.29
78	Se	72	1	18683	1.97
95	Mo	72	1	260394	0.61
107	Ag	115	1	765784	1.36
111	Cd	115	1	157700	1.34
118	Sn	115	1	441054	2.17
121	Sb	115	1	510967	1.02
137	Ba	115	1	213858	1.06
205	Tl	165	1	1838240	1.05
208	Pb	165	1	2519619	0.58
232	Th	165	1	2643067	0.57
238	U	165	1	2792671	0.69

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120	
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120	
72	Ge	1	575467	1.00	598490	96.2	30 - 120	
115	In	1	1781328	1.07	1797032	99.1	30 - 120	
165	Но	1	3275522	1.43	3253654	100.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0:Element Failures 0
0:ISTD Failures 0

11/7/09 3:13 PM

D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

ISTD:

Pass

Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\005 ICV.D\005 ICV.D#

Date Acquired: Nov 7 2009 03:15 pm

Operator: TEL QC Summary: Sample Name: ICV Analytes: Pass

Misc Info:

Vial Number: 2103

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICV
Total Dil Factor: 1.00

00	Eleme	nte								
_	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	OC Pango (%)	Flag
9	Be	6	1	40.37	nnh	1.43	40	100.9	QC Range(%) 90 - 110	rrag
51	V	72			ppb				90 - 110	
	-		1	38.46	ppb	0.46	40	96.2		
52	Cr	72	1	39.20	ppb	1.19	40	98.0	90 - 110	
55	Mn	72	1	39.82	ppb	0.12	40	99.6	90 - 110	
59	Co	72	1	38.88	ppb	0.70	40	97.2	90 - 110	
60	Ni	72	1	40.10	ppb	0.16	40	100.3	90 - 110	
63	Cu	72	1	39.43	ppb	0.82	40	98.6	90 - 110	
66	Zn	72	1	40.09	ppb	0.20	40	100.2	90 - 110	
75	As	72	1	39.44	ppb	0.27	40	98.6	90 - 110	
78	Se	72	1	38.96	ppb	4.82	40	97.4	90 - 110	
95	Mo	72	1	39.50	ppb	0.72	40	98.8	90 - 110	
107	Ag	115	1	38.87	ppb	1.47	40	97.2	90 - 110	
111	Cd	115	1	39.30	ppb	0.98	40	98.3	90 - 110	
118	Sn	115	1	39.04	ppb	1.08	40	97.6	90 - 110	
121	Sb	115	1	39.64	ppb	1.29	40	99.1	90 - 110	
137	Ва	115	1	38.76	ppb	1.35	40	96.9	90 - 110	
205	Tl	165	1	39.29	ppb	2.05	40	98.2	90 - 110	
208	Pb	165	1	40.72	ppb	2.07	40	101.8	90 - 110	
232	Th	165	1	41.00	ppb	0.86	40	102.5	90 - 110	
238	U	165	1	40.29	ppb	1.06	40	100.7	90 - 110	
IST	D Ele	ments								

101	DETements							
Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	448116	0.63	455621	98.4	30 - 120	
45	Sc	1	1362171	0.61	1356727	100.4	30 - 120	
72	Ge	1	576140	0.97	598490	96.3	30 - 120	
115	In	1	1802991	1.36	1797032	100.3	30 - 120	
165	Но	1	3291704	0.83	3253654	101.2	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D\#

Date Acquired: Nov 7 2009 03:18 pm

Operator: TEL QC Summary:
Sample Name: RLIV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements	ıts
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

Initial Calibration Blank (ICB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\007 ICB.D\007 ICB.D#

Date Acquired: Nov 7 2009 03:20 pm QC Summary:
Operator: TEL Analytes: Pass
Sample Name: ICB ISTD: Pass

Misc Info:

Vial Number: 2104

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: ICB
Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	: Flag
9	Ве	. 6	1	0.00	ppb	0.00	1.00	
51	V	72	1	0.01	ppb	78.95	1.00	
52	Cr	72	1	0.00	ppb	801.07	1.00	
55	Mn	72	1	0.00	ppb	167.97	1.00	
59	Co	72	1	0.00	ppb	88.12	1.00	
60	Ni	72	1	0.00	ppb	330.87	1.00	
63	Cu	72	1	-0.02	ppb	18.87	1.00	
66	Zn	72	1	-0.08	ppb	16.28	1.00	
75	As	72	1	0.00	ppb	320.71	1.00	
78	Se	72	1	-0.34	ppb	104.80	1.00	
95	Mo	72	1	0.03	ppb	28.62	1.00	
107	Ag	115	1	0.01	ppb	75.43	1.00	
111	Cd	115	1	0.01	ppb	156.14	1.00	
118	Sn	115	1	0.05	ppb	28.25	1.00	
121	Sb	115	1	0.08	ppb	20.91	1.00	
137	Ba	115	1	-0.02	ppb	26.22	1.00	
205	Tl	165	1	0.04	ppb	12.74	1.00	
208	Pb	165	1	0.00	ppb	28.23	1.00	
232	Th	165	1	0.02	ppb	38.30	1.00	
238	U	165	1	0.00	ppb	35.64	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D\#

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

D:\ICPCHEM\1\RPTTMP\6020ICB.qct

ISTD:

Pass

QC Range(%)

50 - 150

50 - 150

RL STD QC Report

Misc Info:

QC Elements

232 Th

238 U

165

165

1

1

Data File: C:\ICPCHEM\1\DATA\AG110709.B\008RLST.D\008RLST.D#

Date Acquired: Nov 7 2009 03:23 pm

Operator: TEL QC Summary: Sample Name: RL STD Analytes: Pass

Vial Number: 2105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: RLSTD Total Dil Factor: 1.00

Ele	ment	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%
9	Вe	6	1	1.03 ppb	7.07	1	102.9

9	Ве	6	1	1.03	ppb	7.07	1	102.9	50 - 150	
51	٧	72	1	0.95	ppb	2.40	1	94.6	50 - 150	
52	\mathtt{Cr}	72	1	0.95	ppb	9.15	1	94.9	50 - 150	
55	Mn	72	1	0.98	ppb	3.40	1	97.8	50 - 150	
59	Co	72	1	0.99	ppb	1.20	1	99.3	50 - 150	
60	Νi	72	1	0.99	ppb	1.44	1	98.7	50 - 150	
63	Cu	72	1	0.97	ppb	3.25	1	96.6	50 - 150	
66	Zn	72	1	9.84	ppb	1.62	10	98.4	50 - 150	
75	As	72	1	1.01	ppb	1.47	1	100.9	50 - 150	
78	Se	72	1	0.85	ppb	29.55	1	85.1	50 - 150	
95	Mo	72	1	0.98	ppb	3.69	1 .	98.3	50 - 150	
107	Ag	115	1	0.98	ppb	6.91	1	98.4	50 - 150	
111	Cd	115	1	0.98	ppb	2.94	1	97.7	50 - 150	
118	Sn	115	1	9.90	ppb	3.50	10	99.0	50 - 150	
121	Sb	115	1	1.06	ppb	2.89	1	105.8	50 - 150	
137	Ba	115	1	0.93	ppb	4.92	1	92.9	50 - 150	
205	Tl	165	1	1.05	ppb	1.24	1	104.9	50 - 150	
208	Pb	165	1	1.05	ppb	0.65	1	104.5	50 - 150	

ISTD Elements

1.07 ppb 0.78

1.09 ppb 0.98

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	452942	1.17	455621	99.4	30 - 120	
45	Sc	1	1350845	0.67	1356727	99.6	30 - 120	
72	Ge	1	590050	0.39	598490	98.6	30 - 120	
115	In	1	1791700	1.48	1797032	99.7	30 - 120	
165	Но	1	3276677	0.55	3253654	100.7	30 - 120	

1

106.6

109.3

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#

Date Acquired: Nov 7 2009 03:26 pm

Operator: TEL QC Summary:

Analytes: Pass Sample Name: AFCEE RL Misc Info: ISTD: Pass

Vial Number: 2106

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Calibration File:

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL Total Dil Factor: 1.00

QC :	Eleme:	nts								
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.18	ppb	4.87	0	85.7	80 - 120	
51	V	72	1	0.19	ppb	1.60	0	98.1	80 - 120	
52	Cr	72	1	0.17	ppb	19.24	0	88.9	80 - 120	
55	Mn	72	1	0.24	ppb	0.90	0	122.4	80 - 120	
59	Co	72	1	0.21	ppb	2.54	0	105.0	80 - 120	
60	Ni	72	1	0.19	ppb	33.14	0	95.0	80 - 120	
63	Cu	72	1	0.19	ppb	26.00	0	96.8	80 - 120	
66	Zn	72	1	1.99	ppb	0.59	2	101.2	80 - 120	
75	As	72	1	0.22	ppb	3.49	0	111.1	80 - 120	
78	Se	72	1	-0.03	ppb	493.20	0	-19.4	80 - 120	
95	Mo	72	1	0.20	ppb	10.11	0	102.9	80 - 120	
107	Ag	115	1	0.19	ppb	9.51	0	98.0	80 - 120	
111	Cd	115	1	0.20	ppb	6.38	Ö	102.8	80 - 120	
118	Sn	115	1	1.96	ppb	1.89	2	99.1	80 - 120	
121	Sb	115	1	0.22	ppb	4.04	0	104.0	80 - 120	
137	Ва	115	1	0.19	ppb	4.99	0	101.2	80 - 120	
205	Tl	165	1	0.21	ppb	2.78	0	101.1	80 - 120	
208	Pb	165	1	0.21	ppb	2.60	0	100.1	80 - 120	
232	Th	165	1	0.21	ppb	3.95	0	98.4	80 - 120	
238	Ū	165	1	0.21	ppb	3.63	0	98.0	80 - 120	
IST	D Ele	ments								
Ele	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	453567		1.29	455621	99.5	30 - 120	
45	Sc		1	1337172		0.83	1356727	98.6	30 - 120	
72	Ge		1	590407		0.86	598490	98.6	30 - 120	
115	In		1	1781901		0.99	1797032	99.2	30 - 120	

6	Li	1	453567	1.29	455621	99.5	30 - 120
45	Sc	1	1337172	0.83	1356727	98.6	30 - 120
72	Ge	1	590407	0.86	598490	98.6	30 - 120
115	In	1	1781901	0.99	1797032	99.2	30 - 120
165	Но	1	3288568	1.80	3253654	101.1	30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D#

Date Acquired: Nov 7 2009 03:29 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass Sample Name: ALTSe ISTD: Pass

Misc Info: 2 ppb Vial Number: 2107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	0.00	0.00	ppb	62.04	3600	
52 Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55 Mn	72	1	0.00	0.00	ppb	140.46	3600	
59 Co	72	1	0.00	0.00	ppb	189.04	3600	
60 Ni	72	1	0.00	0.00	ppb	522.21	3600	
63 Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66 Zn	72	1	0.05	0.05	ppb	55.06	3600	
75 As	72	1	0.00	0.00	ppb	1812.70	3600	
78 Se	72	1	2.16	2.16	ppb	11.88	3600	
95 Mo	72	1	0.00	0.00	ppb	222.57	3600	
107 Ag	115	1	0.01	0.01	ppb	10.07	3600	
111 Cd	115	1	0.00	0.00	ppb	89.77	3600	
118 Sn	115	1	0.00	0.00	ppb	293.54	3600	
121 Sb	115	1	0.02	0.02	ppb	23.95	3600	
137 Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205 Tl	165	1	0.01	0.01	ppb	2.14	3600	
208 Pb	165	1	0.00	0.00	ppb	39.67	3600	
232 Th	165	1	0.00	0.00	ppb	17.19	1000	
238 U	165	1	0.00	0.00	ppb	388.10	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D\

Date Acquired: Nov 7 2009 03:31 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA
Dilution Factor: 1.00

QC	Elements
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Eler	nent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	0.00 ppb	0.00	1.00	_
51	٧	72	1	2.45 ppb	8.60	1.00	
52	\mathtt{Cr}	72	1	1.86 ppb	3.80	1.00	
55	Mn	72	1	3.11 ppb	0.88	1.00	
59	Co	72	1	0.12 ppb	10.19	1.00	
60	Ni	72	1	1.23 ppb	9.98	1.00	
63	Cu	72	1	0.56 ppb	5.58	1.00	
66	Zn	72	1	4.20 ppb	1.79	10.00	
75	As	72	1	0.35 ppb	13.35	1.00	
78	Se	72	1	0.47 ppb	67.55	1.00	
95	Мо	72	1	2055.00 ppb	1.11	2000.00	
107	Ag	115	1	0.03 ppb	8.56	1.00	
111	Cd	115	1	0.40 ppb	30.97	1.00	
118	Sn	115	1	0.93 ppb	18.89	10.00	
121	Sb	115	1	0.95 ppb	3.56	1.00	
137	Ва	115	1	0.00 ppb	326.02	1.00	
205	Tl	165	1	0.04 ppb	20.03	1.00	
208	Pb	165	1	1.04 ppb	2.03	1.00	
232	Th	165	1	0.02 ppb	5.48	1.00	
238	U	165	1	0.00 ppb	14.89	1.00	

ISTD Elements

Elen	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120	
45	Sc	1	939322	1.85	1356727	69.2	30 - 120	
72	Ge	1	429449	0.82	598490	71.8	30 - 120	
115	In	1	1325081	0.92	1797032	73.7	30 - 120	
165	Но	1	2485688	0.47	3253654	76.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D#

Date Acquired: Nov 7 2009 03:34 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: ICSAB ISTD: Pass

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSAB
Dilution Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	108.90	0.75	100	108.9	80 - 120	
51 V	72	1	92.27	0.38	100	92.3	80 - 120	
52 Cr	72	1	90.40	0.96	100	90.4	80 - 120	
55 Mn	72	1	92.59	1.18	100	92.6	80 - 120	
59 Co	72	1	88.85	0.30	100	88.9	80 - 120	
60 Ni	72	1	89.72	0.28	100	89.7	80 - 120	
63 Cu	72	1	85.14	0.90	100	85.1	80 - 120	
66 Zn	72	1	95.65	0.49	100	95.7	80 - 120	
75 As	72	1	99.50	0.47	100	99.5	80 - 120	
78 Se	72	1	105.90	0.80	100	105.9	80 - 120	
95 Mo	72	1	2149.00	1.99	2100	102.3	80 - 120	
107 Ag	115	1	84.00	7.96	100	84.0	80 - 120	
111 Cd	115	1	93.62	2.89	100	93.6	80 - 120	
118 Sn	115	1	96.78	1.78	100	96.8	80 - 120	
121 Sb	115	1	100.10	2.32	100	100.1	80 - 120	
137 Ba	115	1	96.82	2.12	100	96.8	80 - 120	
205 Tl	165	1	94.83	0.67	100	94.8	80 - 120	
208 Pb	165	1	93.97	0.82	100	94.0	80 - 120	
232 Th	165	1	101.90	0.67	100	101.9	80 - 120	
238 U	165	1	100.20	0.45	100	100.2	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272241	2.18	455621	59.8	30 - 120	
45 Sc	1	935334	1.15	1356727	68.9	30 - 120	
72 Ge	1	419509	1.32	598490	70.1	30 - 120	
115 In	1	1327038	1.55	1797032	73.8	30 - 120	
165 Ho	1	2524289	0.15	3253654	77.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

ISTD:

Pass

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#

Date Acquired: Nov 7 2009 03:37 pm

Operator: TEL QC Summary: Sample Name: RINSE Analytes: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: AFCEERL
Total Dil Factor: 1.00

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ÕC 1	:Teme:	nts								
Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	0.00	ppb	0.00	0	0.0	80 - 120	
51	V	72	1	0.06	ppb	15.15	0	29.2	80 - 120	
52	Cr	72	1	0.00	ppb	941.54	0	-2.5	80 - 120	
55	Mn	72	1	0.00	ppb	87.90	0	-2.5	80 - 120	
59	Со	72	1	0.00	ppb	138.19	0	-0.5	80 - 120	
60	Ni	72	1	-0.01	ppb	79.76	0	-6.6	80 - 120	
63	Cu	72	1	-0.02	ppb	11.32	0	-10.3	80 - 120	
66	Zn	72	1	-0.12	ppb	4.66	2	-6.1	80 - 120	
75	As	72	1	0.00	ppb	172.97	0	2.3	80 - 120	
78	Se	72	1	0.18	ppb	157.63	0 -	105.8	80 - 120	
95	Mo	72	1	0.92	ppb	26.25	0	470.1	80 - 120	
107	Ag	115	1	0.01	ppb	38.83	0	5.1	80 - 120	
111	Cd	115	1	0.00	ppb	268.01	0	2.2	80 - 120	
118	Sn	115	1	-0.03	ppb	57.94	2	-1.3	80 - 120	
121	Sb	115	1	0.13	ppb	22.58	0	60.8	80 - 120	
137	Ва	115	1	-0.03	ppb	10.98	0	-13.6	80 - 120	
205	Tl	165	1	0.00	ppb	35.28	0	1.1	80 - 120	
208	Pb	165	1	0.00	ppb	109.50	0	-0.7	80 - 120	
232	Th	165	1	0.03	ppb	14.09	0	14.5	80 - 120	
238	U	165	1	0.02	ppb	14.78	0	7.9	80 - 120	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120	
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120	
72	Ge	1	563469	0.48	598490	94.1	30 - 120	
115	In	1	1720438	0.38	1797032	95.7	30 - 120	
165	Но	1	3228952	0.84	3253654	99.2	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014 LR.D\014 LR.D#

Date Acquired: Nov 7 2009 03:40 pm

Acq. Method: NormISIS.M QC Summary:
Operator: TEL Analytes: Pass
Sample Name: LR1 ISTD: Pass

Misc Info:

Vial Number: 2110

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: LR
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 T1	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 но	1	3245351	1.45	3253654	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#

Date Acquired: Nov 7 2009 03:42 pm

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: RINSE ISTD: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

9 Be 6 1 0.01 0.01 ppb 173.22 3600 51 V 72 1 0.03 0.03 ppb 5.05 3600 52 Cr 72 1 0.00 0.00 ppb 115.91 3600 55 Mn 72 1 0.00 0.00 ppb 108.03 3600 59 Co 72 1 0.00 0.00 ppb 73.71 3600 60 Ni 72 1 0.01 -0.01 ppb 98.85 3600 63 Cu 72 1 0.01 -0.01 ppb 57.10 3600 66 Zn 72 1 0.03 0.03 ppb 1.90 3600 75 As 72 1 0.03 0.03 ppb 18.58 3600 78 Se 72 1 0.06 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 123 Th 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000 238 U 165 1 0.14 0.14 ppb 23.45 3600	Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
52 Cr 72 1 -0.02 -0.02 ppb 115.91 3600 55 Mn 72 1 0.00 0.00 ppb 108.03 3600 59 Co 72 1 0.00 0.00 ppb 73.71 3600 60 Ni 72 1 -0.01 -0.01 ppb 98.85 3600 63 Cu 72 1 -0.01 -0.01 ppb 57.10 3600 66 Zn 72 1 -0.10 -0.10 ppb 1.90 3600 75 As 72 1 0.03 0.03 ppb 18.58 3600 78 Se 72 1 0.26 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01	9 Be	- 6	1	0.01	0.01	ppb	173.22	3600	
55 Mn 72 1 0.00 0.00 ppb 108.03 3600 59 Co 72 1 0.00 0.00 ppb 73.71 3600 60 Ni 72 1 -0.01 -0.01 ppb 98.85 3600 63 Cu 72 1 -0.01 -0.01 ppb 57.10 3600 66 Zn 72 1 -0.10 -0.10 ppb 1.90 3600 75 As 72 1 0.03 0.03 ppb 18.58 3600 78 Se 72 1 0.26 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 0.06 0.06 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	51 V	72	1	0.03	0.03	ppb	5.05	3600	
59 Co 72 1 0.00 0.00 ppb 73.71 3600 60 Ni 72 1 -0.01 -0.01 ppb 98.85 3600 63 Cu 72 1 -0.01 -0.01 ppb 57.10 3600 66 Zn 72 1 -0.10 -0.10 ppb 1.90 3600 75 As 72 1 0.03 0.03 ppb 18.58 3600 78 Se 72 1 0.26 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 0.02 -0.02	52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
60 Ni 72 1 -0.01 -0.01 ppb 98.85 3600 63 Cu 72 1 -0.01 -0.01 ppb 57.10 3600 66 Zn 72 1 -0.10 -0.10 ppb 1.90 3600 75 As 72 1 0.03 0.03 ppb 18.58 3600 78 Se 72 1 0.26 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
63 Cu 72 1 -0.01 -0.01 ppb 57.10 3600 66 Zn 72 1 -0.10 -0.10 ppb 1.90 3600 75 As 72 1 0.03 0.03 ppb 18.58 3600 78 Se 72 1 0.26 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 0.06 0.06 ppb 11.15 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	59 Co	72	1	0.00	0.00	ppb	73.71	3600	
66 Zn 72 1 -0.10 -0.10 ppb 1.90 3600 75 As 72 1 0.03 0.03 ppb 18.58 3600 78 Se 72 1 0.26 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 0.06 0.06 ppb 11.15 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
75 As 72 1 0.03 0.03 ppb 18.58 3600 78 Se 72 1 0.26 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 0.02 -0.02 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
78 Se 72 1 0.26 0.26 ppb 60.51 3600 95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 -0.02 -0.02 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
95 Mo 72 1 0.62 0.62 ppb 25.89 3600 107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 -0.02 -0.02 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	75 As	72	1	0.03	0.03	ppb	18.58	3600	
107 Ag 115 1 0.03 0.03 ppb 13.50 3600 111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 -0.02 -0.02 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	78 Se	72	1	0.26	0.26	ppb	60.51	3600	
111 Cd 115 1 0.01 0.01 ppb 106.57 3600 118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 -0.02 -0.02 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
118 Sn 115 1 1.01 1.01 ppb 28.84 3600 121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 -0.02 -0.02 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
121 Sb 115 1 1.39 1.39 ppb 19.23 3600 137 Ba 115 1 -0.02 -0.02 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
137 Ba 115 1 -0.02 -0.02 ppb 4.07 3600 205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
205 Tl 165 1 0.06 0.06 ppb 11.15 3600 208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
208 Pb 165 1 0.01 0.01 ppb 28.34 3600 232 Th 165 1 0.12 0.12 ppb 15.82 1000	137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
232 Th 165 1 0.12 0.12 ppb 15.82 1000	205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
	208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
238 U 165 1 0.14 ppb 23.45 3600	232 Th	165	1	0.12	0.12	ppb	15.82	1000	
	238 U	165	1	0.14	0.14	ppb	23.45	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\016 CCV.D\016 CCV.D\

Date Acquired: Nov 7 2009 03:45 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

OC Elements

208 Pb

232 Th

238 U

165

165

165

1

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Ele	ment	IS Ref	Tune	Conc.	RSD(%) Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.82	ppb 0.98	50	101.6	90 - 110	
51	V	72	1	47.69	ppb 0.85	50	95.4	90 - 110	
52	Cr	72	1	47.81	ppb 0.72	50	95.6	90 - 110	
55	Mn	72	1	47.91	ppb 0.63	50	95.8	90 - 110	
59	Co	72	1	48.31	ppb 1.05	50	96.6	90 - 110	
60	Νi	72	1	49.87	ppb 0.51	50	99.7	90 - 110	
63	Cu	72	1	48.27	ppb 0.97	50,	96.5	90 - 110	
66	Zn	72	1	49.24	ppb 0.51	50	98.5	90 - 110	
75	As	72	1	49.61	ppb 0.57	50	99.2	90 - 110	
78	Se	72	1	51.34	ppb 3.01	50	102.7	90 - 110	
95	Mo	72	1	49.43	ppb 1.34	50	98.9	90 - 110	
107	Ag	115	1	48.77	ppb 0.60	50	97.5	90 - 110	
111	Cd	115	1	49.46	ppb 1.05	50	98.9	90 - 110	
118	Sn	115	1	49.42	ppb 0.94	50	98.8	90 - 110	
121	Sb	115	1	49.48	ppb 0.82	50	99.0	90 - 110	
137	Ва	115	1	48.65	ppb 1.08	50	97.3	90 - 110	
205	Tl	165	1	49.98	ppb 1.20	50	100.0	90 - 110	

IST	Elements							
Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	424171	1.07	455621	93.1	30 - 120	
45	Sc	1	1298607	1.88	1356727	95.7	30 - 120	
72	Ge	1	570018	0.80	598490	95.2	30 - 120	
115	In	1	1777686	0.76	1797032	98.9	30 - 120	
165	Но	1	3306431	1.43	3253654	101.6	30 - 120	

2.15

1.41

0.97

50.63 ppb

50.61 ppb

50.58 ppb

50

50

50

101.3

101.2

101.2

90 - 110

90 - 110

90 - 110

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\017 CCB.D\017 CCB.D#

Date Acquired:

Nov 7 2009 03:48 pm

Operator:

TEL

QC Summary:

Sample Name:

CCB

Analytes: Pass

Misc Info:

.

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.M
C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 03:13 pm

Sample Type:

CCB

Total Dil Factor:

1.00

QC	Elements
----	----------

9 Be 6 1 0.000 ppb 0.00 1.00 51 V 72 1 0.018 ppb 26.29 1.00 52 Cr 72 1 0.021 ppb 89.72 1.00 55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 111 Cd 115 1 0.011 ppb 38.12 <t< th=""><th>Element</th><th>IS Ref</th><th>Tune</th><th>Conc.</th><th></th><th>RSD(%)</th><th>High Limit</th><th>Flag</th></t<>	Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
52 Cr 72 1 0.021 ppb 89.72 1.00 55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba	9 Be	6	1	0.000	ppb	0.00	1.00	
55 Mn 72 1 -0.002 ppb 258.47 1.00 59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.026 ppb 8.86 1.00 208 Pb	51 V	72	1	0.018	ppb	26.29	1.00	
59 Co 72 1 0.000 ppb 7.74 1.00 60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44	52 Cr	72	1	0.021	ppb	89.72	1.00	
60 Ni 72 1 -0.003 ppb 365.53 1.00 63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 18.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	55 Mn	72	1	-0.002	ppb	258.47	1.00	
63 Cu 72 1 -0.006 ppb 212.36 1.00 66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 16.25 1.00 205 Tl 165 1 0.001 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	59 Co	72	1	0.000	ppb	7.74	1.00	
66 Zn 72 1 -0.070 ppb 18.30 1.00 75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	60 Ni	72	1	-0.003	ppb	365.53	1.00	
75 As 72 1 0.022 ppb 32.72 1.00 78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 0.021 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	63 Cu	72	1	-0.006	ppb	212.36	1.00	
78 Se 72 1 0.156 ppb 92.00 1.00 95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	66 Zn	72	1	-0.070	ppb	18.30	1.00	
95 Mo 72 1 0.115 ppb 30.30 1.00 107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	75 As	72	1	0.022	ppb	32.72	1.00	
107 Ag 115 1 0.011 ppb 38.12 1.00 111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	78 Se	72	1	0.156	ppb	92.00	1.00	
111 Cd 115 1 0.002 ppb 113.82 1.00 118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	95 Mo	72	1	0.115	ppb	30.30	1.00	
118 Sn 115 1 0.224 ppb 27.67 1.00 121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	107 Ag	115	1	0.011	ppb	38.12	1.00	
121 Sb 115 1 0.348 ppb 18.44 1.00 137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	111 Cd	115	1	0.002	ppb	113.82	1.00	
137 Ba 115 1 -0.026 ppb 8.86 1.00 205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	118 Sn	115	1	0.224	ppb	27.67	1.00	
205 Tl 165 1 0.021 ppb 16.25 1.00 208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	121 Sb	115	1	0.348	ppb	18.44	1.00	
208 Pb 165 1 0.000 ppb 463.86 1.00 232 Th 165 1 0.056 ppb 20.03 1.00	137 Ba	115	1	-0.026	ppb	8.86	1.00	
232 Th 165 1 0.056 ppb 20.03 1.00	205 Tl	165	1	0.021	ppb	16.25	1.00	
**	208 Pb	165	1	0.000	ppb	463.86	1.00	
238 U 165 1 0.020 ppb 23.07 1.00	232 Th	165	1	0.056	ppb	20.03	1.00	
	238 U	165	1	0.020	ppb	23.07	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#

Date Acquired: Nov 7 2009 03:50 pm

Operator: TEL QC Summary:
Sample Name: RLCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH
Total Dil Factor: 1.00

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Y.	ب ن	фmårr	L3

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	. 6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

ISTD Elements

6 Li 1 443603 0.24 455621 97.4 30 - 120	
45 Sc 1 1335995 1.35 1356727 98.5 30 - 120	
72 Ge 1 596206 0.64 598490 99.6 30 - 120	
115 In 1 1804793 1.75 1797032 100.4 30 - 120	
165 Ho 1 3324168 1.02 3253654 102.2 30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

690

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095 CCV.D\095 CCV.D#

Date Acquired: Nov 7 2009 07:25 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemen	ıts

Ele	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	50.00	ppb	3.68	50	100.0	90 - 110	
51	V	72	1	49.46	ppb	0.96	50	98.9	90 - 110	
52	Cr	72	1	49.13	ppb	0.63	50	98.3	90 - 110	
55	Mn	72	1	48.00	ppb	0.58	50	96.0	90 - 110	
59	Co	72	1	49.88	ppb	1.19	50	99.8	90 - 110	
60	Nı	72	1	52.70	ppb	0.96	50	105.4	90 - 110	
63	Cu	72	1	50.75	ppb	0.19	50	101.5	90 - 110	
66	Zn	72	1	48.83	ppb	0.18	50	97.7	90 - 110	
75	As	72	1	50.85	ppb	1.33	50°	101.7	90 - 110	
78	Se	72	1	50.97	ppb	2.08	50	101.9	90 - 110	
95	Mo	72	1	49.28	ppb	0.59	50	98.6	90 - 110	
107	Ag	115	1	48.69	ppb	1.80	50	97.4	90 - 110	
111	Cd	115	1	48.20	ppb	1.31	50	96.4	90 - 110	
118	Sn	115	. 1	47.65	ppb	1.87	50	95.3	90 - 110	
121	Sb	115	1	47.61	ppb	2.17	50	95.2	90 - 110	
137	Ва	115	1	48.23	ppb	1.87	50	96.5	90 - 110	
205	Tl	165	1	49.17	ppb	1.01	50	98.3	90 - 110	
208	Pb	165	1	50.08	ppb	1.74	50	100.2	90 - 110	
232	Th	165	1	49.66	ppb	0.53	50	99.3	90 - 110	
238	U	165	1	49.60	ppb	0.64	50	99.2	90 - 110	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120	
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120	
72	Ge	1	557000	0.87	598490	93.1	30 - 120	
115	In	1	1717369	0.76	1797032	95.6	30 - 120	
165	Но	1	3017615	0.61	3253654	92.7	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096 CCB.D\096 CCB.D#

Date Acquired: Nov 7 2009 07:28 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.000	ppb	0.00	1.00	
51 V	72	1	-0.006	ppb	24.61	1.00	
52 Cr	72	1	0.005	ppb	16.13	1.00	
55 Mn	72	1	0.012	ppb	40.48	1.00	
59 Co	72	1	0.003	ppb	90.18	1.00	
60 Ni	72	1	0.005	ppb	115.47	1.00	
63 Cu	72	1	-0.001	ppb	1434.90	1.00	
66 Zn	72	1	0.040	ppb	39.82	1.00	
75 As	72	1	-0.001	ppb	689.47	1.00	
78 Se	72	1	0.203	ppb	119.68	1.00	
95 M o	72	1	0.030	ppb	15.19	1.00	
107 Ag	115	1	0.009	ppb	17.39	1.00	
111 Cd	115	1	0.008	ppb	214.98	1.00	
118 Sn	115	1	0.033	ppb	87.07	1.00	
121 Sb	115	1,	0.133	ppb	16.18	1.00	
137 Ba	115	1	-0.005	ppb	66.27	1.00	
205 Tl	165	1	0.010	ppb	5.85	1.00	
208 Pb	165	1	0.007	ppb	10.03	1.00	
232 Th	165	1	0.031	ppb	21.92	1.00	
238 U	165	1	0.010	ppb	23.45	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#

Date Acquired: Nov 7 2009 07:30 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

ISTD: Misc Info: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	. 72	1	2.031 ppb	2.60	2.60	
66 Zn	72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

ISTD:

Pass

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D\#

Date Acquired: Nov 7 2009 07:33 pm

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 03:13 pm

Sample Type: ICSA Dilution Factor: 1.00

QC	Element	s	
		_	

Eler	nent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	0.01 ppb	173.15	1.00	-
51	٧	72	1	2.34 ppb	2.35	1.00	
52	Cr	72	1	1.89 ppb	3.80	1.00	
55	Mn	72	1	3.08 ppb	1.35	1.00	
59	Co	72	1	0.13 ppb	9.32	1.00	
60	Ni	72	1	1.54 ppb	6.59	1.00	
63	Cu	72	1	0.62 ppb	13.41	1.00	
66	Zn	72	1	4.36 ppb	1.67	10.00	
75	As	72	1	0.31 ppb	11.37	1.00	
78	Se	72	1	-0.18 ppb	17.27	1.00	
95	Mo	72	1	2024.00 ppb	0.75	2000.00	
107	Ag	115	1	0.04 ppb	30.78	1.00	
111	Cd	115	1	0.44 ppb	34.74	1.00	
118	Sn	115	1	0.41 ppb	9.39	10.00	
121	Sb	115	1	0.94 ppb	2.45	1.00	
137	Ba	115	1	0.02 ppb	61.87	1.00	
205	Tl	165	1	0.04 ppb	26.87	1.00	
208	Pb	165	1	1.05 ppb	0.68	1.00	
232	Th	165	1	0.02 ppb	35.17	1.00	
238	U	165	1	0.01 ppb	14.16	1.00	

ISTD Elements

Elei	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120	
45	Sc	1	945462	1.56	1356727	69.7	30 - 120	
72	Ge	1	429131	0.94	598490	71.7	30 - 120	
115	In	1	1251973	0.62	1797032	69.7	30 - 120	
165	Но	1	2302241	0.67	3253654	70.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Interference Check Solution AB (ICS-AB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#

Date Acquired:

Nov 7 2009 07:36 pm

Acq. Method:

NormISIS.M

QC Summary:

Operator:

TEL

Analytes: Pass

Sample Name:

ISTD: Pass

Misc Info:

ICSAB

Vial Number:

2109

Current Method: Calibration File:

C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update:

Nov 07 2009 03:13 pm

Sample Type:

ICSAB

Dilution Factor:

1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	101.10	0.81	100	101.1	80 - 120	
51 V	72	1	96.26	0.64	100	96.3	80 - 120	
52 Cr	72	1 ,	92.97	0.53	100	93.0	80 - 120	
55 Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59 Co	72	1	90.72	0.50	100	90.7	80 - 120	
60 Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63 Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66 Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75 As	72	1	101.10	0.38	100	101.1	80 - 120	
78 Se	72	1	105.10	1.94	100	105.1	80 - 120	
95 Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107 Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111 Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118 Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121 Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137 Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205 Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208 Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232 Th	165	1	98.27	1.03	100	98.3	80 - 120	
238 U	165	1	97.38	0.98	100	97.4	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	flag
6 Li	1	298307	2.13	455621	65.5	30 - 120	
45 Sc	1	951400	0.73	1356727	70.1	30 - 120	
72 Ge	1	417924	0.89	598490	69.8	30 - 120	
115 In	1	1269948	0.83	1797032	70.7	30 - 120	
165 Ho	1	2339416	0.71	3253654	71.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#

Date Acquired: Nov 7 2009 07:39 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: WASH

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
6	1	0.000 ppb	0.00	1.30	
72	1	0.142 ppb	7.89	6.50	
72	1	0.005 ppb	257.91	2.60	
72	1	0.007 ppb	90.77	1.30	
72	1	0.000 ppb	202.05	1.30	
72	1	0.093 ppb	12.92	2.60	
72	1	-0.001 ppb	1876.80	2.60	
72	1	0.085 ppb	20.36	13.00	
72	. 1	0.006 ppb	156.23	6.50	
72	1	-0.186 ppb	140.52	6.50	
72	1	0.818 ppb	23.12	2.60	
115	1	0.010 ppb	12.80	6.50	
115	1	0.005 ppb	231.49	1.30	
115	1	-0.010 ppb	165.88	13.00	
115	1	0.032 ppb	29.89	2.60	
115	1	-0.014 ppb	32.29	1.30	
165	1	0.003 ppb	28.88	1.30	
165	1	0.004 ppb	10.63	1.30	
165	1	0.024 ppb	19.02	2.60	
165	1	0.016 ppb	20.26	1.30	
	6 72 72 72 72 72 72 72 72 72 72 115 115 115 115 115 165 165	6 1 72 1 72 1 72 1 72 1 72 1 72 1 72 1 72	6 1 0.000 ppb 72 1 0.142 ppb 72 1 0.005 ppb 72 1 0.007 ppb 72 1 0.000 ppb 72 1 0.000 ppb 72 1 0.093 ppb 72 1 0.085 ppb 72 1 0.085 ppb 72 1 0.086 ppb 72 1 0.0186 ppb 72 1 0.818 ppb 72 1 0.010 ppb 115 1 0.010 ppb 115 1 0.005 ppb 115 1 0.005 ppb 115 1 0.032 ppb 115 1 0.032 ppb 115 1 0.003 ppb 115 1 0.003 ppb 115 1 0.004 ppb 1165 1 0.004 ppb	6 1 0.000 ppb 0.00 72 1 0.142 ppb 7.89 72 1 0.005 ppb 257.91 72 1 0.007 ppb 90.77 72 1 0.000 ppb 202.05 72 1 0.093 ppb 12.92 72 1 0.085 ppb 20.36 72 1 0.085 ppb 20.36 72 1 0.086 ppb 156.23 72 1 0.0186 ppb 140.52 72 1 0.818 ppb 23.12 115 1 0.010 ppb 12.80 115 1 0.005 ppb 231.49 115 1 0.005 ppb 231.49 115 1 0.032 ppb 29.89 115 1 0.032 ppb 29.89 115 1 0.003 ppb 28.88 165 1 0.004 ppb 10.63 165 1 0.004 ppb 10.63	6 1 0.000 ppb 0.00 1.30 72 1 0.142 ppb 7.89 6.50 72 1 0.005 ppb 257.91 2.60 72 1 0.007 ppb 90.77 1.30 72 1 0.000 ppb 202.05 1.30 72 1 0.093 ppb 12.92 2.60 72 1 0.093 ppb 12.92 2.60 72 1 0.085 ppb 20.36 13.00 72 1 0.085 ppb 20.36 13.00 72 1 0.086 ppb 156.23 6.50 72 1 0.086 ppb 140.52 6.50 72 1 0.818 ppb 23.12 2.60 115 1 0.010 ppb 12.80 6.50 115 1 0.005 ppb 231.49 1.30 115 1 0.005 ppb 231.49 1.30 115 1 0.002 ppb 29.89 2.60 115 1 0.032 ppb 29.89 2.60 115 1 0.003 ppb 29.89 2.60 115 1 0.003 ppb 28.88 1.30 165 1 0.004 ppb 10.63 1.30 165 1 0.004 ppb 10.63 1.30 165 1 0.004 ppb 19.02 2.60

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

ISTD:

Pass

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CCV.D\101 CCV.D#

Date Acquired: Nov 7 2009 07:41 pm

Operator: TEL QC Summary: Sample Name: CCV Analytes: Pass

Misc Info: Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elements
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Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.02	ppb	3.60	50	102.0	90 - 110	
51	V	72	1	49.10	ppb	0.68	50	98.2	90 - 110	
52	Cr	72	1	48.80	ppb	0.79	50	97.6	90 - 110	
55	Mn	72	1	48.00	ppb	0.60	50	96.0	90 - 110	
59	Co	72	1	49.55	ppb	0.61	50	99.1	90 - 110	
60	Ni	72	1	52.06	ppb	1.46	50	104.1	90 - 110	
63	Cu	72	1	50.22	ppb	0.56	50	100.4	90 - 110	
66	Zn	72	1	48.51	ppb	1.13	50	97.0	90 - 110	
75	As	72	1	50.95	ppb	0.50	50	101.9	90 - 110	
78	Se	72	1	49.38	ppb	4.19	50	98.8	90 - 110	
95	Mo	. 72	1	50.11	ppb	1.38	50	100.2	90 - 110	
107	Ag	115	1	49.66	ppb	0.85	50	99.3	90 - 110	
111	Cd	115	1	49.01	ppb	1.42	50	98.0	90 - 110	
118	Sn	115	1	48.68	ppb	1.81	50	97.4	90 - 110	
121	Sb	115	1	48.87	ppb	1.17	50	97.7	90 - 110	
137	Ва	115	1	49.35	ppb	1.09	50	98.7	90 - 110	
205	Tl	165	1	49.79	ppb	1.41	50	99.6	90 - 110	
208	Pb	165	1	49.95	ppb	1.13	50	99.9	90 - 110	
232	Th	165	1	49.72	ppb	0.91	50	99.4	90 - 110	
238	U	165	1	49.59	ppb	1.94	50	99.2	90 - 110	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120	
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120	
72	Ge	1	546607	0.97	598490	91.3	30 - 120	
115	In	1	1673358	0.50	1797032	93.1	30 - 120	
165	Но	1	3013021	0.51	3253654	92.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102 CCB.D\102 CCB.D#

Date Acquired: Nov 7 2009 07:44 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Eleme	ent	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 B	3е	6	1	0.007	ppb	173.18	1.00	
51 V	7	72	1 .	0.072	ppb	11.11	1.00	
52 C	Cr	72	1	0.002	ppb	1427.90	1.00	
55 M	í n	72	1	-0.002	ppb	998.74	1.00	
59 C	Co	72	1	0.004	ppb	62.33	1.00	
60 N	Ji -	72	1	0.095	ppb	21.31	1.00	
63 C	Cu .	72	1	0.001	ppb	1376.50	1.00	
66 Z	2n	72	1	0.050	ppb	67.37	1.00	
75. A	ls.	72	1	0.009	ppb	154.12	1.00	
78 S	3e	72	1	0.133	ppb	315.07	1.00	
95 M	10	72	1	0.099	ppb	50.63	1.00	
107 A	\g	115	1	0.009	ppb	39.54	1.00	
111 C	Cd .	115	1	0.005	ppb	103.50	1.00	
118 S	Sn.	115	1	0.062	ppb	107.54	-1.00	
121 S	Sb	115	1	0.138	ppb	16.19	1.00	
137 B	3a	115	1	-0.017	ppb	52.66	1.00	
205 T	1	165	1	0.016	ppb	15.17	1.00	
208 P	?b	165	1	0.005	ppb	21.11	1.00	
232 T	'h	165	1	0.033	ppb	24.50	1.00	
238 U	J	165	1	0.010	ppb	34.21	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

11/7/09 7:45 PM D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#

Date Acquired: Nov 7 2009 07:47 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 03:13 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	_
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	. 72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/09	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

Date Acquired: Nov 7 2009 08:47 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:45 pm

Sample Type: CalBlk

QC Elements

Elem	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	1013	6.79
52	Cr	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ba	115	1	74	17.43
205	Tl	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Но	1	3039108	1.07

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#

Date Acquired: Nov 7 2009 08:50 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 08:48 pm

Sample Type: ICAL

QC Elements

Eleme	nt	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	47883	0.67
51	V	72	1	747976	1.49
52	Cr	72	1	754628	1.13
55	Mn	72	1	865964	0.71
59	Co	72	1	889724	1.22
60	Ni	72	1	191586	1.40
63	Cu	72	1	456036	0.95
66	Zn	72	1	106780	0.65
75	As	72	1	89192	0.61
78	Se	72	1	18229	1.26
95	Mo	72	1	254493	1.19
107	Ag	115	1	752402	0.75
111	Cd	115	1	150239	1.10
118	Sn	115	1	420016	0.73
121	Sb	115	1	483973	0.74
137	Ba	115	1	204383	0.51
205	Tl	165	1	1701616	0.60
208	Pb	165	1	2338107	2.25
232	Th	165	1	2413552	1.92
238	U	165	1	2559276	1.77

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC R	ange(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30	- 120	
45	Sc	1	1260434	1.10	1273788	99.0	30	- 120	
72	Ge	1	556836	0.86	577640	96.4	30	- 120	
115	In	1	1704167	0.61	1726730	98.7	30	- 120	
165	Но	1	3052265	1.25	3039108	100.4	30	- 120	

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures 0 0 :ISTD Failures 0

11/7/09 8:51 PM

D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127 CCV.D\127 CCV.D#

Date Acquired: Nov 7 2009 08:53 pm

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC Ele	ements								
Elemer	nt IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	e 6	1	50.43	ppb	3.83	50	100.9	90 - 110	
51 V	72	1	48.44	ppb	0.77	50	96.9	90 - 110	
52 C:	r 72	1	48.00	ppb	0.40	50	96.0	90 - 110	
55 M	n 72	1	48.98	ppb	0.83	50	98.0	90 - 110	
59 C	72	1	49.19	ppb	0.88	50	98.4	90 - 110	
60 N:	i 72	1	51.00	ppb	2.25	50	102.0	90 - 110	
63 Ct	a 72	1	50.40	ppb	1.04	50	100.8	90 - 110	
66 Zi	n 72	1	49.66	ppb	0.82	50	99.3	90 - 110	
75 As	s 72	1	49.96	ppb	1.36	50	99.9	90 - 110	
78 Se	e 72	1	50.40	ppb	4.89	50	100.8	90 - 110	
95 M	72	1	49.49	ppb	0.61	50	99.0	90 - 110	
107 A	115	1	48.04	ppb	0.50	50	96.1	90 - 110	
111 C	d 115	1	48.84	ppb	0.25	50	97.7	90 - 110	
118 Sı	n 115	1	48.90	ppb	0.50	50	97.8	90 - 110	
121 S	115	1	49.44	ppb	0.72	50	98.9	90 - 110	
137 Ba	a 115	1	49.58	ppb	0.98	50	99.2	90 - 110	
205 T	l 165	1	50.08	ppb	0.23	50	100.2	90 - 110	
208 P	165	1	49.87	ppb	2.65	50	99.7	90 - 110	
232 TI	n 165	1	50.94	ppb	1.78	50	101.9	90 - 110	
238 U	165	1	50.49	ppb	2.18	50	101.0	90 - 110	
ISTD E	lements								
Elemer	nt	Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 т	!	1	401227		1 20	200155	100 0	20 120	

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	401327	1.29	398155	100.8	30 - 120	
45	Sc	1	1286634	0.38	1273788	101.0	30 - 120	
72	Ge	1	558660	0.70	577640	96.7	30 - 120	
115	In	1	1725819	0.46	1726730	99.9	30 - 120	
165	Но	1	3087824	1.47	3039108	101.6	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

TestAmerica

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128 CCB.D\128 CCB.D#

Date Acquired: Nov 7 2009 08:56 pm

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.043	ppb	23.48	1.00	
52 Cr	72	1	0.013	ppb	34.25	1.00	
55 Mn	72	1	0.004	ppb	271.40	1.00	
59 Co	72	1	0.003	ppb	58.98	1.00	
60 Ni	72	1	0.013	ppb	122.65	1.00	
63 Cu	72	1	-0.010	ppb	116.03	1.00	
66 Zn	72	1	-0.311	ppb	3.85	1.00	
75 As	72	1	0.007	ppb	208.78	1.00	
78 Se	72	1	0.060	ppb	542.70	1.00	
95 Mo	72	1	0.010	ppb	195.90	1.00	
107 Ag	115	1	0.008	ppb	34.15	1.00	
111 Cd	115	1	-0.003	ppb	158.97	1.00	
118 Sn	115	1	0.071	ppb	72.17	1.00	
121 Sb	115	1	0.186	ppb	24.43	1.00	
137 Ba	115	1	-0.019	ppb	41.26	1.00	
205 Tl	165	1	0.019	ppb	3.88	1.00	
208 Pb	165	1	0.007	ppb	24.82	1.00	
232 Th	165	1	0.050	ppb	27.19	1.00	
238 U	165	1	0.014	ppb	24.25	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D\#

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#

Date Acquired: Nov 7 2009 08:58 pm

Operator: TEL QC Summary: Analytes: Pass Sample Name: RLCV

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 08:51 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

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

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD	
Date:	11/08/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Date Acquired: Nov 7 2009 11:44 pm

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:42 pm

Sample Type: CalBlk

QC Elements

Elem	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	. 72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Мо	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	,1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	Ü	165	1	122	7.26

Internal Standard Elements

Elem	ent	Tune	CPS Mean	RSD(%)
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Но	1	2681412	0.51

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#

Date Acquired: Nov 7 2009 11:47 pm

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:45 pm

Sample Type: ICAL

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	45518	1.54
51	V	72	1	700879	1.29
52	Cr	. 72	1	693042	2.18
55	Mn	72	1	795858	1.60
59	Co	72	1	850264	1.89
60	Ni	72	1	181428	0.41
63	Cu	72	1	431089	0.73
66	Zn	72	1	95751	0.48
75	As	72	1	84617	1.05
78	Se	72	1	17278	1.91
95	Mo	72	1	230286	0.80
107	Ag	115	1	661266	1.42
111	Cd	115	1	131853	1.14
118	Sn	115	1	371875	2.20
121	Sb	115	1	432362	1.85
137	Ba	115	1	187475	1.78
205	Tl	165	1	1498644	1.03
208	Pb	165	1	2042776	1.12
232	Th	165	1	2142976	0.23
238	U	165	1	2200342	0.40

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120	
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120	
72	Ge	1	507906	1.25	533218	95.3	30 - 120	
115	In	1	1532161	1.02	1552104	98.7	30 - 120	
165	Но	1	2672323	0.90	2681412	99.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0:Element Failures 0
0:ISTD Failures 0

11/7/09 11:48 PM D:\ICPCHEM\1\RPTTMP\calstd.qct

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191 CCV.D\191 CCV.D#

Date Acquired: Nov 7 2009 11:50 pm

Operator: QC Summary: TEL Sample Name: CCV Analytes: Pass Misc Info: ISTD:

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCV Total Dil Factor: 1.00

QC Elements

Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	49.23	ppb	3.26	50	98.5	90 - 110	
51	V	72	1	48.52	ppb	1.74	50	97.0	90 - 110	
52	Cr	72	1	48.49	ppb	0.29	50	97.0	90 - 110	
55	Mn	72	1	48.47	ppb	1.24	50	96.9	90 - 110	
59	Со	72	1	48.02	ppb	0.67	50	96.0	90 - 110	
60	Ni	72	1	49.69	ppb	1.50	50	99.4	90 - 110	
63	Cu	72	1	49.62	ppb	0.90	50	99.2	90 - 110	
66	Zn	72	1	48.96	ppb	1.42	50	97.9	90 - 110	
75	As	72	1	49.10	ppb	0.76	50	98.2	90 - 110	
78	Se	72	1	48.52	ppb	4.63	50	97.0	90 - 110	
95	Mo	72	1	49.23	ppb	0.82	50	98.5	90 - 110	
107	Ag	115	1	49.55	ppb	1.37	50	99.1	90 - 110	
111	Cd	115	1	49.69	ppb	1.93	50	99.4	90 - 110	
118	Sn	115	1	49.87	ppb	1.50	50	99.7	90 - 110	
121	Sb	115	1	49.85	ppb	1.58	50	99.7	90 - 110	
137	Ва	115	1	49.38	ppb	1.63	50	98.8	90 - 110	
205	Tl	165	1	50.07	ppb	0.63	50	100.1	90 - 110	
208	Pb	165	1	50.67	ppb	1.87	50	101.3	90 - 110	
232	Th	165	1	50.33	ppb	1.25	50	100.7	90 - 110	
238	U	165	1	51.37	ppb	0.78	50	102.7	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	391774	1.28	401411	97.6	30 - 120	
45	Sc	1	1173327	0.14	1190683	98.5	30 - 120	
72	Ge	1	511730	0.36	533218	96.0	30 - 120	
115	In	1	1536232	0.41	1552104	99.0	30 - 120	
165	Но	1	2663987	0.61	2681412	99.4	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Pass

Continuing Calibration Blank (CCB) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\192 CCB.D\192 CCB.D#

Date Acquired:

Nov 7 2009 11:52 pm

Operator:

TEL

QC Summary:

Sample Name:

Analytes: Pass

Misc Info:

CCB

ISTD: Pass

Vial Number:

1307

Current Method: Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.M
C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 07 2009 11:48 pm

Sample Type:

CCB

Total Dil Factor:

1.00

QC Elements

Eler	nent	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Ве	6	1	0.021	ppb	99.86	1.00	
51	V .	72	1	-0.024	ppb	36.47	1.00	
52	Cr	72	1	0.015	ppb	57.14	1.00	
55	Mn	72	1	0.032	ppb	9.94	1.00	
59	Co	72	1	0.000	ppb	241.41	1.00	
60	Ni	72	1	-0.008	ppb	160.82	1.00	
63	Cu	72	1	-0.035	ppb	57 .7 6	1.00	
66	Zn	72	1	-0.363	ppb	4.76	1.00	
75	As	72	1	0.004	ppb	177.30	1.00	
78	Se	72	1	0.169	ppb	283.55	1.00	
95	Mo	72	1	-0.009	ppb	169.70	1.00	
107	Ag	115	1	0.008	ppb	60.74	1.00	
111	Cd	115	1	0.009	ppb	130.00	1.00	
118	Sn	115	1	0.105	ppb	79.70	1.00	
121	Sb	115	1	0.172	ppb	19.79	1.00	
137	Ba	115	1	-0.007	ppb	70.67	1.00	
205	Tl	165	1	0.024	ppb	16.62	1.00	
208	Pb	165	1	0.009	ppb	31.16	1.00	
232	Th	165	1	0.066	ppb	21.79	1.00	
238	U	165	1	0.019	ppb	10.85	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#

Date Acquired: Nov 7 2009 11:55 pm

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 Ho	1	2673393	1.59	2681412	99.7	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\230 CCV.D\230 CCV.D#

Date Acquired: Nov 8 2009 01:38 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC 1	Eleme	nts								
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	49.70	ppb	2.70	50	99.4	90 - 110	
51	V	72	1	48.20	ppb	0.95	50	96.4	90 - 110	
52	Cr	72	1	48.39	ppb	0.96	50	96.8	90 - 110	
55	Mn	72	1	48.37	ppb	0.38	50	96.7	90 - 110	
59	Co	72	1	48.02	ppb	0.70	50	96.0	90 - 110	
60	Ni	72	1	51.10	ppb	1.64	50	102.2	90 - 110	
63	Cu	72	1	49.68	ppb	1.53	50	99.4	90 - 110	
66	Zn	72	1	50.56	ppb	0.98	50	101.1	90 - 110	
75	As	72	1	49.69	ppb	0.54	50	99.4	90 - 110	
78	Se	72	1	49.01	ppb	2.43	50	98.0	90 - 110	
95	Мо	72	1	50.23	ppb	0.82	50	100.5	90 - 110	
107	Ag	115	1 .	50.57	ppb	2.02	50	101.1	90 - 110	
111	Cd	115	1	50.42	ppb	1.61	50	100.8	90 - 110	
118	Sn	115	1	50.97	ppb	1.50	50	101.9	90 - 110	
121	Sb	115	1	50.46	ppb	2.42	50	100.9	90 - 110	
137	Ва	115	1	50.36	ppb	1.62	50	100.7	90 - 110	
205	Tl	165	1	50.21	ppb	0.85	50	100.4	90 - 110	
208	Pb	165	1	50.45	ppb	0.80	50	100.9	90 - 110	
232	Th	165	1	49.82	ppb	0.60	50	99.6	90 - 110	
238	U	165	1	50.01	ppb	0.60	50	100.0	90 - 110	

IST	D Elements							
Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389998	0.52	401411	97.2	30 - 120	
45	Sc	1	1270621	0.46	1190683	106.7	30 - 120	
72	Ge	1	552643	0.66	533218	103.6	30 - 120	
115	In .	1	1641062	0.89	1552104	105.7	30 - 120	
165	Но	1	2838916	0.73	2681412	105.9	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\231 CCB.D\231 CCB.D#

Date Acquired: Nov 8 2009 01:41 am

Operator: TEL QC Summary:
Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.022	ppb	100.14	1.00	
51 V	72	1	-0.067	ppb	17.38	1.00	
52 Cr	72	1	0.025	ppb	148.37	1.00	
55 Mn	72	1	0.009	ppb	272.12	1.00	
59 Co	72	1	-0.002	ppb	114.31	1.00	
60 Ni	72	1	-0.005	ppb	54.17	1.00	
63 Cu	72	1	-0.021	ppb	82.10	1.00	
66 Zn	72	1	-0.419	ppb	9.26	1.00	
75 As	72	1	-0.006	ppb	64.58	1.00	
78 Se	72	1	-0.026	ppb	971.31	1.00	
95 Mo	72	1	-0.026	ppb	80.18	1.00	
107 Ag	115	1	0.005	ppb	95.65	1.00	
111 Cd	115	1	0.004	ppb	103.00	1.00	
118 Sn	115	1	0.059	ppb	60.64	1.00	
121 Sb	115	1	0.120	ppb	9.22	1.00	
137 Ba	115	1	-0.028	ppb	31.52	1.00	
205 Tl	165	1	0.014	ppb	23.03	1.00	
208 Pb	165	1	0.000	ppb	784.86	1.00	
232 Th	165	1	0.045	ppb	17.75	1.00	
238 U	165	1	0.012	ppb	5.01	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	396110	0.33	401411	98.7	30 - 120	
45 Sc	1	1264300	0.88	1190683	106.2	30 - 120	
72 Ge	1	564899	0.51	533218	105.9	30 - 120	
115 In	1	1671529	0.37	1552104	107.7	30 - 120	
165 Ho	1	2805835	0.68	2681412	104.6	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\232WASH.D\232WASH.D#

Date Acquired: Nov 8 2009 01:44 am

Operator: TEL QC Summary:
Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.962 ppb	4.95	1.30	
51 V	72	1	4.827 ppb	2.79	6.50	
52 Cr	72	1	1.910 ppb	1.76	2.60	
55 Mn	72	1	0.988 ppb	1.73	1.30	
59 Co	72	1	0.945 ppb	5.10	1.30	
60 Ni	72	1	2.045 ppb	4.03	2.60	
63 Cu	72	1	1.967 ppb	5.02	2.60	
66 Zn	72	1	9.621 ppb	2.15	13.00	
75 As	72	1	4.984 ppb	0.85	6.50	
78 Se	72	1	5.176 ppb	9.44	6.50	
95 Mo	72	1	1.883 ppb	5.05	2.60	
107 Ag	115	1	5.198 ppb	2.57	6.50	
111 Cd	115	1	1.070 ppb	8.91	1.30	
118 Sn	115	1	10.150 ppb	1.47	13.00	
121 Sb	115	1	2.051 ppb	2.03	2.60	
137 Ba	115	1	1.019 ppb	2.16	1.30	
205 Tl	165	1	1.045 ppb	1.07	1.30	
208 Pb	165	1	1.034 ppb	1.92	1.30	
232 Th	165	1	2.119 ppb	1.23	2.60	
238 U	165	1	1.099 ppb	1.43	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	. 1	395033	1.52	401411	98.4	30 - 120	
45 Sc	1	1238804	0.67	1190683	104.0	30 - 120	
72 Ge	1	557592	1.04	533218	104.6	30 - 120	
115 In	1	1643595	1.17	1552104	105.9	30 - 120	
165 Ho	1	2798401	0.27	2681412	104.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\233 BLK.D\233 BLK.D#

Date Acquired: Nov 8 2009 01:46 am

Operator: TEL QC Summary: Sample Name: LNJN5BF Analytes: Pass Misc Info: BLANK 9303187 6020 DISS ISTD: Pass

Vial Number: 4306

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: C:\ICPCHEM\1\METHODS\NormISIS.
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: BLK Total Dil Factor: 1.00

QC	Element	8
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E						
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.070 ppb	11.31	2.00	
52 Cr	72	1	-0.019 ppb	22.42	2.00	
55 Mn	72	1	-0.001 ppb	477.51	2.00	
59 Co	72	1	-0.004 ppb	59.97	2.00	
60 Ni	72	1	-0.018 ppb	28.75	2.00	
63 Cu	72	1	0.047 ppb	43.25	2.00	
66 Zn	72	1	0.054 ppb	24.74	2.00	
75 As	72	1	-0.007 ppb	406.57	2.00	
78 Se	72	. 1	0.058 ppb	91.29	2.00	
95 Mo	72	1	-0.068 ppb	18.22	2.00	
107 Ag	115	1	0.001 ppb	723.68	2.00	
111 Cd	115	1	0.007 ppb	139.69	2.00	
118 Sn	115	1	0.101 ppb	21.29	2.00	
121 Sb	115	1	-0.001 ppb	113.16	2.00	
137 Ba	115	1	-0.014 ppb	17.21	2.00	
205 Tl	165	1	0.006 ppb	32.27	2.00	
208 Pb	165	1	0.001 ppb	571.92	2.00	
232 Th	165	1	0.007 ppb	28.28	2.00	
238 U	165	1	0.002 ppb	18.84	2.00	

ISTD Elements

Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
1	395407	0.87	401411	98.5	30 - 120	
1	1258118	0.43	1190683	105.7	30 - 120	
1 .	566204	0.79	533218	106.2	30 - 120	
1	1641180	0.32	1552104	105.7	30 - 120	
1	2813337	1.06	2681412	104.9	30 - 120	
	Tune 1 1 1 1	1 395407 1 1258118 1 566204 1 1641180	1 395407 0.87 1 1258118 0.43 1 566204 0.79 1 1641180 0.32	1 395407 0.87 401411 1 1258118 0.43 1190683 1 566204 0.79 533218 1 1641180 0.32 1552104	1 395407 0.87 401411 98.5 1 1258118 0.43 1190683 105.7 1 566204 0.79 533218 106.2 1 1641180 0.32 1552104 105.7	1 395407 0.87 401411 98.5 30 - 120 1 1258118 0.43 1190683 105.7 30 - 120 1 566204 0.79 533218 106.2 30 - 120 1 1641180 0.32 1552104 105.7 30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\234 LCS.D\234 LCS.D#

Date Acquired: Nov 8 2009 01:49 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass Sample Name: LNJN5CF ISTD: Pass

Misc Info: LCS Vial Number: 4307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte Elements

IS Ref	Tune	Conc. ppb		RSD(%)	Expected	Rec(%)	QC R	ang	le (%)	Flag
6	1	36.86		0.90	40	92.2	80	_	120	
72	1	33.76		0.84	40	84.4	80	_	120	
72	1	33.98		1.31	40	85.0	80	-	120	
72	1	34.42		1.35	40	86.1	80	-	120	
72	1	33.82		0.66	40	84.6	80	-	120	
72	1	34.87		1.64	40	87.2	80	_	120	
72	1	35.19		1.03	40	88.0	80	_	120	
72	1	36.68		0.39	40	91.7	80	_	120	
72	1	35.91		0.44	40	89.8	80	-	120	
72	1	34.00		9.65	40	85.0	80	_	120	
72	1	70.62		1.41	40	176.6	80	_	120	
115	1	35.74		0.71	40	89.4	80	-	120	
115	1	20.78		37.94	40	52.0	80	-	120	
115	1	40.76		0.55	40	101.9	80	-	120	
115	1	73.37		1.07	40	183.4	80	-	120	
115	1	35.78		0.57	40	89.5	80	-	120	
165	1	35.77		2.06	40	89.4	80	· _	120	
165	. 1	36.46		2.29	40	91.2	80	-	120	
165	1	36.19		1.31	40	90.5	80	-	120	
165	1	36.86		0.33	40	92.2	80	-	120	
	6 72 72 72 72 72 72 72 72 72 72 115 115 115 115 165 165	6 1 72 1 72 1 72 1 72 1 72 1 72 1 72 1 72	6 1 36.86 72 1 33.76 72 1 33.98 72 1 34.42 72 1 33.82 72 1 34.87 72 1 35.19 72 1 36.68 72 1 35.91 72 1 36.68 72 1 35.91 72 1 70.62 115 1 35.74 115 1 20.78 115 1 40.76 115 1 73.37 115 1 35.78 165 1 35.77 165 1 36.46 165 1 36.49	6 1 36.86 72 1 33.76 72 1 33.98 72 1 34.42 72 1 34.87 72 1 35.19 72 1 36.68 72 1 35.91 72 1 34.00 72 1 70.62 115 1 20.78 115 1 40.76 115 1 73.37 115 1 35.78 165 1 36.46 165 1 36.46 165 1 36.19	6 1 36.86 0.90 72 1 33.76 0.84 72 1 33.98 1.31 72 1 34.42 1.35 72 1 33.82 0.66 72 1 34.87 1.64 72 1 35.19 1.03 72 1 36.68 0.39 72 1 35.91 0.44 72 1 34.00 9.65 72 1 70.62 1.41 115 1 20.78 37.94 115 1 40.76 0.55 115 1 73.37 1.07 115 1 35.78 0.57 165 1 36.46 2.29 165 1 36.19 1.31	6 1 36.86 0.90 40 72 1 33.76 0.84 40 72 1 33.98 1.31 40 72 1 34.42 1.35 40 72 1 33.82 0.66 40 72 1 34.87 1.64 40 72 1 35.19 1.03 40 72 1 36.68 0.39 40 72 1 35.91 0.44 40 72 1 34.00 9.65 40 72 1 70.62 1.41 40 115 1 35.74 0.71 40 115 1 20.78 37.94 40 115 1 73.37 1.07 40 115 1 35.78 0.57 40 115 1 35.77 2.06 40 165 1 36.46 2.29 40 165 1 36.19 1.31 40	6 1 36.86 0.90 40 92.2 72 1 33.76 0.84 40 84.4 72 1 33.98 1.31 40 85.0 72 1 34.42 1.35 40 86.1 72 1 33.82 0.66 40 84.6 72 1 34.87 1.64 40 87.2 72 1 35.19 1.03 40 88.0 72 1 36.68 0.39 40 91.7 72 1 35.91 0.44 40 89.8 72 1 34.00 9.65 40 85.0 72 1 70.62 1.41 40 176.6 115 1 35.74 0.71 40 89.4 115 1 40.76 0.55 40 101.9 115 1 73.37 1.07 40 183.4 115 1 35.78 0.57 40 89.5 165	6 1 36.86 0.90 40 92.2 80 72 1 33.76 0.84 40 84.4 80 72 1 33.98 1.31 40 85.0 80 72 1 34.42 1.35 40 86.1 80 72 1 33.82 0.66 40 84.6 80 72 1 34.87 1.64 40 87.2 80 72 1 35.19 1.03 40 88.0 80 72 1 36.68 0.39 40 91.7 80 72 1 35.91 0.44 40 89.8 80 72 1 34.00 9.65 40 85.0 80 72 1 70.62 1.41 40 176.6 80 115 1 35.74 0.71 40 89.4 80 115 1 40.76 0.55 40 101.9 80 115 1 73.37	6 1 36.86 0.90 40 92.2 80 - 72 1 33.76 0.84 40 84.4 80 - 72 1 33.98 1.31 40 85.0 80 - 72 1 34.42 1.35 40 86.1 80 - 72 1 33.82 0.66 40 84.6 80 - 72 1 34.87 1.64 40 87.2 80 - 72 1 35.19 1.03 40 88.0 80 - 72 1 36.68 0.39 40 91.7 80 - 72 1 35.91 0.44 40 89.8 80 - 72 1 34.00 9.65 40 85.0 80 - 72 1 70.62 1.41 40 176.6 80 - 115 1 35.74 0.71 40 89.4 80 - <t< td=""><td>6 1 36.86 0.90 40 92.2 80 - 120 72 1 33.76 0.84 40 84.4 80 - 120 72 1 33.98 1.31 40 85.0 80 - 120 72 1 34.42 1.35 40 86.1 80 - 120 72 1 33.82 0.66 40 84.6 80 - 120 72 1 34.87 1.64 40 87.2 80 - 120 72 1 35.19 1.03 40 88.0 80 - 120 72 1 36.68 0.39 40 91.7 80 - 120 72 1 35.91 0.44 40 89.8 80 - 120 72 1 34.00 9.65 40 85.0 80 - 120 72 1 70.62 1.41 40 176.6 80 - 120 115 1 35.74 0.71 40 89.4 80 - 120 115 1 40.76 0.55 40 101.9 80 - 120</td></t<>	6 1 36.86 0.90 40 92.2 80 - 120 72 1 33.76 0.84 40 84.4 80 - 120 72 1 33.98 1.31 40 85.0 80 - 120 72 1 34.42 1.35 40 86.1 80 - 120 72 1 33.82 0.66 40 84.6 80 - 120 72 1 34.87 1.64 40 87.2 80 - 120 72 1 35.19 1.03 40 88.0 80 - 120 72 1 36.68 0.39 40 91.7 80 - 120 72 1 35.91 0.44 40 89.8 80 - 120 72 1 34.00 9.65 40 85.0 80 - 120 72 1 70.62 1.41 40 176.6 80 - 120 115 1 35.74 0.71 40 89.4 80 - 120 115 1 40.76 0.55 40 101.9 80 - 120

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	381777	1.01	401411	95.1	30 - 120	
45 Sc	1	1188226	0.70	1190683	99.8	30 - 120	
72 Ge	1	528496	1.56	533218	99.1	30 - 120	
115 In	1	1588542	1.05	1552104	102.3	30 - 120	
165 Ho	1	2753018	0.51	2681412	102.7	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\235AREF.D\235AREF.D#

Date Acquired: Nov 8 2009 01:52 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Sample Name: LNH2LF 2X ISTD: Pass

Misc Info: D9J290310
Vial Number: 4308

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: AllRef
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

QC Elements

20									
Ele	ement	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.10	0.05	ppb	100.62	3600	
51	V	72	1	45.62	22.81	ppb	0.34	3600	
52	Cr	72	1	53.46	26.73	ppb	1.96	3600	
55	Mn	72	1	44.76	22.38	ppb	0.41	3600	
59	Co	72	1	0.49	0.25	ppb	5.57	3600	
60	Ni	72	1	2.45	1.22	ppb	3.88	3600	
63	Cu	72	1	0.25	0.13	ppb	25.22	3600	
66	Zn	72	1	16.53	8.27	ppb	1.55	3600	
75	As	72	1	336.60	168.30	ppb	0.24	3600	
78	Se	72	1	2.42	1.21	ppb	10.19	3600	
95	Mo	72	1	34.10	17.05	ppb	1.54	3600	
107	Ag Ag	115	1	0.01	0.01	ppb	99.35	3600	
111	Cd	115	1	-0.04	-0.02	ppb	133.65	3600	
118	3.Sn	115	1	0.28	0.14	ppb	30.16	3600	
121	Sb	115	1	0.16	0.08	ppb	3.67	3600	
137	Ba.	115	1	24.08	12.04	ppb	2.84	3600	
205	5 Tl	165	1	0.08	0.04	ppb	14.04	3600	
208	Pb	165	1	0.08	0.04	ppb	2.70	3600	
232	? Th	165	1	0.04	0.02	ppb	21.52	1000	
238	U S	165	1	63.00	31.50	ppb	1.37	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331195	0.96	401411	82.5	30 - 120	
45 Sc	1	1079672	0.69	1190683	90.7	30 - 120	
72 Ge	1	448195	0.53	533218	84.1	30 - 120	
115 In	1	1327808	1.07	1552104	85.5	30 - 120	
165 Ho	1	2380357	0.50	2681412	88.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D\

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

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\236SDIL.D\236SDIL.D#

Date Acquired: Nov 8 2009 01:55 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNH2LP10F

Misc Info: SERIAL DILUTION

Vial Number: 4309

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: SDIL Dilution Factor: 2.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\235AREF.D\235AREF.D\

QC eleme	nts									
Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC E	Range(%)	Flag
9 Be	6	1	0.02	ppb	86.62	0.01	150.7	90	- 110	
51 V	72	1	4.43	ppb	0.70	4.56	97.1	90	- 110	
52 Cr	72	1	5.32	ppb	2.32	5.35	99.6	90	- 110	
55 Mn	72	1	4.49	ppb	1.27	4.48	100.4	90	- 110	
59 Co	72	1	0.06	ppb	26.71	0.05	112.7	90	- 110	
60 Ni	72	1	0.30	ppb	11.27	0.24	124.3	90	- 110	
63 Cu	72	1	0.02	ppb	129.66	0.03	94.8	90	- 110	
66 Zn	72	1,	1.75	ppb	6.21	1.65	105.6	90	- 110	
75 As	72	1	32.33	ppb	0.84	33.66	96.0	90	- 110	
78 Se	72	1	0.25	ppb	105.68	0.24	103.1	90	- 110	
95 Mo	72	1	3.27	ppb	4.98	3.41	95.9	90	- 110	
107 Ag	115	1	0.00	ppb	133.46	0.00	-157.0	90	- 110	
111 Cd	115	1	0.01	ppb	196.68	0.00	-259.2	90	- 110	
118 Sn	115	1	0.08	ppb	18.79	0.03	294.3	90	- 110	
121 Sb	115	1	0.00	ppb	125.05	0.02	25.8	90	- 110	
137 Ba	115	1	2.46	ppb	5.07	2.41	102.0	90	- 110	
205 Tl	165	1	0.01	ppb	23.62	0.01	98.7	9.0	- 110	
208 Pb	165	1	0.01	ppb	18.50	0.01	145.5	90	- 110	
232 Th	165	1	0.01	ppb	29.02	0.00	120.6	90	- 110	
238 U	165	1	6.45	ppb	0.15	6.30	102.4	90	- 110	

Flag

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS)	ICPMS_024	and the same of th	Reported: 11/09/0	9 10:02:35
Department: 090 (Metals)			Source:	Spreadshee
Sample: LNH2LP10F	Serial Dilution:	10.00	Sample Dilution:	2.00
Instrument: Agilent7500	Channel 272			
File: AG110709 # 236	Method 6020_			
Acquired: 11/08/2009 01:55:00	ICPMS_024	ICPMS_024		
Calibrated: 11/07/2009 23:44:00		Units: ug/L		

<u> </u>									
CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	7	0.15620	0.10360	50.8		*	
7440-62-2	Vanadium	51	31893	44.310	45.620	2.87		*	
7440-47-3	Chromium	52	39091	53.250	53.450	0.374		*	
7439-96-5	Manganese	55	36381	44.920	44.750	0.380		*	
7440-48-4	Cobalt	59	550	0.55300	0.49060	12.7		*	
7440-02-0	Nickel	60	653	3.0425	2.4470	24.3		*	
7440-50-8	Copper	63	557	0.23775	0.25080	5.20		*	
7440-66-6	Zinc	66	2294	17.450	16.530	5.57		*	
7440-38-2	Arsenic	75	27268	323.30	336.50	3.92	0.21	3.9	
7782-49-2	Selenium	78	330	2.4985	2.4210	3.20	0.70	NC	
7439-98-7	Molybdenum	95	7692	32.700	34.100	4.11		*	
7440-22-4	Silver	107	27	-0.01790	0.01140	257		*	
7440-43-9	Cadmium	111	16	0.11435	-0.04411			*	
7440-31-5	Tin	118	690	0.83200	0.28270	194		*	
7440-36-0	Antimony	121	171	0.04163	0.16130	74.2		*	
7440-39-3	Barium	137	4579	24.565	24.090	1.97		*	
7440-28-0	Thallium	205	229	0.08260	0.08372	1.34		*	
7439-92-1	Lead	208	624	0.11095	0.07620	45.6		*	
7440-61-1	Uranium	238	141214	64.550	63.010	2.44		*	
7440-29-1	Thorium	232	283	0.05255	0.04358	20.6		*	
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:

IDB Reports TestAmerica, Inc. Version: 6.02.068

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ISTD:

Pass

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\237PDS.D\237PDS.D\#

Date Acquired: Nov 8 2009 01:58 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL Sample Name: LNH2LZF

Misc Info: POST DIGESTION SPIKE

Vial Number: 4310

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: PDS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	196.30	0.05	ppb	1.01	200	98.1	75 - 125	
51 V	72	1	216.40	22.81	ppb	0.46	200	97.1	75 - 125	
52 Cr	72	1	216.40	26.73	ppb	1.11	200	95.4	75 - 125	
55 Mn	72	1	211.40	22.38	ppb	1.03	200	95.1	75 - 125	
59 Co	72	1	182.20	0.25	ppb	2.12	200	91.0	75 - 125	
60 Ni	72	1	177.30	1.22	ppb	0.52	200	88.1	75 - 125	
63 Cu	72	1	172.00	0.13	ppb	0.37	200	85.9	75 - 125	
66 Zn	72	1	198.50	8.27	ppb	0.84	200	95.3	75 - 125	
75 As	72	1	363.40	168.30	ppb	0.62	200	98.7	75 - 125	
78 Se	72	1	213.90	1.21	ppb	1.28	200	106.3	75 - 125	
95 M o	72	1	221.20	17.05	ppb	0.45	200	101.9	75 - 125	
107 Ag	115	1	41.81	0.01	ppb	1.16	50	83.6	75 - 125	
111 Cd	115	1	185.90	-0.02	ppb	0.77	200	93.0	75 - 125	
118 Sn	115	1	176.80	0.14	ppb	1.69	200	88.3	75 - 125	
121 Sb	115	1	199.30	0.08	ppb	1.32	200	99.6	75 - 125	
137 Ba	115	1	202.40	12.04	ppb	1.26	200	95.5	75 - 125	
205 Tl	165	1	174.10	0.04	ppb	0.87	200	87.0	75 - 125	
208 Pb	165	1	173.20	0.04	ppb	1.11	200	86.6	75 - 125	
232 Th	165	1	0.02	0.02	ppb	8.71	200	0.0	75 - 125	
238 U	165	1	211.50	31.50	ppb	0.71	200	91.4	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328890	0.59	401411	81.9	30 - 120	
45 Sc	1	1096896	0.20	1190683	92.1	30 - 120	
72 Ge	` 1	444057	0.71	533218	83.3	30 - 120	
115 In	1	1344591	0.84	1552104	86.6	30 - 120	
165 Ho	1	2417501	0.37	2681412	90.2	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS_024 Reported: 11/09/09 10:02:40

Department: 090 (Metals) Source: Spreadsheet

Sample: LNH2LZF Spike Dilution: 1.00 Sample Dilution: 2.00

Instrument: **Agilent7500** Channel 272
File: AG110709 # 237 Method 6020_

Acquired: 11/08/2009 01:58:00 ICPMS_024 Matrix: AQUEOUS Calibrated: 11/07/2009 23:44:00 Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75371	196.30	0.05180	98.1	200		
	Vanadium	51	1324970	216.40	22.810	96.8	200		abla
7440-47-3	Chromium	52	1308980	216.40	26.725	94.8	200		
7439-96-5	Manganese	55	1470570	211.40	22.375	94.5	200		$\mathbf{\nabla}$
7440-48-4		59	1354670	182.20	0.24530	91.0	200		
7440-02-0	Nickel	60	281194	177.30	1.2235	88.0	200		\square
7440-50-8	Copper	63	648082	172.00	0.12540	85.9	200		\square
7440-66-6	Zinc	66	165641	198.50	8.2650	95.1	200		abla
7440-38-2	Arsenic	75	268778	363.40	168.25	97.6	200		
7782-49-2	Selenium	78	32027	213.90	1.2105	106	200		
7439-98-7	Molybdenum	95	445150	221.20	17.050	102	200		
7440-22-4	Silver	107	242635	41.810	0.00570	83.6	50.0		
7440-43-9	Cadmium	111	215059	185.90	-0.02206	92.9	200		
7440-31-5	Tin	118	576697	176.80	0.14135	88.3	200		
7440-36-0	Antimony	121	756242	199.30	0.08065	99.6	200		
7440-39-3	Barium	137	332927	202.40	12.045	95.2	200		
7440-28-0	Thallium	205	2360130	174.10	0.04186	87.0	200		\square
7439-92-1	Lead	208	3200670	173.20	0.03810	86.6	200		
7440-61-1	Uranium	238	4210060	211.50	31.505	90.0	200		
7440-29-1	Thorium	232	567	0.02117	0.02179				
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				

A CALLES	Reviewed by:	
IDB Reports	TestAmerica, Inc.	Version: 6.02.068

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Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\238 MS.D\238 MS.D#

Date Acquired: Nov 8 2009 02:00 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNH2LSF 2X Misc Info: MATRIX SPIKE

Vial Number: 4311

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: MS
Prep Dil. Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	. 1	17.66	0.05	ppb	3.33	40	44.1	50 - 150
51 V	72	1	40.31	22.81	ppb	0.93	40	64.2	50 - 150
52 Cr	72	1	43.43	26.73	ppb	0.69	40	65.1	50 - 150
55 Mn	72	1	39.24	22.38	ppb	0.77	40	62.9	50 - 150
59 Co	72	1	16.45	0.25	ppb	0.74	40	40.9	50 - 150
60 Ni	72	1	17.43	1.22	ppb	1.57	40	42.3	50 - 150
63 Cu	72	1	16.14	0.13	ppb	0.60	40	40.2	50 - 150
66 Zn	72	1	25.23	8.27	ppb	0.44	40	52.3	50 - 150
75 As	72	1	187.20	168.30	ppb	0.18	40	89.9	50 - 150
78 Se	72	- 1	19.90	1.21	ppb	7.23	40	48.3	50 - 150
95 Mo	72	. 1	54.27	17.05	ppb	0.89	40	95.1	50 - 150
107 Ag	115	1	16.08	0.01	ppb	0.93	40	40.2	50 - 150
111 Cd	115	1	-0.07	-0.02	ppb	#####	40	-0.2	50 - 150
118 Sn	115	1	20.54	0.14	ppb	0.75	40	51.2	50 - 150
121 Sb	115	1	37.45	0.08	ppb	1.22	40	93.4	50 - 150
137 Ba	115	1	29.68	12.04	ppb	0.44	40	57.0	50 - 150
205 Tl	165	1	16.18	0.04	ppb	1.28	40	40.4	50 - 150
208 Pb	165	1	16.33	0.04	ppb	0.81	40	40.8	50 - 150
232 Th	165	1	17.97	0.02	ppb	0.73	40	44.9	50 - 150
238 U	165	1	47.24	31.50	ppb	0.42	40	66.1	50 - 150

ISTD Elements

Element	Tune	Counts	RSD (%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	329448	0.61	401411	82.1	30 - 120
45 Sc	1	1100522	1.88	1190683	92.4	30 - 120
72 Ge	1	454048	0.49	533218	85.2	30 - 120
115 In	1	1348934	0.18	1552104	86.9	30 - 120
165 Ho	1	2427384	0.23	2681412	90.5	30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\239 MSD.D\239 MSD.D#

Date Acquired: Nov 8 2009 02:03 am QC Summary:

Acq. Method: Analytes: NormISIS.M Pass ISTD: Operator: **Pass** TEL

Sample Name: LNH2LDF 2X

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: MSD Dilution Factor: 2.00

QC Elements

208 Pb

232 Th

238 U

165 1

1

1

165

165

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\238 MS.D\238 MS.D\#

_										
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Ве	6	1	17.61	ppb	2.63	17.66	. 0.28	20	
51	V	72	1	40.19	ppb	0.56	40.31	0.30	20	
52	Cr	72	1	44.52	ppb	0.42	43.43	2.48	20	
55	Mn	72	1 .	39.76	ppb	0.26	39.24	1.32	20	
59	Co	72	1	16.80	ppb	0.20	16.45	2.11	20	
60	Ni	72	1	17.81	ppb	1.99	17.43	2.16	20	
63	Cu	72	1	16.31	ppb	1.09	16.14	1.05	20	
66	Zn	72	1	25.94	ppb	0.79	25.23	2.78	20	
75	As	72	1	188.60	ppb	0.80	187.20	0.75	20	
78	Se	72	1	20.72	ppb	3.34	19.90	4.04	20	
95	Mo	72	1	55.45	ppb	1.10	54.27	2.15	20	
107	Ag	115	1	16.30	ppb	2.66	16.08	1.36	20	
111	Cd	115	1	-0.23	ppb	275.75	-0.07	-102.08	20	
118	Sn	115	1	21.22	ppb	0.18	20.54	3.26	20	
121	Sb	115	1	38.50	ppb	2.09	37.45	2.76	20	
137	Ba	115	1	30.34	ppb	1.78	29.68	2.20	20	
205	T1	165	1	16.56	ppb	2.35	16.18	2.32	20	

IST	D Elements							
Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	328826	0.78	401411	81.9	30 - 120	
45	Sc	1	1092484	0.63	1190683	91.8	30 - 120	
72	Ge	1	456011	0.55	533218	85.5	30 - 120	
115	In	1	1349691	1.13	1552104	87.0	30 - 120	
165	Но	1	2423429	1.34	2681412	90.4	30 - 120	

2.64

2.42

1.79

16.33 1.82

17.97 1.66

1.12

47.24

20

20

20

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

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

16.63 ppb

18.27 ppb

47.77 ppb

Data File: C:\ICPCHEM\1\DATA\AG110709.B\240SMPL.D\240SMPL.D#

Date Acquired: Nov 8 2009 02:06 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2NF 2X ISTD: Pass Misc Info: D9J290310

Vial Number: 4401

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: SA
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.14	0.07	ppb	22.55	3600	
51 V	72	1	44.48	22.24	ppb	0.72	3600	
52 Cr	72	1	53.02	26.51	ppb	0.86	3600	
55 Mn	72	1	44.72	22.36	ppb	0.16	3600	
59 Co	72	1	0.48	0.24	ppb	5.28	3600	
60 Ni	72	1	2.52	1.26	ppb	3.26	3600	
63 Cu	72	1	0.28	0.14	ppb	13.97	3600	
66 Zn	72	1	15.21	7.61	ppb	1.48	3600	
75 As	72	1	330.60	165.30	ppb	0.67	3600	
78 Se	72	1	2.42	1.21	ppb	50.30	3600	
95 Mo	72	1	33.70	16.85	ppb	3.76	3600	
107 Ag	115	1	0.01	0.01	ppb	78.22	3600	
111 Cd	115	1	0.03	0.02	ppb	118.11	3600	
118 Sn	115	1	0.46	0.23	ppb	22.08	3600	
121 Sb	115	1	0.15	0.07	ppb	20.23	3600	
137 Ba	115	1	24.02	12.01	ppb	0.68	3600	
205 Tl	165	1	0.05	0.03	ppb	3.27	3600	
208 Pb	165	1	0.03	0.01	ppb	16.81	3600	
232 Th	165	1	0.03	0.02	ppb	21.89	1000	
238 U	165	1	60.92	30.46	ppb	2.50	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329364	1.25	401411	82.1	30 - 1 20	
45 Sc	1	1100934	1.78	1190683	92.5	30 - 120	
72 Ge	1	461442	0.58	533218	86.5	30 - 120	
115 In	1	1360263	0.82	1552104	87.6	30 - 120	
165 Ho	1	2451442	1.11	2681412	91.4	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\241 CCV.D\241 CCV.D#

Date Acquired: Nov 8 2009 02:09 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC	Eleme	nts
ET 2	amant	TC

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	50.01	ppb	0.56	50	100.0	90 - 110	
51	V	72	1	48.33	ppb	1.58	50	96.7	90 - 110	
52	Cr	72	1	48.49	ppb	0.60	50	97.0	90 - 110	
55	Mn	72	1	49.00	ppb	0.87	50	98.0	90 - 110	
59	Co	72	1	48.03	ppb	0.46	50	96.1	90 - 110	
60	Ni	72	1	49.79	ppb	0.60	50	99.6	90 - 110	
63	Cu	72	1	49.72	ppb	0.57	50	99.4	90 - 110	
66	Zn	72	1	50.42	ppb	0.53	50	100.8	90 - 110	
75	As	72	1	49.80	ppb	1.09	50	99.6	90 - 110	
78	Se	72	1	49.62	ppb	4.24	50	99.2	90 - 110	
95	Мо	72	1	50.31	ppb	1.15	50	100.6	90 - 110	
107	Ag	115	1	50.96	ppb	1.77	50	101.9	90 - 110	
111	Cd	115	1	50.62	ppb	1.64	50	101.2	90 - 110	
118	Sn	115	1	50.25	ppb	1.69	50	100.5	90 - 110	
121	Sb	115	1	50.40	ppb	1.16	50	100.8	90 - 110	
137	Ва	115	1	50.16	ppb	1.14	50	100.3	90 - 110	
205	Tl	165	1	50.21	ppb	0.88	50	100.4	90 - 110	
208	Pb	165	1	50.49	ppb	1.18	50	101.0	90 - 110	
232	Th	165	1	50.04	ppb	0.76	50	100.1	90 - 110	
238	U	165	1	50.29	ppb	0.56	50	100.6	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	385065	0.65	401411	95.9	30 - 120	
45 Sc	1	1247536	0.69	1190683	104.8	30 - 120	
72 Ge	1	546192	1.35	533218	102.4	30 - 120	
115 In	1	1634027	0.75	1552104	105.3	30 - 120	
165 Ho	1	2814121	0.68	2681412	104.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\242 CCB.D\242 CCB.D#

Date Acquired: Nov 8 2009 02:11 am

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.022	ppb	173.22	1.00	
51 V	72	1	-0.087	ppb	10.36	1.00	
52 Cr	72	1	0.014	ppb	184.30	1.00	
55 Mn	72	1	0.014	ppb	8.00	1.00	
59 Co	72	1	0.004	ppb	69.44	1.00	
60 Ni	72	1	-0.007	ppb	142.20	1.00	
63 Cu	72	1	-0.008	ppb	140.15	1.00	
66 Zn	72	1	-0.415	ppb	4.35	1.00	
75 As	72	1	0.005	ppb	110.23	1.00	
78 Se	72	1	0.018	ppb	1242.10	1.00	
95 Mo	72	1	-0.028	ppb	13.11	1.00	
107 Ag	115	1	0.004	ppb	46.09	1.00	
111 Cd	115	1	0.013	ppb	40.03	1.00	
118 Sn	115	1	0.063	ppb	55.50	1.00	
121 Sb	115	1	0.113	ppb	31.55	1.00	
137 Ba	115	1	-0.029	ppb	28.79	1.00	
205 T1	165	1	0.018	ppb	22.96	1.00	
208 Pb	165	1	0.000	ppb	5554.40	1.00	
232 Th	165	1	0.048	ppb	21.37	1.00	
238 U	165	1	0.017	ppb	16.86	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	384926	1.14	401411	95.9	30 - 120	
45 Sc	1	1232197	1.54	1190683	103.5	30 - 120	
72 Ge	1	550643	0.59	533218	103.3	30 - 120	
115 In	1	1626425	1.25	1552104	104.8	30 - 120	
165 Ho	1	2817508	0.31	2681412	105.1	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D\

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

D:\ICPCHEM\1\RPTTMP\6020CCB.qct

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\243WASH.D\243WASH.D#

Date Acquired: Nov 8 2009 02:14 am

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 07 2009 11:48 pm

Sample Type: WASH Total Dil Factor: 1.00

OC	TP 7	~~	~~	+-
OC.	25.1	$_{\rm em}$	$\mathbf{e}_{\mathbf{n}}$	LS

Zo mromo						
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.018 ppb	6.70	1.30	
51 V	72	1	4.687 ppb	1.11	6.50	
52 Cr	72	1	1.969 ppb	3.26	2.60	
55 Mn	72	1	0.968 ppb	6.58	1.30	
59 Co	72	1	0.962 ppb	3.44	1.30	
60 Ni	72	1	2.019 ppb	7.92	2.60	
63 Cu	72	1	1.898 ppb	2.07	2.60	
66 Zn	72	1	9.632 ppb	0.59	13.00	
75 As	72	1	4.920 ppb	2.08	6.50	
78 Se	72	1	4.198 ppb	11.78	6.50	
95 M o	72	1	2.020 ppb	1.39	2.60	
107 Ag	115	1	5.260 ppb	2.09	6.50	
111 Cd	115	1	1.038 ppb	5.01	1.30	
118 Sn	115	1	10.400 ppb	0.81	13.00	
121 Sb	115	1	2.106 ppb	4.12	2.60	
137 Ba	115	1	1.026 ppb	1.81	1.30	
205 Tl	165	1	1.039 ppb	3.13	1.30	
208 Pb	165	1	1.044 ppb	2.08	1.30	
232 Th	165	1	2.144 ppb	1.47	2.60	
238 U	165	1	1.107 ppb	1.83	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	378596	0.38	401411	94.3	30 - 120	
45 Sc	1	1215861	0.22	1190683	102.1	30 - 120	
72 Ge	1	540702	0.70	533218	101.4	30 - 120	
115 In	1	1596042	0.42	1552104	102.8	30 - 120	
165 Ho	1	2774388	0.30	2681412	103.5	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\244SMPL.D\244SMPL.D# Date Acquired: Nov 8 2009 02:17 am Acq. Method: NormISIS.M QC Summary: Operator: Analytes: Pass TET. Sample Name: ISTD: RINSE **Pass** Misc Info: Vial Number: 1301 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal. Update: Nov 07 2009 11:48 pm Sample Type: SA Dilution Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00 QC Elements Element IS Ref Tune Corr Conc Raw Conc Unit/s RSD(%) High Limit Flag Вe p/pb 6 1 17.90 17.90 2.45 3600 51 V 72 1 19.94 19.94 0.71 3600 dqq**,** 52 Cr 72 1 17.85 17.85 1.26 3600 ppb 55 Mn 72 19.07 19.07 0.21 1 3600 ppb 59 Co 72 1 15.53 15.53 0.55 3600 ppb 60 Ni 72 17.43 17.43 3.08 3600 ppb 63 Cu 72 1 15.58 15.58 2.08 3600 ppb 72 20./93 66 Zn 1 20.93 0.69 3600 ppb 75 As 72 1 17.38 17/.38 1.70 3600 ppb 78 Se 72 1 16.72 1,6.72 ppb 8.04 3600 95 Mo 72 20.59.00 1 2,039.00 1.25 3600 ppb 107 Ag 115 1 14.55 14.55 ppb 2.20 3600 111 Cd 115 1 -1.46 -1.46 ppb 85.14 3600 118 Sn 115 1 31.52 31.52 ppb 1.20 3600 121 Sb 115 1 32.69 32.69 2.09 3600 ppb 115 137 Ba 1 17.86 17.86 1.80 3600 ppb 205 Tl 165 16.43 16.43 ppb 1.39 3600 208 Pb 165 17.44 17.44 1 ppb 1.35 3600 232 Th 165 18.12 18.12 1 ppb 1.87 1000 238 U 165 18.11 18.11 2.00 3600 dag ISTD Elements Element CPS Mean RSD(%) · Ref Value QC Range(%) Tune Rec(%) Flag T.i 1 310139 1.39 401411 77.3 30 - 120 45 Sc. 30 - 120 1 1008876 0.12 1190683 84.7 72 Ge 30 - 1201 442635 0.64 533218 83.0 115 In 1552104 82.0 30 - 120 1 1273415 0.81 165 Ho 1 2246965 0.51 2681412 83.8 30 - 120Tune File# 1 c:\icpchem\1\7500\he.u Tune File# C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures

0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data File: C:\ICPCHEM\1\DATA\AG110709.B\245SMPL.D\245SMPL.D#

Date Acquired: Nov 8 2009 02:20 am

Acq. Method: NormISIS.M

Operator: TEL Analytes: Pass Sample Name: RINSE ISTD: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC	El	emen	ts
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						,		
Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.09	3600	
51 V	72	1	-0.01	-0.01	ppb	183/00	3600	
52 Cr	72	1	0.03	0.03	ppb	10/8.74	3600	
55 Mn	72	1	0.00	0.00	ppb	3/57.61	3600	
59 Co	72	1	0.00	0.00	ppb	/123.51	3600	
60 Ni	72	1	0.08	0.08	ppb /	30.32	3600	
63 Cu	72	1	-0.03	-0.03	ppb/	22.56	3600	
66 Zn	72	1	-0.24	-0.24	dqq	12.08	3600	
75 As	72	1	0.00	0.00	p∕pb	1812.70	3600	
78 Se	72	1	0.07	0.07	/ppb	54.62	3600	
95 Mo	72	1	0.66	0.66	/ ppb	27.20	3600	
107 Ag	115	1	0.01	0.01	/ ppb	96.79	3600	
111 Cd	115	1	0.02	0.02/	ppb	2.26	3600	
118 Sn	115	1	0.02	0.9⁄2	ppb	105.12	3600	
121 Sb	115	1	0.01	01⁄ر0	ppb	108.13	3600	
137 Ba	115	1	-0.01	-9.01	ppb	57.34	3600	
205 Tl	165	1	0.00	/0.00	ppb	51.33	3600	
208 Pb	165	1	0.00	/ 0.00	ppb	396.03	3600	
232 Th	165	1	0.01	/ 0.01	ppb	75.61	1000	
238 U	165	1	0.01	/ 0.01	ppb	15.72	3600	

ISTD Elements

Element	Tune	CPS Mean	/ RSD(%)	Ref Value	Rec(%)	QC Range(%)
6 Li	1	371677	/ 0.32	401411	92.6	30 - 120
45 Sc	1	1181717	1.34	1190683	99.2	30 - 120
72 Ge	1	532981 /	0.53	533218	100.0	30 - 120
115 In	1	1571905/	0.51	1552104	101.3	30 - 120
165 Ho	1	271061 <u></u> \$	0.66	2681412	101.1	30 - 120

Tune File# 1 c:\icpc/em\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

0 :ISTD Failures

C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

0 :Max. Number of ISTD Failures Allowed

11/8/09 2:20 AM

D:\ICPCHEM\1\RPTTMP\sam.qct

Page 1 of 1

Flag

OC Summary:

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\246CALB.D\2469ALB.D#

Date Acquired: Nov 8 2009 02:22 am

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M

Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 07 2009 11:48 pm

Sample Type: CalBlk

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Вe	6	1	3	173.18
51	V	72	1	810	15.38
52	\mathtt{Cr}	72	1	2794	5.01
55	Mn	72	1	753	18.58
59	Co	72	1	83	6.78/
60	Ni	72	1	243	15.6/2
63	Cu	72	1	380	12.31
66	Zn	72	1	461	2/64
75	As	72	1	39	3/0.26
78	Se	72	1	367	/ 11.95
95	Мо	72	1	577	/25.82
107	Ag	115	1	33	/ 46.51
111	Cd	115	1	6	/ 129.86
118	Sn	115	1	250 /	33.16
121	Sb	115	1	103 /	17.48
137	Ва	115	1	97 /	10.91
205	Tl	165	1	118 /	9.24
208	Pb	165	1	377/	5.20
232	Th	165	1	25 3	21.03
238	U	165	1	19/1	22.56

Internal Standard Elements

Eleme	ent	Tune	CFS Mean	RSD(%)
6	Li	1	<i> </i> 374176	0.96
45	Sc	1	/1183323	1.31
72	Ge	1	537439	0.85
115	In	1	/ 1580964	1.03
165	Но	1	/ 2723622	0.86

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

Tune File# 3 / C:\ICPCHEM\1\7500\

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

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

Analyst:	LRD
Date:	11/08/2009

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Date Acquired: Nov 8 2009 02:25 am

Acq. Method: NormISIS.M

Operator: TEL

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:23 am

Sample Type: CalBlk

QC Elements

ent	IS Ref	Tune	CPS Mean	RSD(%)
Вe	- 6	1	3	173.21
V	72	1	620	12.63
Cr	72	1	2680	1.78
Mn	72	1	813	8.79
Co	72	1	67	30.95
Ni	72	1	113	13.08
Cu	72	1	490	11.82
Zn	72	1	656	6.46
As	72	1	45	17.63
Se	72	1	333	20.05
Mo	72	1	257	16.03
Ag	115	1	40	74.94
Cd	115	1	11	116.88
Sn	115	1	477	0.80
Sb	115	1	156	24.28
Ba	115	1	152	14.20
Tl	165	1	96	21.83
Pb	165	1	372	9.02
Th	165	1.	160	32.65
U	165	1	140	10.99
	Be V Cr Mn Co Ni Cu Zn As Se Mo Ag Cd Sn Sb Ba Tl Pb Th	Be 6 V 72 Cr 72 Mn 72 Co 72 Ni 72 Cu 72 Zn 72 As 72 Se 72 Mo 72 Ag 115 Cd 115 Sn 115 Sb 115 Ba 115 Tl 165 Pb 165 Th 165	Be 6 1 V 72 1 Cr 72 1 Mn 72 1 Co 72 1 Ni 72 1 Cu 72 1 Zn 72 1 As 72 1 Se 72 1 Mo 72 1 Ag 115 1 Cd 115 1 Sn 115 1 Sb 115 1 Ba 115 1 Tl 165 1 Pb 165 1 Th 165 1	Be 6 1 3 V 72 1 620 Cr 72 1 2680 Mn 72 1 813 Co 72 1 67 Ni 72 1 113 Cu 72 1 490 Zn 72 1 45 Se 72 1 333 Mo 72 1 257 Ag 115 1 40 Cd 115 1 11 Sn 115 1 477 Sb 115 1 156 Ba 115 1 152 Tl 165 1 96 Pb 165 1 372 Th 165 1 160

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)	
6	Li	1	376079	0.79	
45	Sc	1	1186897	1.34	
72	Ge	1	539567	0.45	
115	In	1	1576174	1.52	
165	Но	1	2717767	0.30	

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

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#

Date Acquired: Nov 8 2009 02:28 am

Acq. Method: NormISIS.M

Operator: TEL Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:26 am

Sample Type: ICAL

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	42446	1.21
51	Λ.	72	1	684937	3.17
52	Cr	72	1	670667	0.81
55	Mn	72	1	787843	0.97
59	Co	72	1	839400	0.67
60	Ni	72	1	178958	0.70
63	Cu	72	1	424705	0.79
66	Zn	72	1	94491	0.73
75	As	72	. 1	84032	1.05
78	Se	72	1	16841	1.85
95	Mo	72	1	231498	1.15
107	Ag	115	1	664263	0.80
111	Cd	115	1	132542	1.42
118	Sn	115	1	376743	0.98
121	Sb	115	1	435060	0.49
137	Ba	115	1	188704	0.74
205	Tl	165	1	1479617	0.97
208	Pb	165	1	2033413	0.75
232	Th	165	1	2126721	0.55
238	Ü	165	1	2198988	0.53

ISTD Elements

Elem	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120	
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120	
72	Ge	1	510601	1.68	539567	94.6	30 - 120	
115	In	. 1	1555316	0.82	1576174	98.7	30 - 120	
165	Но	1	2687981	0.46	2717767	98.9	30 - 120	

0

0

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0 :ISTD Failures

11/8/09 2:28 AM D:\ICPCHEM\1\RPTTMP\calstd.qct

Page 1 of 1

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CCV.D\249 CCV.D\

Date Acquired: Nov 8 2009 02:31 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

238 U

165

1

Elen	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.21	ppb	0.59	50	100.4	90 - 110	
51	V	72	1	49.66	ppb	0.22	50	99.3	90 - 110	
52	Cr	72	1	50.51	ppb	0.78	50	101.0	90 - 110	
55	Mn	72	1	49.52	ppb	0.42	50	99.0	90 - 110	
59	Co	72	1	48.78	ppb	0.64	50	97.6	90 - 110	
60	Ni	72	1	50.96	ppb	0.39	50	101.9	90 - 110	
63	Cu	72	1	50.45	ppb	0.98	50	100.9	90 - 110	
66	Zn	72	1	51.04	ppb	1.32	50	102.1	90 - 110	
75	As	72	1	50.22	ppb	0.79	50	100.4	90 - 110	
78	Se	72	1	52.93	ppb	2.64	50	105.9	90 - 110	
95	Mo	72	1	50.88	ppb	0.45	50	101.8	90 - 110	
107	Ag	115	1	50.92	ppb	2.20	50	101.8	90 - 110	
111	Cd	115	1	51.72	ppb	2.62	50	103.4	90 - 110	
118	Sn	115	1	51.06	ppb	2.41	50	102.1	90 - 110	
121	Sb	115	1	51.12	ppb	1.48	50	102.2	90 - 110	
137	Вa	115	1	50.77	ppb	1.68	50	101.5	90 - 110	
205	Tl	165	1	51.85	ppb	1.16	50	103.7	90 - 110	
208	Pb	165	1	51.54	ppb	2.32	50	103.1	90 - 110	
232	Th	165	1	51.27	ppb	1.18	50	102.5	90 - 110	

IST	Elements							
Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360601	1.23	376079	95.9	30 - 120	
45	Sc	1	1152210	0.10	1186897	97.1	30 - 120	
72	Ge	1	506331	0.64	539567	93.8	30 - 120	
115	In	1	1532589	0.89	1576174	97.2	30 - 120	
165	Но	1	2667156	1.17	2717767	98.1	30 - 120	

0.90

50

103.2

90 - 110

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

51.61 ppb

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250 CCB.D\250 CCB.D#

Date Acquired: Nov 8 2009 02:33 am

Operator: TEL QC Summary: Sample Name: CCB Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Ве	6	1	0.016	ppb	147.29	1.00	_
51	V	72	1	-0.021	ppb	31.34	1.00	
52	Cr	72	1	0.037	ppb	45.39	1.00	
55	Mn	72	1	-0.003	ppb	461.47	1.00	
59	Co	72	1	0.004	ppb	46.27	1.00	
60	Ni	72	1	-0.025	ppb	13.04	1.00	
63	Cu	72	1	-0.035	ppb	22.37	1.00	
66	Zn	72	1	-0.398	ppb	5.33	1.00	
75	As	72	1	0.015	ppb	70.97	1.00	
78	Se	72	1	-0.320	ppb	40.38	1.00	
95	Mo	72	1	-0.054	ppb	35.32	1.00	
107	Ag	115	1	0.008	ppb	9.23	1.00	
111	Cd	115	1	0.005	ppb	52.43	1.00	
118	Sn	115	1	0.107	ppb	31.44	1.00	
121	Sb	115	1	0.188	ppb	20.19	1.00	
137	Ba	115	1	-0.042	ppb	4.94	1.00	
205	Tl	165	1	0.020	ppb	20.00	1.00	
208	Pb	165	1	-0.001	ppb	65.74	1.00	
232	Th	165	1	0.055	ppb	6.90	1.00	
238	U	165	1	0.016	ppb	10.74	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1 .	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

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

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

Wash QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D#

Date Acquired:

Nov 8 2009 02:36 am

Operator:

TEL

QC Summary:

Sample Name:

RLCV

Analytes: Pass

Misc Info:

ISTD: Pass

Vial Number:

1206

Current Method:

C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 08 2009 02:28 am

Sample Type:

WASH

Total Dil Factor:

1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	. 72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252 BLK.D\252 BLK.D#

Date Acquired: Nov 8 2009 02:39 am

Operator: TEL QC Summary:
Sample Name: LNJNVB Analytes: Pass
Misc Info: BLANK 9303185 6020 ISTD: Pass

Vial Number: 4402

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: BLK
Total Dil Factor: 1.00

QC Element	s
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Oc rieme	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Ho	1	2647917	1.14	2717767	97.4	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253 LCS.D\253 LCS.D#

Date Acquired: Nov 8 2009 02:42 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass Sample Name: LNJNVC ISTD: Pass

Sample Name: LNJNVC
Misc Info: LCS
Vial Number: 4403

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Ele	ment	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Ra	nge(%)	Flag
9	Ве	6	1	35.70	1.01	40	89.3	80	- 120	
51	A	72	· 1	35.52	0.20	40	88.8	80	- 120	
52	Cr	72	1	36.08	0.50	40	90.2	80	- 120	
55	Mn	72	1	35.14	0.07	40	87.9	80	- 120 ·	
59	Co	72	1	34.82	0.49	40	87.1	. 80	- 120	
60	Ni	72	. 1	36.40	0.69	40	91.0	80	- 120 ¹	
63	Cu	72	1	35.92	0.24	40	89.8	80	- 120	
66	Zn	72	1	35.76	1.51	40	89.4	80	- 120	
75	As	. 72	1	34.71	0.72	40	86.8	80	- 120	
78	Se	72	1	35.62	2.21	40	89.1	80	- 120	
95	Mo	72	1	32.10	0.70	40	80.3	80	- 120	
107	Ag	115	1	35.79	2.12	40	89.5	80	- 120	
111	Cd	115	1	35.37	1.53	40	88.4	80	- 120	
118	Sn	115	1	0.02	168.39	40	0.0	80	- 120	
121	Sb	115	1	32.20	2.07	40	80.5	80	- 120	
137	Ba	115	1	35.77	2.20	40	89.4	80	- 120	
205	T1	165	1	36.57	2.09	40	91.4	80	- 120	
208	Pb	165	1	36.87	2.16	40	92.2	80	- 120	
232	Th	165	1	36.61	1.54	40	91.5	80	- 120	
238	U	165	1	36.97	1.94	40	92.4	80	- 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358195	0.31	376079	95.2	30 - 120	
45 Sc	1	1130666	0.47	1186897	95.3	30 - 120	
72 Ge	1	497032	0.74	539567	92.1	30 - 120	
115 In	1	1523173	1.15	1576174	96.6	30 - 120	
165 Ho	1	2638001	1.37	2717767	97.1	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

Date Acquired: Nov 8 2009 02:44 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7F 5X ISTD: Pass

Misc Info: D9J270261
Vial Number: 4404

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: AllRef
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.02	ppb	140.55	3600	
51 V	72	1	58.25	11.65	ppb	0.99	3600	
52 Cr	72	1	96.60	19.32	ppb	0.56	3600	
55 Mn	72	1	20.01	4.00	ppb	1.83	3600	
59 Co	72	1	0.41	0.08	ppb	18.64	3600	
60 Ni	72	1	2.50	0.50	ppb	10.52	3600	
63 Cu	72	1	0.61	0.12	ppb	13.42	3600	
66 Zn	72	1	18.56	3.71	ppb	2.43	3600	
75 As	72	1	190.75	38.15	ppb	0.69	3600	
78 Se	72	1	1.93	0.39	ppb	57.06	3600	
95 Mo	72	1	26.48	5.30	ppb	2.72	3600	
107 Ag	115	1	0.03	0.01	ppb	125.97	3600	
111 Cd	115	1	0.02	0.00	ppb	229.82	3600	
118 Sn	115	1	0.25	0.05	ppb	45.32	3600	
121 Sb	115	1	0.30	0.06	ppb	29.45	3600	
137 Ba	115	1	23.70	4.74	ppb	1.34	3600	
205 Tl	165	1	0.23	0.05	ppb	17.38	3600	
208 Pb	165	1	0.18	0.04	ppb	14.05	3600	
232 Th	165	1	0.24	0.05	ppb	4.71	1000	
238 U	165	1	13.31	2.66	ppb	1.53	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	333341	1.09	376079	88.6	30 - 120	
45 Sc	1	1062523	0.59	1186897	89.5	30 - 120	
72 Ge	1	462502	0.27	539567	85.7	30 - 120	
115 In	1	1375002	1.04	1576174	87.2	30 - 120	
165 Ho	1	2471361	0.80	2717767	90.9	30 - 120	

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

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#

Date Acquired: Nov 8 2009 02:47 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNC7FP25

Misc Info: SERIAL DILUTION

Vial Number: 4405

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SDIL Dilution Factor: 5.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D\#

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QC	eт	еше	ш	ÇŞ.

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC :	Rang	e(%)	Flag
9 Be	6	1	0.02	ppb	0.57	0.00	458.7	90	-	110	
51 V	72	1	2.26	ppb	2.18	2.33	97.2	90	-	110	
52 Cr	72	1	3.94	ppb	1.55	3.86	101.9	90	-	110	
55 Mn	72	1	0.83	ppb	10.87	0.80	103.6	90	-	110	
59 Co	72	1	0.02	ppb	18.64	0.02	109.5	90	-	110	
60 Ni	72	1	0.11	ppb	52.76	0.10	106.7	90	-	110	
63 Cu	72	1	0.01	ppb	230.36	0.02	26.5	90	-	110	
66 Zn	72	1	0.47	ppb	7.87	0.74	62.8	90	-	110	
75 As	7,2	1	7.52	ppb	0.96	7.63	98.5	90	_	110	
78 Se	. 72	1	-0.04	ppb	1143.50	0.08	-52.9	90	-	110	
95 Mo	72	1	0.94	ppb	9.86	1.06	88.3	90	_	110	
107 Ag	115	1	0.00	ppb	99.28	0.00	-232.5	90	-	110	
111 Cd	115	1	-0.01	ppb	100.17	0.00	-679.0	90	-	110	
118 Sn	115	1	0.09	ppb	4.94	0.01	892.4	90	_	110	
121 Sb	115	1	0.01	ppb	131.02	0.01	58.5	90	_	110	
137 Ba	115	1	0.94	ppb	4.03	0.95	99.3	90	-	110	
205 Tl	165	1	0.01	ppb	8.96	0.01	141.7	90	-	110	
208 Pb	165	1	0.01	ppb	18.12	0.01	165.2	90	_	110	
232 Th	165	1	0.01	ppb	22.37	0.01	123.4	90	-	110	
238 U	165	1	0.53	ppb	1.52	0.53	100.3	90	-	110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355060	0.39	376079	94.4	30 - 120	
45 Sc	1	1125653	0.19	1186897	94.8	30 - 120	
72 Ge	1	502164	0.65	539567	93.1	30 - 120	
115 In	1	1479317	0.60	1576174	93.9	30 - 120	
165 Ho	1	2614578	1.08	2717767	96.2	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Denver

SERIAL DILUTION

Department: 090 (Metals)

Sample: LNC7FP25

Serial Dilution: 25.00

Sample Dilution: 5.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 255 Method 6020_
Acquired: 11/08/2009 02:47:00 ICPMS_024

Acquired: 11/08/2009 02:47:00 ICPMS_024 Matrix: AQUEOUS Calibrated: 11/08/2009 02:25:00 Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	10	0.41625	0.09076	359		*	
7440-62-2	Vanadium	51	15823	56.600	58.240	2.82		*	
7440-47-3	Chromium	52	28379	98.450	96.590	1.93		*	
7439-96-5	Manganese	55	7172	20.725	20.010	3.57		. *	
7440-48-4	Cobalt	59	210	0.44850	0.40970	9.47	,	*	
7440-02-0	Nickel	60	293	2.6645	2.4980	6.67		*	
7440-50-8	Copper	63	483	0.16105	0.60710	73.5		*	
7440-66-6	Zinc	66	1041	11.650	18.550	37.2		*	
7440-38-2	Arsenic	75	6250	187.85	190.70	1.49	0.21	1.5	\square
7782-49-2	Selenium	78	303	-1.0210	1.9300	153	0.70	NC	
7439-98-7	Molybdenum	95	2367	23.385	26.470	11.7		*	
7440-22-4	Silver	107	20	-0.06975	0.02999	333		*	
7440-43-9	Cadmium	111	3	-0.14365	0.02116	779		*	
7440-31-5	Tin	118	770	2.2540	0.25260	792		*	
7440-36-0	Antimony	121	176	0.17570	0.30050	41.5		*	
7440-39-3	Barium	137	1831	23.535	23.690	0.654			
7440-28-0	Thallium	205	281	0.32890	0.23210	41.7		*	
7439-92-1	Lead	208	597	0.30195	0.18290	65.1		* *	
7440-61-1	Uranium	238	11545	13.340	13.300	0.301		*	
7440-29-1	Thorium	232	403	0.30120	0.24410	23.4		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			. 0			*	

^{*} Analyte not requested for this batch, no MDL NC : Serial dilution concentration < 100 X MDL E : Difference greater than Limit (10%)

Reviewed by: Date:

IDB Reports TestAmerica, Inc. Version: 6.02.068

View Page 1 of 1

ISTD:

Pass

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D\#

Date Acquired: Nov 8 2009 02:50 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL Sample Name: LNC7FZ

Misc Info: POST DIGESTION SPIKE

Vial Number: 4406

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: PDS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: ---

QC	El	eme	en	ts
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Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Fla	ag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	. 1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 U	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Denver

SAMPLE SPIKE

Method; 6020 (ICP/MS) ICPMS_024 Reported: 11/09/09 10:02:49

Department: 090 (Metals) Source: Spreadsheet

Sample: LNC7FZ Spike Dilution: 1.00 Sample Dilution: 5.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 256 Method 6020_

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		abla
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		abla
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		\square
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		abla
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		abla
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		abla
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		abla
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		abla
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		abla
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0 .				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

IDB Reports TestAmerica Inc	Version: 6 02 060
Reviewed by:	Date:

ISTD:

Pass

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257_MS.D\257_MS.D#

Date Acquired: Nov 8 2009 02:53 am QC Summary:
Acq. Method: NormISIS.M Analytes: Pass

Operator: TEL

Sample Name: LNC7FS 5X Misc Info: MATRIX SPIKE

Vial Number: 4407

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MS
Prep Dil. Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150
51 V	. 72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150
66 Zn	. 72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150
205 Tl	165	1	7.17	0.05	ppb	1.41	40	17.9	50 - 150
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120
72 Ge	1	462138	0.38	539567	85.6	30 - 120
115 In	1	1389102	1.17	1576174	88.1	30 - 120
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\258 CCV.D\258 CCV.D#

Date Acquired: Nov 8 2009 02:56 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

QC	Elemen	nts
Ele	ement.	TS

Ele	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	51.17	ppb	1.68	50	102.3	90 - 110	
51	V	72	1	49.76	ppb	0.58	50	99.5	90 - 110	
52	\mathtt{Cr}	72	1	50.23	ppb	0.59	50	100.5	90 - 110	
55	Mn	72	1	49.80	ppb	0.45	50	99.6	90 - 110	
59	Co	72	1	48.86	ppb	0.97	50	97.7	90 - 110	
60	Ni	72	1	51.09	ppb	0.38	50	102.2	90 - 110	
63	Cu	72	1	50.55	ppb	1.39	50	101.1	90 - 110	
66	Zn	72	1	51.57	ppb	0.26	50	103.1	90 - 110	
75	As	72	1	50.59	ppb	0.46	50	101.2	90 - 110	
78	Se	72	1	51.92	ppb	0.28	50	103.8	90 - 110	
95	Mo	72	1	50.29	ppb	1.00	50	100.6	90 - 110	
107	Ag	115	1	51.22	ppb	2.07	50	102.4	90 - 110	
111	Cd	115	1	51.60	ppb	0.81	50	103.2	90 - 110	
118	Sn	115	1	50.56	ppb	0.85	50	101.1	90 - 110	
121	Sb	115	1	51.03	ppb	1.10	50	102.1	90 - 110	
137	Ва	115	1	50.92	ppb	1.12	50	101.8	90 - 110	
205	Tl	165	1	52.43	ppb	1.68	50	104.9	90 - 110	
208	Pb	165	1	52.24	ppb	2.12	50	104.5	90 - 110	
232	Th	165	1	51.78	ppb	2.94	50	103.6	90 - 110	
238	U	165	1	52.22	ppb	2.20	50	104.4	90 - 110	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	366110	0.29	376079	97.3	30 - 120	
45	Sc	1	1169831	1.16	1186897	98.6	30 - 120	
72	Ge	1	507682	1.25	539567	94.1	30 - 120	
115	In	1	1542474	0.57	1576174	97.9	30 - 120	
165	Но	1	2664119	1.36	2717767	98.0	30 - 120	

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

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259 CCB.D\259 CCB.D#

Date Acquired: Nov 8 2009 02:58 am

QC Summary: Operator: TEL

Analytes: Pass Sample Name: CCB

Misc Info: ISTD: Pass

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: Last Cal Update: C:\ICPCHEM\1\CALIB\NormISIS.C

Nov 08 2009 02:28 am

Sample Type: CCB Total Dil Factor: 1.00

OC	El	emen	ts
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Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	
51 V	72	1	-0.025	ppb	31.75	1.00	
52 Cr	72	1	0.015	ppb	240.08	1.00	
55 Mn	72	1	-0.003	ppb	454.38	1.00	
59 Co	72	1	0.007	ppb	19.00	1.00	
60 Ni	72	1	-0.021	ppb	92.00	1.00	
63 Cu	72	1	-0.023	ppb	91.13	1.00	
66 Zn	72	1	-0.387	ppb	12.46	1.00	
75 As	72	1	0.025	ppb	95.41	1.00	
78 Se	72	1	-0.065	ppb	394.03	1.00	
95 Mo	72	1	-0.040	ppb	70.76	1.00	
107 Ag	115	1	0.007	ppb	79.32	1.00	
111 Cd	115	1	0.012	ppb	73.39	1.00	
118 Sn	115	1	0.112	ppb	71.47	1.00	
121 Sb	115	1	0.150	ppb	17.00	1.00	
137 Ba	115	1	-0.041	ppb	5.14	1.00	
205 Tl	165	1	0.021	ppb	28.23	1.00	
208 Pb	165	1	0.003	ppb	8.31	1.00	
232 Th	165	1	0.048	ppb	25.86	1.00	
238 U	165	1	0.018	ppb	13.31	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120	
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120	
72 Ge	1	519534	0.26	539567	96.3	30 - 120	
115 In	1	1546385	0.40	1576174	98.1	30 - 120	
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120	

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

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

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

ISTD: Pass

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#

Date Acquired: Nov 8 2009 03:01 am

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC	El	emen	ts

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	_
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

ISTD Elements

Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
1	367841	0.83	376079	97.8	30 - 120	
1	1154162	0.97	1186897	97.2	30 - 120	
1	516753	0.66	539567	95.8	30 - 120	
1	1524519	0.33	1576174	96.7	30 - 120	
1	2680772	0.38	2717767	98.6	30 - 120	
	Tune 1 1 1 1 1	1 367841 1 1154162 1 516753 1 1524519	1 367841 0.83 1 1154162 0.97 1 516753 0.66 1 1524519 0.33	1 367841 0.83 376079 1 1154162 0.97 1186897 1 516753 0.66 539567 1 1524519 0.33 1576174	1 367841 0.83 376079 97.8 1 1154162 0.97 1186897 97.2 1 516753 0.66 539567 95.8 1 1524519 0.33 1576174 96.7	1 367841 0.83 376079 97.8 30 - 120 1 1154162 0.97 1186897 97.2 30 - 120 1 516753 0.66 539567 95.8 30 - 120 1 1524519 0.33 1576174 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\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\261 MSD.D\261 MSD.D#

Date Acquired: Nov 8 2009 03:04 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: TEL ISTD: Pass

Sample Name: LNC7FD 5X

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 4408

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Conc.

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: MSD Dilution Factor: 5.00

Element IS Ref Tune

115

165

165

208 Pb 165

232 Th 165

1

1

1

1

1

OC Elements

137 Ba

205 Tl

238 U

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\257 MS.D\257 MS.D\#

9	E	Зе	6	1	7.15	ppb	4.97	7.56	5.64	20	
5	1 V	7	72	1	19.44	ppb	0.87	19.50	0.31	20	
5	2 (Cr	72	1	27.63	ppb	0.44	27.55	0.29	20	
5	5 M	In	72	1	11.89	ppb	0.71	11.53	3.07	20	
5	9 (Co	72	1	6.96	ppb	0.22	6.92	0.55	20	
6	7 C	۱i	72	1	7.63	ppb	4.71	7.47	2.13	20	
6	3 (Cu	72	1	6.96	ppb	2.26	6.92	0.55	20	
6	6 z	Zn	. 72	1	11.24	ppb	0.91	12.20	8.19	20	
7	5 <i>F</i>	a.f	72	1	47.18	ppb	1.02	47.40	0.47	20	
7	8 5	Se .	72	1	8.49	ppb	8.60	8.21	3.34	20	
9.	5 M	10	72	1	12.08	ppb	2.93	12.33	2.05	20	
1	07 F	Ag	115	1	6.86	ppb	1.67	6.98	1.81	20	
1	11 (Cd	115	1	7.38	ppb	2.12	7.47	1.12	20	
1	18 5	3n	115	1	0.11	ppb	30.03	0.39	111.83	20	
1:	21 8	Sb	115	1	6.82	ppb	2.78	6.89	1.02	20	

12.78 ppb 1.44

7.29 ppb

7.89 ppb

10.55 ppb

7.29 ppb 1.19

RSD(%) Ref Conc Differ(%) High Limit

0.71

1.61

0.51

0.19

0.08

20

20

20

20

20

12.69

7.17

7.25

7.88

10.53

IST	D Elements							
Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	329103	0.78	376079	87.5	30 - 120	
45	Sc	1	1057955	1.12	1186897	89.1	30 - 120	
72	Ge	1	456662	0.47	539567	84.6	30 - 120	
115	In	1	1365390	0.56	1576174	86.6	30 - 120	
165	Но	1	2474617	1.07	2717767	91.1	30 - 120	

2.38

2.55

1.44

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Flag

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#

Date Acquired: Nov 8 2009 03:07 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass
Sample Name: LNC7L 5X ISTD: Pass

Sample Name: LNC7L 5X
Misc Info: D9J270263

Vial Number: 4409

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	157.59	3600	
51 V	72	1	46.85	9.37	ppb	1.89	3600	
52 Cr	72	1	12.39	2.48	ppb	5.61	3600	
55 Mn	72	. 1	171.35	34.27	ppb	1.07	3600	
59 Co	72	1	264.35	52.87	ppb	1.02	3600	
60 Ni	72	1	102.35	20.47	ppb	3.34	3600	
63 Cu	72	1	53.95	10.79	ppb	1.03	3600	
66 Zn	72	1	17.02	3.40	ppb	3.85	3600	
75 As	72	1	69.40	13.88	ppb	0.45	3600	
78 Se	72	1	3.99	0.80	ppb	47.95	3600	
95 Mo	72	1	6.46	1.29	ppb	6.25	3600	
107 Ag	115	1	0.02	0.00	ppb	159.25	3600	
111 Cd	115	1	0.13	0.03	ppb	54.73	3600	
118 Sn	115	1	0.20	0.04	ppb	29.32	3600	
121 Sb	115	1	0.23	0.05	ppb	27.91	3600	
137 Ba	115	1	43.61	8.72	ppb	1.89	3600	
205 Tl	165	1	0.08	0.02	ppb	8.14	3600	
208 Pb	165	1	1.84	0.37	ppb	5.27	3600	
232 Th	165	1 .	0.14	0.03	ppb	17.77	1000	
238 U	165	1	38.02	7.60	ppb	1.66	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	343401	0.74	376079	91.3	30 - 120	
45 Sc	1	1089536	0.75	1186897	91.8	30 - 120	
72 Ge	1	479909	1.11	539567	88.9	30 - 120	
115 In	1	1451981	1.22	1576174	92.1	30 - 120	
165 Ho	1	2546093	0.95	2717767	93.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#

Date Acquired: Nov 8 2009 03:09 am

Acq. Method: NormISIS.M QC Summary: Operator: TEL Analytes: Pass

Operator: TEL Analytes: Pass
Sample Name: LNFGD 5X ISTD: Pass

Misc Info: D9J280280
Vial Number: 4410

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	- 1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	. 1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	. 1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#

Date Acquired: Nov 8 2009 03:12 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNFG2 5X
Misc Info: D9J280283

Vial Number: 4411

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	. 72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1 .	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	. 1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D#

Date Acquired: Nov 8 2009 03:15 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2J 5X
Misc Info: D9J290310

Vial Number: 4412

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

752

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#

Date Acquired: Nov 8 2009 03:18 am

Acq. Method: NormISIS.M QC Summary:

Operator: TEL Analytes: Pass

Sample Name: LNH2K 5X ISTD: Pass Misc Info: D9J290310

Vial Number: 4501

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 08 2009 02:28 am

Sample Type: SA
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267 CCV.D\267 CCV.D\

Date Acquired: Nov 8 2009 03:21 am

Operator: TEL QC Summary:
Sample Name: CCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCV
Total Dil Factor: 1.00

QC Eleme	nts								
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	51.22	ppb	2.08	50	102.4	90 - 110	,
51 V	72	1	49.65	ppb	0.54	50	99.3	90 - 110	
52 Cr	72	1	50.22	ppb	0.76	50	100.4	90 - 110	
55 Mn	72	1	49.57	ppb	0.78	50	99.1	90 - 110	
59 Co	72	1	48.62	ppb	0.28	50	97.2	90 - 110	
60 Ni	72	1	50.60	ppb	1.48	50	101.2	90 - 110	
63 Cu	72	1	50.08	ppb	0.86	50	100.2	90 - 110	
66 Zn	72	1	52.09	ppb	0.68	50	104.2	90 - 110	
75 As	72	1	50.33	ppb	0.35	50	100.7	90 - 110	
78 Se	72	1	50.70	ppb	1.91	50	101.4	90 - 110	
95 Mo	72	1	50.34	ppb	1.97	50	100.7	90 - 110	
107 Ag	115	1	50.13	ppb	2.37	50	100.3	90 - 110	
111 Cd	115	1	50.15	ppb	1.77	50	100.3	90 - 110	
118 Sn	115	. 1	49.99	ppb	1.62	50	100.0	90 - 110	
121 Sb	115	1	50.52	ppb	2.60	50	101.0	90 - 110	
137 Ba	115	1	50.62	ppb	1.41	50	101.2	90 - 110	
205 Tl	165	1	51.11	ppb	0.42	50	102.2	90 - 110	
208 Pb	165	1	51.54	ppb	1.74	50	103.1	90 - 110	
232 Th	165	1	51.26	ppb	1.28	50	102.5	90 - 110	
238 U	165	1	51.53	ppb	0.94	50	103.1	90 - 110	
ISTD Ele	ments								
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	360685		1.10	376079	95.9	30 - 120	
45 Sc		1	1157595		0.85	1186897	97.5	30 - 120	
72 Ge		1	507944		1.20	539567	94.1	30 - 120	
115 In		1	1559749		0.93	1576174	99.0	30 - 120	
165 Ho		1	2711611		1.14	2717767	99.8	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268 CCB.D\268 CCB.D#

Date Acquired: Nov 8 2009 03:23 am

QC Summary: Operator: TEL Analytes: Pass Sample Name: CCB ISTD: Pass

Misc Info:

Vial Number: 1305

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: CCB Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	-0.008	ppb	0.00	1.00	
51 V	72	1	-0.025	ppb	19.15	1.00	
52 Cr	72	1	-0.002	ppb	789.67	1.00	
55 Mn	72	1	-0.001	ppb	1184.70	1.00	
59 Co	72	1	0.000	ppb	707.73	1.00	
60 Ni	72	1	-0.014	ppb	130.22	1.00	
63 Cu	72	1	-0.051	ppb	28.29	1.00	
66 Zn	72	1	-0.413	ppb	3.98	1.00	
75 As	72	1	0.005	ppb	390.64	1.00	
78 Se	72	1	0.068	ppb	260.94	1.00	
95 Mo	72	1	-0.051	ppb	12.59	1.00	
107 Ag	115	1	0.003	ppb	126.88	1.00	
111 Cd	115	1	0.000	ppb	7618.50	1.00	
118 Sn	115	1	0.047	ppb	150.30	1.00	
121 Sb	115	1	0.138	ppb	23.66	1.00	
137 Ba	115	1	-0.038	ppb	11.83	1.00	
205 Tl	165	1	0.021	ppb	17.52	1.00	
208 Pb	165	1	0.003	ppb	111.74	1.00	
232 Th	165	1	0.051	ppb	16.07	1.00	
238 U	165	1	0.016	ppb	14.92	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D\#

Date Acquired: Nov 8 2009 03:26 am

Operator: TEL QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 08 2009 02:28 am

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

E						
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.901 ppb	17.96	1.30	
51 V	72	1	4.935 ppb	2.34	6.50	
52 Cr	72	1	2.001 ppb	2.44	2.60	
55 Mn	72	1	1.030 ppb	4.04	1.30	
59 Co	72	1	0.990 ppb	2.41	1.30	
60 Ni	72	1	2.129 ppb	7.48	2.60	
63 Cu	72	1	1.903 ppb	4.00	2.60	
66 Zn	72	1	9.748 ppb	0.16	13.00	
75 As	72	1	4.893 ppb	4.12	6.50	
78 Se	72	1	5.130 ppb	8.01	6.50	
95 Mo	72	1	1.974 ppb	8.49	2.60	
107 Ag	115	1	5.301 ppb	1.96	6.50	
111 Cd	115	1	1.056 ppb	7.93	1.30	
118 Sn	115	1	10.460 ppb	2.46	13.00	
121 Sb	115	1	2.083 ppb	0.79	2.60	
137 Ba	115	1	1.029 ppb	5.53	1.30	
205 Tl	165	1	1.089 ppb	0.37	1.30	
208 Pb	165	1	1.075 ppb	0.39	1.30	
232 Th	165	1	2.216 ppb	0.39	2.60	
238 U	165	1	1.111 ppb	0.42	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D\#

0 :Element Failures 0 :Max. Number of Failures Allowed

0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

	Lot ID: <u>D95300353</u>	
	Client: Northgate Envir.	
	Batch(es) #: 9306276, 9306272	
Associat	red Samples: 1-2	
	I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.	
Signature/	/Date: LRD 11/10/2009	

Signature/Date: LRD

Metals Raw Data RoadMap

LotID		Metal	WorkOrder	Anal Date	e TestDesc	Batch	File Id	Instr
D9J300353	1	SE	LNLN91AC	20091109	6020TOTA	9306276	AG110909A	024
D9J300353	1	AS	LNLN91AA	20091109	6020TOTA	9306276	AG110909A	024
D9J300353	2 D	SE	LNLPF1AH	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2 S	SE	LNLPF1AG	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2 D	AS	LNLPF1AF	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2 S	AS	LNLPF1AE	20091110	6020DSVD	9306272	AG110909A	024
	2	SE	LNLPF1AC	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2						404400004	004
D9J300353	2	AS	LNLPF1AA	20091110	6020DSVD	9306272	AG110909A	024

METALS PREPARATION LOGS ICP-MS



THE LEADER IN ENVIRONMENTAL TESTING

Batch Number: 9306276

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:	
JRW	

Prep Date:

11/02/09 Snw

Lot	Work Order		Due Date:	11/11/09	Initial Weight/Volume
D9K020000 Water	LNNP6	В	Due Date: SDG:		<u>50 mL</u>
D9K020000 Water	LNNP6	С	Due Date: SDG:		<u>50 mL</u>
D9J300353 Water	LNLN9 Total		Due Date: 11/11/09 SDG:		<u>50 mL</u>
D9J300356 Water	LNLR4 Total		Due Date: 11/11/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total		Due Date: 11/12/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total	S	Due Date: 11/12/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total	D	Due Date: 11/12/09 SDG:		<u>50 mL</u>
Comments:					

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

PR/10/09

METALS PREP SHEET SOP: DEN-IP-0014



TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH#	9306276	ALLIQ	UOTTED BY:	KS
PREP DATE:	11/3/2009	DIGES	STED BY:	JRW
CONSUMABLES U	ISED			
Digestion Cups:	Manufacturer:	Environmental Expres	Lot #:	A901LS268
One or more samples	were filtered prior to a	nalysis at the instrume	nt. Yes	☐ No
If "yes", then the method	d blank and the LCS wer	e also filtered in the sam	ne manner using the sam	ne type of filter.
			Analyst(s) Initials:	
STANDARDS USE	D			
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15
REAGENTS USED	,]
Reagent	Manufacturer	Lot #	Volume Used (mL)	<u>.</u>
HNO ₃	JT Baker	H14024	3	
TEMPERATURE C	YCLES			
Thermometer ID:	4110	Block	& Cup # : 3/2	
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1400	લક	1812	96
HNO3	1830	96	1400	96
HNO3				
Samples and QC re	volumed to:	50mL	Analyst's Initials	Jum _
Samples and QC recomments:	volumed to:	50 mL	Analyst's Initials	7µm

I certify that all information above is correct and complete.

Signature: Anwih

Date: 11 3 og

1/10/04

Batch Number: 9306272

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:	
Jar	

Prep Date:

11/02/09 Snv 1/9/09 DE 1/11/09 11/11/09

Lot	Work Order		Due Date:	11/11/09	Initial Weight/Volume
D9K020000 Water	LNNPL	В	Due Date: SDG:		<u>50 mL</u>
D9K020000 Water	LNNPL	С	Due Date: SDG:		<u>50 mL</u>
D9J300353 Water	LNLPF Dissolved		Due Date: 11/11/09 SDG:		<u>50 mL</u>
D9J300353 Water	LNLPF Dissolved	S	Due Date: 11/11/09 SDG:		<u>50 mL</u>
D9J300353 Water	LNLPF Dissolved	D	Due Date: 11/11/09 SDG:		<u>50 mL</u>

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE Wtchecked

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

METALS PREP SHEET SOP: DEN-IP-0014



DISSOLVED WATER DIGESTION FOR ICPMS (Prep code MD)

BATCH #	9306272	ALLIQ	UOTTED BY:	KS
PREP DATE:	11/9/2009	DIGES	STED BY:	JRW
CONSUMABLES	USED			
Digestion Cups:	Manufacturer:	Environmental Expres	A901LS268	
Were samples filtere	d in the lab? od blank and the LCS we	re filtered prior to digesti	Yes	☑ No
n yes, then the meth	od blank and the Loo we	To microa prior to digoco.	Analyst(s) Initials:	
STANDARDS US	ED			
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6473-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15
			E. The second second	
REAGENTS USE	D	·		
Reagent	Manufacturer	Lot #	Volume Used (mL)	
HNO ₃	JT Baker	H14024	2	
TEMPERATURE	CYCLES			
Thermometer ID): 3718	Block a	& Cup # : () (o	
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3/HCI	1400	96	1400	96
Samples and QC r	evolumed to:	50mL	Analyst's Initials	74r
COMMENTS:				

I certify that all information above is correct and complete.

Signature:

1 m with

Date: \\ a pq

P/1/20

METALS SAMPLE DATA ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

G:\Metals\Hidden\Forms\MassSpec\ICP-MS Std and Spike True Values.doc

ICP-MS Standard and Spike True Values

Post	Digestion	Spike	200	200	200	200	200	200	200	200	200	200	200	200	200	200	20	200	200	200	200	200			
Matrix Spike	Sample and	Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	5	ry for the	ICSAB.
Laboratory	Control Sample	and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	•	tion, the % recove	he ICSA from the
Interference	Check	Sample AB	;	100	100	100	100	100	100	100	100	100	· · · · · · · · · · · · · · · · · · ·	100	100	100	100	100	100	100	100	100	()	in the ICSA solut	ing the levels in th
Interference Check	Sample A		100,000 Aluminum	100,000 Calcium	100,000 Iron	100,000 Magnesium	100,000 Sodium	100,000 Phosphorus	100,000 Potassium	100,000 Sulfur	200,000 Carbon	1,000,000 Chloride	2000 Molybdenum	2000 Titanium									•	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
Continuing	Calibration	Standard	20	50	20	50	50	50	20	50	20	20	50	50	50	50	50	20	20	50	20	50	•	to the presence	SAB solution is
Initial	Calibration	Standard	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
Cal.	Std.	100 ppb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		All units are	I/gu
Element			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc			

Quality Control Standards

CCB = Continuing Calibration Blank ICB = Initial Calibration Blank ICV = Initial Calibration Verification (Second Source) CCV = Continuing Calibration Verification

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

IC): AG1109	09A				Analy	st: LRD	
ŧ	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	
3	Cal Blank				1.0	11/09/09 20:32		
	100 ppb	-			1.0	11/09/09 20:35		
,	ICV				1.0	11/09/09 20:37		
3	RLIV				1.0	11/09/09 20:40		
,	ICB				1.0	11/09/09 20:43		
3	RL STD				1.0	11/09/09 20:46		
)	AFCEE RL				1.0	11/09/09 20:48		
)	ALTSe				1.0	11/09/09 20:51		
l	ICSA				1.0	11/09/09 20:54		
2	ICSAB				1.0	11/09/09 20:57		
3	RINSE				1.0	11/09/09 20:59		
Į	LR1				1.0	11/09/09 21:02		
5	RINSE				1.0	11/09/09 21:05		
3	ccv				1.0	11/09/09 21:08		
7	ССВ				1.0	11/09/09 21:10		
3	RLCV				1.0	11/09/09 21:13		
•	LNNP6B	D9K020000	9306276	мѕ	1.0	11/09/09 21:16		
)	LNNP6C	D9K020000	9306276	MS	1.0	11/09/09 21:19		
1	LNLN9 2X	D9J300353-1	9306276	MS	2.0	11/09/09 21:21		
2	LNLR4 2X	D9J300356-1	9306276	MS	2.0	11/09/09 21:24		
- 3	LNME4	D9J310138-1	9306276	MS	1.0	11/09/09 21:27		
4	LNME4P5	D9J310138	9306276	1	5.0	11/09/09 21:30		
5	LNME4Z	D9J310138-1	9306276		1.0	11/09/09 21:32		
3	LNME4S	D9J310138-1	9306276	мѕ	1.0	11/09/09 21:35		
7	LNME4D	D9J310138-1	9306276	мѕ	1.0	11/09/09 21:38		
3	CCV				1.0	11/09/09 21:41		
9	CCB				1.0	11/09/09 21:43		
0	RLCV				1.0	11/09/09 21:50		
1	LM900B	D9J260000	9299244	мѕ	1.0	11/09/09 21:52		
2	LM900C	D9J260000	9299244	MS	1.0	11/09/09 21:55		
3	LM900L	D9J260000	9299244	MS		11/09/09 21:58		
4	LM9J9	D9J240206-1	9299244	MS	1.0	11/09/09 22:01		
	LM9KA 2X	D9J240206-2	9299244	MS	2.0	11/09/09 22:03		
	LM9KC 2X	D9J240206-3	9209244	MS	2.0	T1/09/09 22:08	- DUV	
7	LM9KD	D9J240206-4	9299244	MS	1.0	11/09/09 22:09	120	
	LM9KE 2X	D9J240206-5	9299244	мз	2.0	11/09/09 22:12	11100	
	LM9KF 2X	D9J240206-6	9299244	мэ	2.0	11/09/09-22:14		
0	LM9KG	D9J240206-7	9299244	MS	1.0	11/09/09 22:17		
1	CCV		1	+	1.0	11/09/09 22:20		
2	CCB				1.0	11/09/09 22:23		
3	RLCV			+	1.0			
4	LM9KH	D9J240206-8	9299244	MS	1.0			
5	LM9KJ	D9J240206-9	9299244	MS	1.0			
6	LM9KK	D9J240206-10	9299244	MS	1.0	11/09/09 22:34		
7	LM9KL	D9J240206-11	9299244	MS	1.0	11/09/09 22:37		

1.0 11/09/09 22:39

MS

9299244

D9J240206-13

48 LM9KP

Denver

RUN SUMMARY

Reported: 11/10/09 12:39:51 ICPMS_024 (024) Method: 6020 (ICP/MS)

File I	D: AG110	909A				Anal	vst: LRD	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	LM9KPP5	D9J240206	9299244	T	5.0	11/09/09 22:42		
50	LM9KPZ	D9J240206-13	9299244		1.0	11/09/09 22:45		
51	LM9KPS	D9J240206-13	9299244	MS	1.0	11/09/09 22:48		
52	LM9KPD	D9J240206-13	9299244	MS	1.0	11/09/09 22:50		
53	CCV				1.0	11/09/09 22:53		
54	ССВ			1 1	1.0	11/09/09 22:56		
55	RLCV			1	1.0	11/09/09 22:59		
56	LM9KA	D9J240206-2	9299244	мѕ	1.0	11/09/09 23:01		
57	LM9KC	D9J240206-3	9299244	MS	1.0	11/09/09 23:04		
58	LM9KE	D9J240206-5	9299244	MS	1.0	11/09/09 23:07		
59	LM9KF	D9J240206-6	9299244	мѕ	1.0	11/09/09 23:10		
60	CCV				1.0	11/09/09 23:12		
61	ССВ			1	1.0	11/09/09 23:15		
62	RLCV				1.0	11/09/09 23:18		
64	Cal Blank			† †	1.0	11/09/09 23:23		
65	100 ppb				1.0	11/09/09 23:26		
66	CCV			1 1	1.0	11/09/09 23:29		
67	ССВ			+	1.0	11/09/09 23:32		$\neg \neg$
68	RLCV			1	1.0	11/09/09 23:34		
69	ICSA				1.0	11/09/09 23:37		
70	ICSAB			+	1.0	11/09/09 23:40		
71	WASH				1.0	11/09/09 23:43		
72	CCV			1	1.0	11/09/09 23:45		
73	ССВ			1	1.0	11/09/09 23:48		
74	RLCV				1.0	11/09/09 23:51		□□
75	LN04NB	D9K060000	9310238	04	1.0	11/09/09 23:54		
76	LN04NC	D9K060000	9310238	04	1.0	11/09/09 23:57		
77	LNEA7	D9J280172-1	9310238	04	1.0	11/10/09 00:00		
78	LNEA7P5	D9J280172	9310238		5.0	11/10/09 00:02		
79	LNEA7Z	D9J280172-1	9310238	1	1.0	11/10/09 00:05		
80	LNEA7S	D9J280172-1	9310238	04	1.0	11/10/09 00:08		
81	LNEA7D	D9J280172-1	9310238	04	1.0	11/10/09 00:11		
82	LNECN	D9J280172-2	9310238	04	1.0	11/10/09 00:13		
83	CCV			+ +	1.0	11/10/09 00:16		
84	ССВ			1	1.0	11/10/09 00:20	-	
85	RLCV				1.0	11/10/09 00:22		
86	LNECV	D9J280172-3	9310238	04	1.0	11/10/09 00:25		
87	LNECX	D9J280172-4	9310238	04	1.0	11/10/09 00:28		
88	LNEC0	D9J280172-5	9310238	04	1.0	11/10/09 00:31		
89	LNEC1	D9J280172-6	9310238	04	1.0	11/10/09 00:34		
90	LNEC3	D9J280172-7	9310238	04	1.0	11/10/09 00:36		
91	LNEC5	D9J280172-8	9310238	04	1.0	11/10/09 00:39		
92	CCV			\top	1.0	11/10/09 00:42		
93	ССВ				1.0	11/10/09 00:45		
94	RLCV				1.0	11/10/09 00:48		
95	LNKFHB	D9J300000	9303368	04	1.0	11/10/09 00:51		

RUN SUMMARY Denver

ICPMS_024 (024) Reported: 11/10/09 12:39:51 Method: 6020 (ICP/MS)

File II	D: AG1109	909A				Analyst:	LRD	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	
96	LNKFHC	D9J300000	9303368	04	1.0	11/10/09 00:53		
97	LNC5C	D9J270250-1	9303368	04	1.0	11/10/09 00:56		
98	LNC5E	D9J270250-2	9303368	04	1.0	11/10/09 00:59		
		50.1000000		0.4	4.0	44/40/00 04:00		

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
96	LNKFHC	D9J300000	9303368	04	1.0	11/10/09 00:53		
97	LNC5C	D9J270250-1	9303368	04	1.0	11/10/09 00:56	N	
98	LNC5E	D9J270250-2	9303368	04	1.0	11/10/09 00:59		
99	LNC5F	D9J270250-3	9303368	04	1.0	11/10/09 01:02		
100	LNEHJ	D9J280192-1	9303368	04	1.0	11/10/09 01:05		
101	LNEHJP5	D9J280192	9303368		5.0	11/10/09 01:07		
102	LNEHJZ	D9J280192-1	9303368		1.0	11/10/09 01:10		$\neg \Box$
103	LNEHJS	D9J280192-1	9303368	04	1.0	11/10/09 01:13		
104	CCV				1.0	11/10/09 01:16		
105	ССВ				1.0	11/10/09 01:18		
106	RLCV				1.0	11/10/09 01:21		
107	LNEHJD	D9J280192-1	9303368	04	1.0	11/10/09 01:24		
108	LNGXD 5X	D9J290182-1	9303368	04	5.0	11/10/09 01:27		
109	LNGXG 5X	D9J290182-2	9303368	04	5.0	11/10/09 01:29		
110	LNG17	D9J290192-1	9303368	04	1.0	11/10/09 01:32		
111	LNG2D	D9J290192-2	9303368	04	1.0	11/10/09 01:35		
112	LNH27 2X	D9J290314-1	9303308	04	2.0	11/10/09 01:38	-DNU Lalac	
113	LNH29 2X	D9J290314-2	9303368	04	2.0	11/10/09 01:40	- LED 11/10/09	
114	LNH3A	D9J290314-3	9303368	04	1.0	11/10/09 01:43		
115	CCV				1.0	11/10/09 01:46		
116	ССВ				1.0	11/10/09 01:49		
117	RLCV				1.0	11/10/09 01:52		
118	RINSE				1.0	11/10/09 01:54		0
119	RINSE				1.0	11/10/09 01:57		
121	Cal Blank				1.0	11/10/09 02:03		
122	100 ppb				1.0	11/10/09 02:05		
123	CCV				1.0	11/10/09 02:08		
124	ССВ				1.0	11/10/09 02:11		_ ㅁ
125	RLCV				1.0	11/10/09 02:14		
126	LNNPLBF	D9K020000	9306272	MD	1.0	11/10/09 02:16		
127	LNNPLCF	D9K020000	9306272	MD	1.0	11/10/09 02:19		
128	LNLPFF	D9J300353-2	9306272	MD	1.0	11/10/09 02:22		
129	LNLPFP5F	D9J300353	9306272	ļ	5.0	11/10/09 02:25		
130	LNLPFZF	D9J300353-2	9306272		1.0			ᆜᄆ
131	LNLPFSF	D9J300353-2	9306272	MD	1.0	11/10/09 02:30		ᆜᄆ
132	LNLPFDF	D9J300353-2	9306272	MD	1.0	11/10/09 02:33		_ □
133	CCV				1.0			
134	CCB				1.0	11/10/09 02:38		
135	RLCV			-	1.0	11/10/09 02:41		
136		D9K020000	9306285	MD	1.0	11/10/09 02:44		_ _
137	LNNQ5CF	D9K020000	9306285	MD	1.0			_ _
138		D9J300326-1	9306285	MD	2.0	11/10/09 02:50		
139	LNLG3F	D9J300326-2	9306285	MD	1.0	11/10/09 02:52		
140	LNLG4F	D9J300326-3	9306285	MD	1.0	11/10/09 02:55		
141	LNLHHF	D9J300329-1	9306285	MD	1.0	11/10/09 02:58		
142	LNLHMF	D9J300329-2	9306285	MD	1.0	11/10/09 03:01		

Denver RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

File ID:	AG110909A	Analyst: LRD

	J. AG110							
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	C
143	CCV				1.0	11/10/09 03:03		
144	ССВ				1.0	11/10/09 03:06		
145	RLCV				1.0	11/10/09 03:09		
146	LNLHPF	D9J300329-3	9306285	MD	1.0	11/10/09 03:12		
147	LNLJJF	D9J300340-1	9306285	MD	1.0	11/10/09 03:15		
148	LNLJJP5F	D9J300340	9306285		5.0	11/10/09 03:17		
149	LNLJJZF	D9J300340-1	9306285		1.0	11/10/09 03:20		
150	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/10/09 03:23		
151	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/10/09 03:25		
152	LNLJMF	D9J300340-2	9306285	MD	1.0	11/10/09 03:28		
153	CCV				1.0	11/10/09 03:31		
154	ССВ				1.0	11/10/09 03:34		
155	RLCV				1.0	11/10/09 03:37		
156	LN0Q4BF	D9K060000	9310095	MD	1.0	11/10/09 03:39		
157	LN0Q4CF	D9K060000	9310095	MD	1.0	11/10/09 03:42		
158	LN0Q4LF	D9K060000	9310095	MD	1.0	11/10/09 03:45		
159	LNR5CF	D9K040450-3	9310095	MD	1.0	11/10/09 03:48		
160	LNR5CP5F	D9K040450	9310095		5.0	11/10/09 03:50	,	
161	LNR5CZF	D9K040450-3	9310095		1.0	11/10/09 03:53		
162	CCV			1	1.0	11/10/09 03:56		
163	CCB				1.0	11/10/09 03:59		
164	RLCV				1.0	11/10/09 04:01		
165	RINSE			1	1.0	11/10/09 04:04		
166	RINSE				1.0	11/10/09 04:07		
168	Cal Blank				1.0	11/10/09 04:12		
169	100 ppb				1.0	11/10/09 04:15		
170	CCV				1.0	11/10/09 04:18		
171	ССВ				1.0	11/10/09 04:21		
172	RLCV			\dagger	1.0	11/10/09 04:23		
173	LN16EB	D9K060000	9310417	04	2.5	11/10/09 04:26		
174	LN16EC	D9K060000	9310417	04	2.5	11/10/09 04:29		
175	LN1FW	D9K060478-7	9310417	04	2.5	11/10/09 04:32		
176	LN1LX	D9K060478-17		04	2.5	11/10/09 04:35		
177	LN1MD	D9K060478-19	9310417	04	2.5	11/10/09 04:37		
178	LN1MH	D9K060478-21	9310417	04	2.5	11/10/09 04:40		
179	LN1MHS	D9K060478-21	9310417	04	2.5	11/10/09 04:43		
180	LN1MHD	D9K060478-21	9310417	04	2.5	11/10/09 04:46		
181	CCV				1.0	11/10/09 04:48		
182	ССВ				1.0	11/10/09 04:51		
183	RLCV				1.0	11/10/09 04:54		
184	LN1T6BF	D9K060000	9310368	87	2.5	11/10/09 04:57		ם [
185	LN1T6CF	D9K060000	9310368	87	2.5	11/10/09 05:00		
186	LNVQWF	D9K040610-1	9310368	87	2.5	11/10/09 05:02]
187	LNVRHF	D9K040610-3	9310368	87	2.5	11/10/09 05:05		
188	LNVRLF	D9K040610-5	9310368	87	2.5	11/10/09 05:08		
189	LNVRLSF	D9K040610-5	9310368	87	2.5	11/10/09 05:11		

Denver RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

File II	le ID: AG110909A Analyst: LRD							
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
190	LNVRLDF	D9K040610-5	9310368	87	2.5	11/10/09 05:14		
191	LNX48F	D9K050627-2	9310368	87	2.5	11/10/09 05:16		
192	LNX5JF	D9K050627-6	9310368	87	2.5	11/10/09 05:19		
193	CCV			 	1.0	11/10/09 05:22		
194	ССВ		-		1.0	11/10/09 05:25		
195	RLCV	-		1	1.0	11/10/09 05:27		
196	LN4QNB	D9K090000	9313106	04	2.5	11/10/09 05:30		
197	LN4QNC	D9K090000	9313106	04	2.5	11/10/09 05:33		
198	LN314	D9K070460-2	9313106	04	2.5	11/10/09 05:36		
199	LN3L7 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:39		
200	LN3L7S 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:41		
201	LN3L7D 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:44		
202	CCV				1.0	11/10/09 05:47		$\neg \Box$
203	ССВ				1.0	11/10/09 05:50		
204	RLCV			1	1.0	11/10/09 05:52		
205~		D9K060000	9310068-	PD	2.5	11/10/09 05:55		
206	LNOPDCF	D9K060000	9310068	PD	2.5	11/10/09 05:58		
207	LNT1RF	D9K040539-2	9310068	PD	2.5	11/40/09 06:01		
208	LNT15F	D9K040539-3	9310068	PD	2.5	11/10/09 06:04	DKII)	$\neg \Box$
209	LNT15SF	D9K040539-3	9310068	PD	2.5	11/10/09 06:06	2100	
210	LNT15DF	D9K040539-3	9310068	PD	2.5	11/10/09 06:09	100	$\exists \Box$
211	LNT2CF	D9K040539-4	9310068	PD	2.5	11/10/09 06:12	11102009	$\exists \overline{\Box}$
212	LNPC2F	D9K020476-1	9310068	PD	2.5	11/10/09 06:12	11-10-000	
213	LNPC4F	D9K020476-2	9310068	PD	2.5	11/10/09 06:18		$\exists \Box$
214	CCV	D91102047092	3010000	1.0	1.0	11/10/09 06:20		$\neg \Box$
215	CCB	 	1		1.0	11/10/09 06:23		$\neg \overline{\Box}$
216	RLCV		-		1.0	11/10/09 06:26		$\neg \Box$
217	RIN8É			-	1.0	11/10/09 06:29		
	RINSE				1.0	11/10/09 06:31		
220	Cal Blank				1.0	11/10/09 06:37		
221	100 ppb				1.0	11/10/09 06:40		$\exists \overline{\Box}$
222	CCV				1.0	11/10/09 06:42		$\exists \bar{a}$
223	CCB				1.0	11/10/09 06:45		$\neg \Box$
224	RLCV				1.0	11/10/09 06:48		
225	LNW1QB	D9K050000	9309222	MS		11/10/09 06:51		
226	LNW1QC	D9K050000	9309222	MS		11/10/09 06:53		
227	LNR42	D9K040449-1	9309222	MS		11/10/09 06:56		
228	LNR42P5	D9K040449	9309222	+	5.0	11/10/09 06:59		
229	LNR42Z	D9K040449-1	9309222		1.0	11/10/09 07:02		
230	LNR42S	D9K040449-1	9309222	MS		11/10/09 07:04		$\exists \overline{\Box}$
231	LNR42D	D9K040449-1	9309222	MS		11/10/09 07:07		
232	CCV			+	1.0	11/10/09 07:10		$\exists \Box$
233	CCB			1	1.0	11/10/09 07:13		
234	RLCV				1.0	11/10/09 07:16		
235	LNR48	D9K040449-2	9309222	MS		11/10/09 07:18		
236	LNR5E	D9K040449-3	9309222	MS		11/10/09 07:21		╗

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

File II	D: AG1109	909A				Anal	lyst: LRD	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
237	LNR5G	D9K040449-4	9309222	MS	1.0	11/10/09 07:24		
238	LNP8M	D9K030460-1	9309222	MS	1.0	11/10/09 07:27		
239	LNP8X	D9K030460-2	9309222	MS	1.0	11/10/09 07:30		
240	LNP81	D9K030460-3	9309222	MS	1.0	11/10/09 07:32		
241	CCV	20110001000	0000222	+	1.0	11/10/09 07:35		
242	ССВ				1.0	11/10/09 07:38		
243	RLCV			+	1.0	11/10/09 07:41		
244	LNN6NB	D9K020000	9306426	MS	1.0	11/10/09 07:44		
245	LNN6NC	D9K020000	9306426	MS	1.0	11/10/09 07:46		
246	LNN6NL	D9K020000	9306426	мѕ	1.0	11/10/09 07:49		
247	LNM4D	D9J310189-1	9306426	мѕ	1.0	11/10/09 07:52		
248	LNM4DP5	D9J310189	9306426		5.0	11/10/09 07:55		
249	LNM4DZ	D9J310189-1	9306426	1	1.0	11/10/09 07:58		
250	LNM4E	D9J310189-2	9306426	MS	1.0	11/10/09 08:00		
251	LNM5E	D9J310191-14	9306426	MS	1.0	11/10/09 08:03	<u> </u>	
252	CCV				1.0	11/10/09 08:06		
253	ССВ			1	1.0	11/10/09 08:09		
254	RLCV			+	1.0	11/10/09 08:11		
255	LNRQVB	D9K040000	9308149	MS	1.0	11/10/09 08:14		
256	LNRQVC	D9K040000	9308149	MS	1.0	11/10/09 08:17		
257	LNQ0L	D9K030552-1	9308149	MS	1.0	11/10/09 08:20		
258	LNQ0LP5	D9K030552	9308149	+	5.0	11/10/09 08:22		
259	LNQ0LZ	D9K030552-1	9308149		1.0	11/10/09 08:25		
260	LNQ0LS	D9K030552-1	9308149	MS	1.0	11/10/09 08:28		
261	LNQ0LD	D9K030552-1	9308149	MS	1.0	11/10/09 08:30		
262	LNQ0R	D9K030554-1	9308149	MS	1.0	11/10/09 08:33		$\neg \neg$
263	LNQ0T	D9K030554-2	9308149	MS	1.0	11/10/09 08:36		
264	CCV		0000110	+	1.0	11/10/09 08:39		
265	ССВ			+	1.0	11/10/09 08:41		
266	RLCV			++	1.0	11/10/09 08:44		
267	LNWG5BF	D9K050000	9309184	87	2.5	11/10/09 08:47		
268	LNWG5CF	D9K050000	9309184	87	2.5	11/10/09 08:50		
269	LNT4AF	D9K040553-1	9309184	87	2.5	11/10/09 08:52		
270	LNT42F	D9K040553-2	9309184	87	2.5	11/10/09 08:55		
271	LNT42SF	D9K040553-2	9309184	87	2.5	11/10/09 08:58		
272	LNT42DF	D9K040553-2	9309184	87	2.5	11/10/09 09:01		
273	LNT5HF	D9K040553-3	9309184	87	2.5	11/10/09 09:03		
274	CCV			+	1.0	11/10/09 09:06		
275	ССВ				1.0	11/10/09 09:09		
276	RLCV				1.0	11/10/09 09:12		
277	LNT5LF	D9K040553-4	9309184	87	2.5	11/10/09 09:14		
278	LNT5VF	D9K040553-5	9309184	87	2.5	11/10/09 09:17		
279	LNT51F	D9K040553-6	9309184	87	2.5	11/10/09 09:20		
280	LNT55F	D9K040553-7	9309184	87	2.5	11/10/09 09:23		
281	LNT57F	D9K040553-8	9309184	87	2.5	11/10/09 09:26		
282	LNT58F	D9K040553-9	9309184	87	2.5	11/10/09 09:28		

Denver

RUN SUMMARY

Analyst: LRD

Deliver	113113311111111111111111111111111111111
Method: 6020 (ICP/MS)	ICPMS_024 (024) Reported: 11/10/09 12:39:51

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
283	LNT59F	D9K040553-10	9309184	87	2.5	11/10/09 09:31		
284	CCV				1.0	11/10/09 09:34		
285	ССВ				1.0	11/10/09 09:37		
286	RLCV				1.0	11/10/09 09:39		
287	D9J270274-0	1.0			1.0	11/10/09 09:42		
288	CCV				1.0	11/10/09 09:45		
289	ССВ				1.0	11/10/09 09:48		
290	RLCV				1.0	11/10/09 09:50		

TestAmerica Denver

Standards Preparation Logbook Record

Nov-10-2009

Analyst: trudelll

Logbook: \Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Lot No.: B2-SE02003

Vendor's Expiration Date: 12-01-2009

Solvent: 2% HNO3

Date Prep./Opened: 11-25-2008

Vendor: Inorganic Ventures

Date Received: 11-25-2008

Date Expires(1): 12-01-2009 (None) Date Expires(2): 12-01-2009 (None)

(METALS)-Inventory ID: 803

Component

Se

Initial Conc (mg/L)

Final Conc (mg/L)

Analyst: trudelll

1,000.0

1,000.0

STD1198-09, 1000 mg/L Sn

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

Solvent: 5% HN03

Lot No.: H02026

Analyst: DIAZL 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

Final Conc (mg/L)

Component Se

Initial Conc (mg/L) 1,000.0

1.0000

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STD2483-09, 1000 Zn (Inorganic Ventures)

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 1000 Zn

Initial Conc (mg/L)

Final Conc (mg/L)

Analyst: trudelll

1.000.0

1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Solvent: 5% HNO3

Lot No.: H14024

Analyst: DIAZL 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

Final Conc (ug/L)

Component

Initial Conc (mg/L) 1,000.0

3,000.0

Ge

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

Component

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Initial Conc (mg/L)

Final Conc (ug/L)

In

1.000.0

Parent Std No.: STD6531-09, Scandium stock

1.000.0

Aliquot Amount (ml): 0.5000

1,000.0

Component

Parent Date Expires(1): 10-26-2010

Parent Date Expires(2): 11-01-2010

Final Conc (ug/L)

Initial Conc (mg/L)

2,000.0

Sc

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

Final Conc (ug/L)

Но

Component

Initial Conc (mg/L) 1,000.0

1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Volume (ml): 50.000 Lot No.: H14024 Solvent: 5% HNO3

Date Prep./Opened: 10-31-2009 Date Expires(1): 03-01-2010 (1 Year) Date Expires(2): 03-01-2010 (None)

Aliquot Amount (ml): 0.0500 Parent Std No.: STD1198-09, 1000 mg/L Sn

Analyst: DIAZL

Analyst: DIAZL

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Initial Conc (mg/L) Final Conc (mg/L) Component 1,000.0 1.0000 Sn

Aliquot Amount (ml): 0.0500 Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures)

Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Final Conc (mg/L) Initial Conc (mg/L) Component 1,000.0 1.0000 1000 Zn

STD6795-09, ICP-MS ICSA

Analyst: DIAZL Volume (ml): 50.000 Solvent: 5% HNO3 Lot No.: H14024

Date Prep./Opened: 11-05-2009

Date Expires(1): 12-05-2009 (1 Month) Date Expires(2): 11-01-2010 (None)

pipettes: Met 8

Aliquot Amount (ml): 5.0000 Parent Std No.: STD6475-09, ICPMS Interferent Check Standard

Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD6858-09, ICP-MS BLANK

Volume (ml): 1,000.0 Solvent: Water

Date Prep./Opened: 11-09-2009

Date Expires(1): 05-09-2010 (6 Months) Date Expires(2): 05-09-2010 (6 Months)

Date Verified: 12-31--4714 by - (Verification ID: 0)

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Parent Std No.: STD6857-09, NITRIC ACID Aliquot Amount (ml): 50.000

Component	Initial Conc (%)	Final Conc (%)
HNO3	100.00	5.0000

STD6859-09, ICP-MS CAL STD

Solvent: 5% HNO3

Lot No.: H14024 Volume (ml): 100.00

Analyst: DIAZL

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.5000

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

STD6860-09, ICP-MS CCV STD Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

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

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Ва	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	Aliquo	ot Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500
STD6861-09, ICP-MS RL STD		Analyst: DIAZL
		•
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-09-2009		
Date Expires(1): 11-10-2009 (1 Day)		
Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn	Aliquo	ot Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2):	03-01-2010	
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090
Parent Std No.: STD6859-09, ICP-MS CAL STD		ot Amount (ml): 0.1000
Fatelit Std No.: STD0039-09, ICF-WS CALSTD	Anque	Amount (iii). 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

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Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010

STD6862-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD6861-09, ICP-MS RL STD

Aliquot Amount (ml): 2.0000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002

STD6863-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.0500

 $\begin{tabular}{ll} \hline Component & \underline{Initial\ Conc\ (mg/L)} \\ Ag & 20.000 & \hline \\ \hline \hline \hline \hline & 0.1000 \\ \hline \end{tabular}$

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As Ba Be Cd Co Cr Cu Mn Ni Pb Se Th Tl	20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	0.1000 0.1000 0.1000 0.1000 0.1000 0.1000 0.1000 0.1000
Be Cd Co Cr Cu Mn Ni Pb Se Th Tl	20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	0.1000 0.1000 0.1000 0.1000 0.1000 0.1000 0.1000
Cd Co Cr Cu Mn Ni Pb Se Th Tl	20.000 20.000 20.000 20.000 20.000 20.000 20.000 20.000	0.1000 0.1000 0.1000 0.1000 0.1000 0.1000
Co Cr Cu Mn Ni Pb Se Th Tl	20.000 20.000 20.000 20.000 20.000 20.000 20.000	0.1000 0.1000 0.1000 0.1000 0.1000 0.1000
Cr Cu Mn Ni Pb Se Th Tl	20.000 20.000 20.000 20.000 20.000 20.000	0.1000 0.1000 0.1000 0.1000 0.1000
Cu Mn Ni Pb Se Th Tl	20.000 20.000 20.000 20.000 20.000	0.1000 0.1000 0.1000 0.1000
Mn Ni Pb Se Th Tl	20.000 20.000 20.000 20.000	0.1000 0.1000 0.1000
Ni Pb Se Th Tl U	20.000 20.000 20.000	0.1000 0.1000
Pb Se Th Tl	20.000 20.000	0.1000
Se Th Tl U	20.000	
Th Tl U		0.1000
TI U	20.000	0.1000
U		0.1000
U	20.000	0.1000
	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000
		Amount (ml): 0.0500
Parent Std No.: STD3110-09, ICP-MS CALSTD 2	Anquot	Amount (iii). 0.0300
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD4542-09, ICPMS Interferent Check Standard	•	Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010 Parent Date Expires(2): 08		
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
	20.000	2,0000
TD6864-09, ICP-MS LR STD		Analyst: DIAZL
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)		
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Aliquot	Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
	20.000	1.0000
Ag	20.000	1.0000

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Parant Std No + STD2110 00 JCD MS CALSTD 2	Aliquot Amou	nt (ml): 0.5000
Zn	20.000	1.0000
V	20.000	1.0000
U	20.000	1.0000
Tl	20.000	1.0000
Th	20.000	1.0000
Se	20.000	1.0000
Pb	20.000	1.0000
Ni	20.000	1.0000
Mn	20.000	1.0000
Cu	20.000	1.0000
Cr	20.000	1.0000
Co	20.000	1.0000
Cd	20.000	1.0000
Be	20.000	1.0000
Ba	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

STD6865-09, ICP-MS ICV STD

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000

Analyst: DIAZL

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

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

Page 8 of 10

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

STD6866-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

STD6867-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 20

Parent Std No.: STD6469-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000

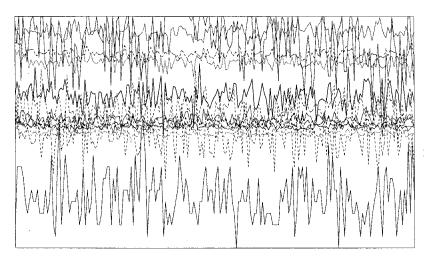
Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000
Parent Std No.: STD6470-09, ICP-MS LLCCV 2	Aliquot	Amount (ml): 1.0000
Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010	
Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

File A6110909A

Reviewed By:	LRD 1	1	110	12009

Page 10 of 10

Tune File : NORM.U Comment : AG110909

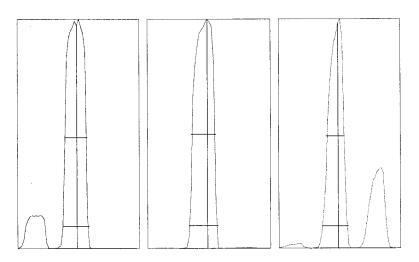


Integration Time: 0.1000 sec Sampling Period: 1.5300 sec

n: 200

Oxide: 156/140 1.475% Doubly Charged: 70/140 1.275%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2614.0	2789.3	3.67	0.80
7	20,000	18632.0	18633.8	3.00	0.50
59	20,000	15677.0	16033.1	2.87	1.00
63	50	35.0	45.6	15.88	0.70
70	500	313.0	327.1	7.08	0.40
75	20	4.0	4.4	46.88	0.60
. 78	200	109.0	120.3	9.42	0.60
89	50,000	26589.0	26185.6	2.22	1.00
115	50,000	24518.0	24639.8	1.99	1.10
118	100	33.0	48.4	15.31	0.80
137	5,000	2637.0	2712.3	2.91	1.20
205	20,000	16431.0	16723.1	2.17	1.70
238	50,000	25920.0	26106.3	1.87	2.50
156/140	2	1.499%	1.485%	7.38	
70/140	2	1.311%	1.332%	7.11	



m/z: 205 18,699 26,853 Height: 17,221 7.00 89.00 205.00 Axis: ₩-50%: 0.55 0.60 0.45 0.6500 W-10%: 0.6500 0.700

Integration Time: 0.1000 sec Acquisition Time: 22.7600 sec

Y axis : Linear

Page: 1

Generated : Nov 09, 2009 18:55:12 Printed : Nov 09, 2009 18:55:15

Tune Report

Tune File : NORM.U Comment : AG110909

===Plasma Condi	tion	_===		===Ion Lenses==	=		===Q-Pole Pa	ramet	ers===	
RF Power	:	1600	W	Extract 1	:	0 V	Z AMU Ga	in∙ :	134	
RF Matching	:	1.7	V	Extract 2	:	-170 V	AMU Offs	et :	125	
Smpl Depth	:	8 r	mm	Omega Bias-ce	:	-30 V	Axis Ga	in :	1.0007	
Torch-H	:	-0.8 r	mm	Omega Lens-ce	:	1.4 V	Axis Offs	et :	-0.03	
Torch-V	:	-0.3 r	mm	Cell Entrance	:	-30 V	QP Bi	as :	-3	V
Carrier Gas	:	0.81	L/min	QP Focus	:	7 V	7			
Makeup Gas	:	0.23	L/min	Cell Exit	:	-30 V	===Detector	Param	eters==	=
Optional Gas	:	:	용				Discriminat	or :	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Par	ame	ters===	Analog	HV:	1770	V
Sample Pump	:	:	rps	OctP RF	:	180 V	Pulse	HV :	1480	V
S/C Temp	:	2 (degC	OctP Bias	:	-18 V	7			

Reaction Mode : OFF

H2 Gas : 0 mL/min He Gas : 0 mL/min Optional Gas : --- %

Page: 2

Generated : Nov 09, 2009 18:55:12 Printed : Nov 09, 2009 18:55:18

P/A Factor Tuning Report

Acquired:Nov 9 2009 08:15 pm

Mass[amu]	Element	P/A Factor		
6	Li	Sensitivity	too	high
7	(Li)	0.055201		
9	Ве	0.058738		
23	Na	0.063579		
24	Mg Al	0.064637		
27 39	K K	0.065724		
43	Ca	0.065936 Sensitivity	too	low
45	Sc	0.065581	100	TOM
51	V	0.066938		
52	Cr	0.068029		
53	(Cr)	Sensitivity	too	low
55	Mn	0.069052	coo	1011
57	Fe	Sensitivity	too	low
5 <i>7</i>	Co	0.070056	COO	10W
60	Ni	Sensitivity	too	low
63	Cu	Sensitivity		
66	Zn	Sensitivity	too	low
72	Ge	0.069902		
75	As	Sensitivity	too	low
77	(Se)	Sensitivity		
78	Se	Sensitivity		
82	(Se)	Sensitivity	too	
83	(Se)	Sensitivity	too	
93	Nb	Sensitivity	too	low
95	Mo	Sensitivity	too	low
98	(Mo)	0.071630		
99	(Mo)	Sensitivity	too	low
105	Pd	Sensitivity	too	low
106	(Cd)	0.071534		
107	Ag	Sensitivity	too	low
108	(Cd)	0.071984		
111	Cd	Sensitivity	too	low
115	In	0.068812		
118	Sn	0.070115		
121	Sb	0.070721		_
137	Ba	Sensitivity	too	low
165	Но	0.069269		-
182	W	Sensitivity	too	
195	Pt	Sensitivity	too	low
205	Tl	0.071349		
206	(Pb)	0.070737		
207	(Pb)	0.071002		
208	Pb	0.070189		
232	Th	0.070155		
238	U	0.070301		

---Detector Parameters--Discriminator: 8.0 mV
Analog HV: 1770 V
Pulse HV: 1480 V

- 1 -

P/A Factor Tuning Report

Acquired:Nov 9 2009 08:21 pm

Mass[amu]	Element	P/A Factor		
6	Li	Sensitivity	too	high
7	(Li)	0.055259		
9	Be	0.058421		
23	Na	0.062917		
24	Mg	0.063700		
27	Al	0.064930		
39	K	0.065662		
43	Ca	Sensitivity	too	low
45	Sc	0.065581		
51	V	0.066016		
52	Cr	0.066969		
53	(Cr)	Sensitivity	too	low
55 57	Mn	0.067116		1
57	Fe	Sensitivity	too	low
59	Co	0.068255		
60 63	Ni	0.068756		
66	Cu Zn	0.069073 0.068997		
72	Ge	0.068697		
75 75	As	0.069000		
73 77	(Se)	Sensitivity	too	low
78	Se	Sensitivity		
82	(Se)	Sensitivity		
83	(Se)	Sensitivity		
93	Nb	Sensitivity	too	low
95	Mo	0.071094		
98	(Mo)	0.069583		
99	(Mo)	0.069992		
105	Pd	0.069782		
106	(Cd)	0.069206		
107	Ag	Sensitivity	too	low
108	(Cd)	0.069821		
111	Cd	0.069450		
115	In	0.068812		
118	Sn	0.068484		
121	Sb	0.068561		
137	Ba	0.070024		
165	Но	0.068599		
182	W	Sensitivity		
195	Pt	Sensitivity	too	low
205	Tl	0.068219		
206	(Pb)	0.067897		
207	(Pb)	0.068227		
208	Pb	0.070189		
232	Th	0.070155		
238	Ü	0.070301		

===Detector Parameters=== Discriminator: 8.0 mV Analog HV: 1770 V Pulse HV: 1480 V

- 1 -

200.8 QC Tune Report

Data File:

C:\ICPCHEM\1\DATA\AG110909A.B\001TUNE.D

Date Acquired:

Nov 9 2009 08:26 pm

Acq. Method:

LRD

Operator: Sample Name:

200.8 TUNE

tun isis.M

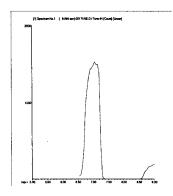
Misc Info:

Vial Number:

Current Method:

C:\ICPCHEM\1\METHODS\tun isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	14906	14929	14975	14838	14916	14868	0.36	5.00	~
9 Be	1915	1908	1914	1983	1809	1957	3.47	5.00	RSDEATIL PUSS
24 Mg	8679	8669	8688	8662	8744	8633	0.48	5.00	(18)
59 Co	35756	36567	35777	35985	34517	35933	2.11	5.00	LLDONOK
115 In	692825	688204	694293	692146	693236	696245	0.43	5.00	• • •
208 Pb	51450	52572	50561	51250	51590	51275	1.42	5.00	
238 U	109376	111991	110522	109499	107788	107079	1.83	5.00	



7 Li

Mass Calib.

Actual: 7.05

Required: 6.90 7.10

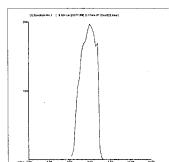
Flag:

Peak Width

Actual: 0.60

Required: 0.90

Flag:



9 Be

Mass Calib.

Actual: 9.00

Required:8.90 9.10

Flag:

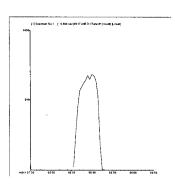
Peak Width

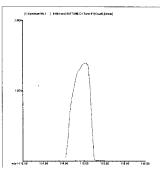
Actual: 0.55

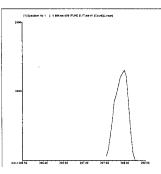
Required: 0.90

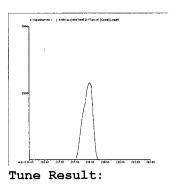
Flag:

[1] Se-	ettuto No.1 (9	954 sec)101T	LNE O / Ture #1	(Court) (Linear)		
1020						
500						
mat > 23.50	24.60	14.50	25 00	25.50	25.00	25.50









24 Mg

Mass Calib.

Actual: 24.00 Required:23.90 24.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

59 Co

Mass Calib.

Actual: 59.00 Required: 58.90 59.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

115 In

Mass Calib.

Actual: 115.00 Required: 114.90 -115.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

208 Pb

Mass Calib.

Actual: 207.95 Required: 207.90 - 208.10 Flag:

Peak Width

Actual: 0.55 Required: 0.90 Flag:

238 U

Mass Calib.

Actual: 237.95 Required: 237.90 - 238.10 Flag:

Peak Width

Actual: 0.50 Required: 0.90 Flag:

F2/1745 UP 109/04

C:\ICPCHEM\1\RPTTMP\2008tn.qct

Calibration Blank QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110909A.B\002CALB.D\002CALB.D#

Date Acquired:

Nov 9 2009 08:29 pm

Acq. Method:

NormISIS.M

Operator:

LRD

Sample Name:

Cal Blank

Misc Info:

Vial Number:

1101

Current Method: Calibration File:

C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Nov 09 2009 08:30 pm

Last Cal. Update:

Sample Type:

CalBlk

OC Elements

_		
E.1	ement	

Eleme	ent	IS Ref	Tune	`CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	5 ⁷ 7	3.61
52	Cr	72	1	1697	4.80
55	Mn	72	1	263	10.96
59	Co	72	1	17	34.64
60	Ni	72	1	63	32.87
63	Cu	72	1	100	43.59
66	Zn	72	1	131	19.98
75	As	72	1	31	32.13
78	Se	72	1	153	20.97
95	Мо	72	1	23	24.74
107	Ag	115	1	7	86.60
111	Cd	115	1	-4	15.03
118	Sn	115	1	123	26.06
121	Sb	115	1	43	42.83
137	Ва	115	1	10	33.33
205	Tl	165	1	341	20.90
208	Pb	165	1	206	7.66
232	Th	165	1	130	26.65
238	U	165	1	97	23.89

Internal Standard Elements

Elėme	nt	Tune	CPS Mean	RSD(%)
6	Li	1	307725	0.62
45	Sc	1	863740	1.75
72	Ge	1	419764	0.40
115	In	1	1321877	2.10
165	Но	1	2596118	0.41

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Date Acquired: Nov 9 2009 08:32 pm

Acq. Method: NormISIS.M

Operator: LRD

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:30 pm

Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	513	5.95
52	Cr	72	1	1570	2.30
55	Mn	72	1	337	11.25
59	Co	72	1	20	50.00
60 -	Ni	72	1	63	48.24
63	Cu	72	1	120	44.10
66	Zn	72	1	137	9.29
75	As	72	1	35	18.20
78	Se	72	1	97	23.89
95	Mo	72	1	20	50.00
107	Ag	115	1	3	173.21
111	Cd	115	1	-4	393.57
118	Sn	115	1	297	22.95
121	Sb	115	1	39	26.19
137	Ва	115	1	12	41.66
205	Tl	165	1	221	20.47
208	Pb	165	1	199	12.35
232	Th	165	1	113	22.21
238	U	165	1	77	26.09

Internal Standard Elements

Element		Tune	CPS Mean	RSD(%)	
6	Li	1	316659	2.14	
45	Sc	1	888972	0.50	
72	Ge	1	425816	0.47	
115	In	1	1335258	0.87	
165	Но	1	2617754	0.65	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\004ICAL.D\0004ICAL.D#

Date Acquired: Nov 9 2009 08:35 pm

Acq. Method: NormISIS.M

Operator: LRD Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:33 pm

Sample Type: ICAL

QC Elements

20 2		9			
Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	38609	1.25
51	V	72	1	510366	0.88
52	Cr	72	1	524956	1.26
55	Mn	72	1	613525	1.41
59	Co	72	1	633231	0.83
60	Ni	72	1	140397	0.74
63	Cu	72	1	332088	1.69
66	Zn	72	1	83275	0.84
75	As	72	1	64491	1.06
78	Se	72	1	13670	3.37
95	Mo	72	1	194872	1.16
107	Ag	115	1	568219	1.98
111	Cd	115	1	121298	1.44
118	Sn	115	1	331811	1.14
121	Sb	115	1	398020	0.91
137	Ва	115	1	158724	1.91
205	Tl	165	1	1472389	1.01
208	Pb	165	1	2154560	0.36
232	Th	165	1	2284596	1.76
238	U	165	1	2432923	0.19

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	317523	0.04	316659	100.3	30 - 120	
45	Sc	1	902480	1.79	888972	101.5	30 - 120	
72	Ge	1	417361	1.39	425816	98.0	30 - 120	
115	In	1	1332995	0.81	1335258	99.8	30 - 120	
165	Но	1	2606293	0.43	2617754	99.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :ISTD Failures

0

Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\005 ICV.D\005 ICV.D#

Date Acquired: Nov 9 2009 08:37 pm

Operator: LRD QC Summary: Sample Name: ICV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 2103

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: ICV
Total Dil Factor: 1.00

QC Ele	ments								
Elemen	t IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	39.82	ppb	0.59	40	99.6	90 - 110	
51 V	72	1	40.01	ppb	0.57	40	100.0	90 - 110	
52 Cr	72	1	40.10	ppb	1.04	40	100.3	90 - 110	
55 Mn	n 72	1	40.83	ppb	1.35	40	102.1	90 - 110	
59 Co	72	1	39.98	ppb	2.35	40	100.0	90 - 110	
60 Ni	. 72	1	39.48	ppb	1.75	40	98.7	90 - 110	
63 Cu	1 72	1	39.44	ppb	0.71	40	98.6	90 - 110	
66 Zn	n 72	1	40.87	ppb	1.27	40	102.2	90 - 110	
75 As	72	1	40.05	ppb	0.47	40	100.1	90 - 110	
78 Se	e 72	1	40.20	ppb	7.43	40	100.5	90 - 110	
95 Mc	72	1	39.50	ppb	1.39	40	98.8	90 - 110	
107 Ag	g 115	1	40.28	ppb	1.09	40	100.7	90 - 110	
111 Cd	115	1	40.39	ppb	2.54	40	101.0	90 - 110	
118 Sn	115	1	39.95	ppb	2.27	40	99.9	90 - 110	
121 Sb	115	1	40.57	ppb	2.67	40	101.4	90 - 110	
137 Ba	a 115	1	40.04	ppb	2.19	40	100.1	90 - 110	
205 Tl	165	1	40.86	ppb	1.20	40	102.2	90 - 110	
208 Pb	165	1	40.91	ppb	0.95	40	102.3	90 - 110	
232 Th	n 165	1	41.04	ppb	0.97	40	102.6	90 - 110	
238 U	165	1	40.74	ppb	0.82	40	101.9	90 - 110	
ISTD E	lements								
Elemen	ıt	Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	Ĺ	1	320321		1.05	316659	101.2	30 - 120	_
45 Sc		1	893394		1.16	888972	100.5	30 - 120	
72 Ge	9	1	421619		1.04	425816	99.0	30 - 120	
115 In	n .	1	1339730		1.68	1335258	100.3	30 - 120	
165 Hc)	1	2633489		0.36	2617754	100.6	30 - 120	
	Tune File#	1	c:\icpchem\1\	7500	\he.u				
	Tune File#	2	C:\ICPCHEM\1\						
	Tune File#	3	C:\ICPCHEM\1\	7500`	\				

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\006WASH.D\006WASH.D#

Date Acquired: Nov 9 2009 08:40 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: RLIV ISTD: Pass

Misc Info:

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: WASH Total Dil Factor: 1.00

\sim	Element	•
\sim	riement.	3

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.977 ppb	23.08	1.30	
51 V	72	1	5.088 ppb	3.63	6.50	
52 Cr	72	1	2.010 ppb	2.80	2.60	
55 Mn	72	1	1.052 ppb	2.54	1.30	
59 Co	72	1	1.026 ppb	2.82	1.30	
60 Ni	72	1	2.053 ppb	3.73	2.60	
63 Cu	72	1	1.949 ppb	1.86	2.60	
66 Zn	72	1	10.200 ppb	0.76	13.00	
75 As	72	1	4.975 ppb	1.56	6.50	
78 Se	72	1	5.397 ppb	12.87	6.50	
95 Mo	72	1	2.077 ppb	3.08	2.60	
107 Ag	115	1	5.417 ppb	1.62	6.50	
111 Cd	115	1	0.994 ppb	8.21	1.30	
118 Sn	115	1	10.400 ppb	2.50	13.00	
121 Sb	115	1	2.182 ppb	1.55	2.60	
137 Ba	115	1	1.043 ppb	2.05	1.30	
205 Tl	165	1	1.340 ppb	3.63	1.30	
208 Pb	165	1	1.058 ppb	2.34	1.30	
232 Th	165	1	2.228 ppb	2.96	2.60	
238 U	165	1	1.119 ppb	1.48	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	327943	1.12	316659	103.6	30 - 120	
45 Sc	1	927967	1.66	888972	104.4	30 - 120	
72 Ge	1	437192	0.23	425816	102.7	30 - 120	
115 In	1	1360935	0.96	1335258	101.9	30 - 120	
165 Ho	1	2638135	1.11	2617754	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u 2 C:\ICPCHEM\1\7500\ Tune File# Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Initial Calibration Blank (ICB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\007 ICB.D\007 ICB.D#

Date Acquired: Nov 9 2009 08:43 pm QC Summary:

Operator: LRD Analytes: Pass Sample Name: ICB ISTD: Pass

Misc Info:

Vial Number: 2104

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: ICB
Total Dil Factor: 1.00

QC	El	emen	ts
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Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	-0.03	ppb	24.58	1.00	
52 Cr	72	1	0.01	ppb	375.24	1.00	
55 Mn	72	1	0.01	ppb	99.37	1.00	
59 Co	72	1	0.00	ppb	102.49	1.00	
60 Ni	72	1	0.06	ppb	11.55	1.00	
63 Cu	72	1	0.03	ppb	95.69	1.00	
66 Zn	72	1	0.75	ppb	6.06	1.00	
75 As	72	1	-0.01	ppb	401.95	1.00	
78 Se	72	1	0.14	ppb	223.63	1.00	
95 Mo	72	1	0.01	ppb	53.61	1.00	
107 Ag	115	1	0.01	ppb	41.41	1.00	
111 Cd	115	1	0.01	ppb	115.64	1.00	
118 Sn	115	1	0.25	ppb	23.38	1.00	
121 Sb	115	1	0.07	ppb	21.20	1.00	
137 Ba	115	1	0.06	ppb	14.45	1.00	
205 Tl	165	1	0.04	ppb	19.24	1.00	
208 Pb	165	1	0.01	ppb	22.30	1.00	
232 Th	165	1	0.02	ppb	1.72	1.00	
238 U	165	1	0.00	ppb	21.71	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331180	1.57	316659	104.6	30 - 120	
45 Sc	1	905311	1.15	888972	101.8	30 - 120	
72 Ge	1	441723	1.46	425816	103.7	30 - 120	
115 In	1	1364402	1.70	1335258	102.2	30 - 120	
165 Ho	1	2652248	1.61	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#

RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#

Date Acquired: Nov 9 2009 08:46 pm

QC Summary: Operator: LRD

Analytes: RL STD Pass Sample Name: Pass

ISTD: Misc Info:

Vial Number: 2105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: RLSTD Total Dil Factor: 1.00

QC	Elemen	nts
F12	mant	TC

Elen	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	0.99	ppb	9.34	1	99.0	50 - 150	
51	V	72	1	0.92	ppb	9.25	1	91.9	50 - 150	
52	Cr	72	1	1.00	ppb	9.84	1	99.9	50 - 150	
55	Mn	72	1	1.01	ppb	0.70	1	100.8	50 - 150	
59	Co	72	1	0.98	ppb	2.45	1	97.7	50 - 150	
60	Ni	72	1	1.03	ppb	5.51	1	103.0	50 - 150	
63	Cu	72	1	1.05	ppb	5.54	1	104.6	50 - 150	
66	Zn	72	1	10.39	ppb	0.48	10	103.9	50 - 150	
75	As	72	1	1.05	ppb	4.38	1	105.1	50 - 150	
78	Se	72	1	1.23	ppb	32.18	1	123.2	50 - 150	
95	Mo	72	1	1.01	ppb	7.94	1	101.0	50 - 150	
107	Ag	115	1	1.01	ppb	4.94	1	101.1	50 - 150	
111	Cd	115	1	1.05	ppb	5.12	1	104.5	50 - 150	
118	Sn	115	1	10.46	ppb	2.14	10	104.6	50 - 150	
121	Sb	115	1	1.03	ppb	4.27	1	103.4	50 - 150	
137	Ва	115	1	1.04	ppb	2.63	1	104.3	50 - 150	
205	Tl	165	1	1.11	ppb	1.97	1	110.8	50 - 150	
208	Pb	165	1	1.05	ppb	1.92	1	105.4	50 - 150	
232	Th	165	1	1.04	ppb	1.88	1	103.6	50 - 150	
238	U	165	1	1.07	ppb	2.22	1	107.2	50 - 150	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	332529	1.31	316659	105.0	30 - 120	
45	Sc	1	924723	1.34	888972	104.0	30 - 120	
72	Ge	1	440304	0.81	425816	103.4	30 - 120	
115	In	1	1361149	0.37	1335258	101.9	30 - 120	
165	Но	1	2647952	0.34	2617754	101.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

C:\ICPCHEM\1\DATA\AG110909A.B\009AFCE.D\009AFCE.D#

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\009AFCE.D\009AFCE.D#

Date Acquired: Nov 9 2009 08:48 pm

Operator: LRD QC Summary: Sample Name: AFCEE RL Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 2106

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: AFCEERL
Total Dil Factor: 1.00

QC Elements												
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag			
9 Be	6	1	0.16	ppb	9.52	0	82.7	80 - 120				
51 V	72	1	0.15	ppb	12.92	0	84.2	80 - 120				
52 Cr	72	1	0.17	ppb	11.54	0	87.5	80 - 120				
55 Mn	72	1	0.19	ppb	4.01	0	92.3	80 - 120				
59 Co	72	1	0.20	ppb	10.00	0	101.6	80 - 120				
60 Ni	72	1	0.17	ppb	39.79	0	82.5	80 - 120				
63 · Cu	72	1	0.21	ppb	8.40	0	98.5	80 - 120				
66 Zn	72	1	1.88	ppb	3.20	2	90.5	80 - 120				
75 As	72	1	0.18	ppb	4.43	0	84.9	80 - 120				
78 Se	72	1	0.34	ppb	52.18	0	137.7	80 - 120				
95 Mo	72	1	0.20	ppb	20.48	0	97.8	80 - 120				
107 Ag	115	1	0.19	ppb	11.02	0	95.4	80 - 120				
111 Cd	115	1	0.18	ppb	8.60	0	87.8	80 - 120				
118 Sn	115	1	2.07	ppb	1.60	2	98.7	80 - 120				
121 Sb	115	1	0.24	ppb	8.81	0	117.2	80 - 120				
137 Ba	115	1	0.17	ppb	15.49	0	82.0	80 - 120				
205 Tl	165	1	0.21	ppb	3.14	0	95.1	80 - 120				
208 Pb	165	1	0.21	ppb	4.91	0	97.5	80 - 120				
232 Th	165	1	0.21	ppb	2.80	0	102.7	80 - 120				
238 U	165	1	0.21	ppb	1.79	0	97.4	80 - 120				
ISTD Ele	ements											
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag			
6 Li		1	334891		0.91	316659	105.8	30 - 120				
45 Sc		1	926450		1.15	888972	104.2	30 - 120				
72 Ge		1	444347		1.22	425816	104.4	30 - 120				
115 In		1	1347595		1.10	1335258	100.9	30 - 120				
165 Ho		1	2645674		1.06	2617754	101.1	30 - 120				

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\010SMPL.D\010SMPL.D#

Date Acquired: Nov 9 2009 08:51 pm

QC Summary: Acq. Method: NormISIS.M Analytes: Operator: LRD **Pass** ISTD: Pass

Sample Name: ALTSe Misc Info: 2 ppb Vial Number: 2107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA Dilution Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

OC Elements

So mromence												
	Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag			
	9 Be	6	1	0.01	0.01	ppb	173.18	3600				
	51 V	72	1	-0.05	-0.05	ppb	4.45	3600				
	52 Cr	72	1	0.03	0.03	ppb	21.71	3600				
	55 Mn	72	1	-0.01	-0.01	ppb	107.83	3600				
	59 Co	72	1	0.00	0.00	ppb	91.53	3600				
	60 Ni	72	1	-0.01	-0.01	ppb	120.90	3600				
	63 Cu	72	1	0.00	0.00	ppb	249.88	3600				
	66 Zn	72	1	0.21	0.21	ppb	4.91	3600				
	75 As	72	1	-0.01	-0.01	ppb	276.53	3600				
	78 Se	72	1	2.30	2.30	ppb	3.47	3600				
	95 Mo	72	1	0.00	0.00	ppb	270.91	3600				
	107 Ag	115	1	0.01	0.01	ppb	12.59	3600				
	111 Cd	115	1	0.01	0.01	ppb	40.90	3600				
	118 Sn	115	1	0.03	0.03	ppb	42.36	3600				
	121 Sb	115	1	0.02	0.02	ppb	52.41	3600				
	137 Ba	115	1	0.00	0.00	ppb	159.45	3600				
	205 Tl	165	1	0.00	0.00	ppb	223.71	3600				
	208 Pb	165	1	0.00	0.00	ppb	93.52	3600				
	232 Th	165	1	0.01	0.01	ppb	41.10	1000				
	238 U	165	1	0.00	0.00	ppb	39.39	3600				

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	336598	0.66	316659	106.3	30 - 120	
45 Sc	1	916084	0.54	888972	103.0	30 - 120	
72 Ge	1	444955	0.00	425816	104.5	30 - 120	
115 In	1	1367875	0.83	1335258	102.4	30 - 120	
165 Ho	1	2646991	0.40	2617754	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\011ICSA.D\011ICSA.D#

Date Acquired: Nov 9 2009 08:54 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: ISTD: Pass ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: ICSA Dilution Factor: 1.00

QC	El	emen	ts
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Eleme	ent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9 I	Ве	6	1	0.00 ppb	0.00	1.00	
51 7	V	72	1	2.09 ppb	3.15	1.00	
52 (Cr	72	1	1.97 ppb	9.78	1.00	
55 I	Mn	72	1	2.81 ppb	1.66	1.00	
59 (Co	72	1	0.10 ppb	6.63	1.00	
60 1	Ni	72	1	1.02 ppb	13.74	1.00	
63 (Cu	72	1	0.53 ppb	7.97	1.00	
66 2	Zn	72	1	3.94 ppb	2.38	10.00	
75 <i>I</i>	As	72	1	0.28 ppb	11.27	1.00	
78 5	Se	72	1	0.38 ppb	63.23	1.00	
95 N	Мо	72	1	1936.00 ppb	0.91	2000.00	
107 7	Ag	115	1	0.03 ppb	12.20	1.00	
111 (Cd	115	1	0.30 ppb	66.71	1.00	
118 \$	Sn	115	1	0.12 ppb	33.50	10.00	
121 3	Sb	115	1	0.92 ppb	2.59	1.00	
137 I	Ва	115	1	0.03 ppb	33.26	1.00	
205	Tl	165	1	0.03 ppb	11.11	1.00	
208	Pb	165	1	1.00 ppb	2.07	1.00	
232	Th	165	1	0.02 ppb	12.13	1.00	
238 (U	165	1	0.00 ppb	5.79	1.00	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	239339	0.28	316659	75.6	30 - 120	
45	Sc	1	700629	1.42	888972	78.8	30 - 120	
72	Ge	1	343237	0.37	425816	80.6	30 - 120	
115	In	1	1048448	1.55	1335258	78.5	30 - 120	
165	Но	1	2104424	0.97	2617754	80.4	30 - 120	

Tune File# 1 c:\icpchem $\1\7500$ he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Nnumber of ISTD Failures Allowed 0 :ISTD Failures

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\012ICSB.D\012ICSB.D#

Date Acquired: Nov 9 2009 08:57 pm

Acq. Method: NormISIS.M QC Summary: Operator: LRD Analytes: Pass

Sample Name: ICSAB ISTD: Pass

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: ICSAB
Dilution Factor: 1.00

QC Elements

Elemen	t IS Ref		Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	109.40	3.64	100	109.4	80 - 120	
51 V	72	1	99.64	0.20	100	99.6	80 - 120	
52 Cr	72	1	97.24	0.93	100	97.2	80 - 120	
55 Mn	72	1	98.22	0.64	100	98.2	80 - 120	
59 Co	72	1	92.77	2.10	100	92.8	80 - 120	
60 Ni	72	1	89.04	1.65	100	89.0	80 - 120	
63 Cu	72	1	86.53	0.30	100	86.5	80 - 120	
66 Zn	72	1	96.58	0.54	100	96.6	80 - 120	
75 As	72	1	101.00	1.32	100	101.0	80 - 120	
78 Se	72	1	100.00	0.62	100	100.0	80 - 120	
95 Mo	72	1	2093.00	0.96	2100	99.7	80 - 120	
107 Ag	115	1	89.66	3.28	100	89.7	80 - 120	
111 Cd	115	1	95.05	1.99	100	95.1	80 - 120	
118 Sn	115	1	100.40	1.69	100	100.4	80 - 120	
121 Sb	115	1	103.00	1.30	100	103.0	80 - 120	
137 Ba	115	1	101.30	1.03	100	101.3	80 - 120	
205 Tl	165	1	94.31	0.93	100	94.3	80 - 120	
208 Pb	165	1	93.76	0.89	100	93.8	80 - 120	
232 Th	165	1	101.30	1.54	100	101.3	80 - 120	
238 U	165	1	99.94	0.63	100	99.9	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	233202	3.01	316659	73.6	30 - 120	
45 Sc	1	711798	0.20	888972	80.1	30 - 120	
72 Ge	1	338298	0.97	425816	79.4	30 - 120	
115 In	1	1075320	0.68	1335258	80.5	30 - 120	
165 Ho	1	2161438	0.51	2617754	82.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#

Date Acquired: Nov 9 2009 08:59 pm

Operator: LRD QC Summary:

Analytes: Pass Sample Name: RINSE

ISTD: Pass Misc Info:

1101 Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type:

AFCEERL Sample Type: Total Dil Factor: 1.00

QC	E	le	men	ts
				~ ~

E									
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.01	ppb	173.15	0	4.2	80 - 120	
51 V	72	1	0.02	ppb	35.98	0	10.9	80 - 120	
52 Cr	72	1	0.03	ppb	89.50	0	13.7	80 - 120	
55 Mn	72	1	-0.01	ppb	113.19	0	-3.4	80 - 120	
59 Co	72	1	0.00	ppb	1352.30	0	-0.1	80 - 120	
60 Ni	72	1	-0.02	ppb	102.45	0	-9.9	80 - 120	
63 Cu	72	1	0.00	ppb	649.06	0	0.6	80 - 120	
66 Zn	72	1	0.04	ppb	63.69	2	1.7	80 - 120	
75 As	72	1	-0.01	ppb	61.99	0	-3.9	80 - 120	
78 Se	72	1	0.39	ppb	99.84	0	156.3	80 - 120	
95 Mo	72	1	0.80	ppb	31.54	0	396.5	80 - 120	
107 Ag	115	1	0.01	ppb	53.68	0	3.6	80 - 120	
111 Cd	115	1	0.00	ppb	41.35	0	1.7	80 - 120	
118 Sn	115	1	0.00	ppb	######	2	0.0	80 - 120	
121 Sb	115	1	0.11	ppb	20.17	0	52.7	80 - 120	
137 Ba	115	1	0.00	ppb	105,76	0	-0.5	80 - 120	
205 Tl	165	1	-0.01	ppb	3.09	0	-2.6	80 - 120	
208 Pb	165	1	0.00	ppb	49.94	0	0.7	80 - 120	
232 Th	165	1	0.03	ppb	6.82	0	13.2	80 - 120	
238 U	165	1	0.01	ppb	15.94	0	6.9	80 - 120	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	331840	0.43	316659	104.8	30 - 120	
45	Sc	1	927075	1.00	888972	104.3	30 - 120	
72	Ge	1	454961	0.83	425816	106.8	30 - 120	
115	In	1	1407675	0.48	1335258	105.4	30 - 120	
165	Но	1	2715373	0.43	2617754	103.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\014 LR.D\014 LR.D#

Date Acquired: Nov 9 2009 09:02 pm

Acq. Method: QC Summary: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass Sample Name: LR1

Misc Info:

Vial Number: 2110

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: LR Prep Dil. Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	989.70 ppb	1.24	1000	99.0	90 - 110	
51 V	72	1	962.50 ppb	1.62	1000	96.3	90 - 110	
52 Cr	72	1	955.40 ppb	1.40	1000	95.5	90 - 110	
55 Mn	72	1	950.30 ppb	1.50	1000	95.0	90 - 110	
59 Co	72	1	955.50 ppb	1.19	1000	95.6	90 - 110	
60 Ni	72	1	979.40 ppb	1.79	1000	97.9	90 - 110	
63 Cu	72	1	966.20 ppb	0.98	1000	96.6	90 - 110	
66 Zn	72	1	974.60 ppb	0.75	1000	97.5	90 - 110	
75 As	72	1	1009.00 ppb	0.73	1000	100.9	90 - 110	
78 Se	72	1	988.90 ppb	0.77	1000	98.9	90 - 110	
95 Mo	72	1	987.40 ppb	1.52	1000	98.7	90 - 110	
107. Ag	115	1	932.40 ppb	1.41	1000	93.2	90 - 110	
111 Cd	115	1	967.10 ppb	0.44	1000	96.7	90 - 110	
118 Sn	115	1	933.80 ppb	0.50	1000	93.4	90 - 110	
121 Sb	115	1	927.90 ppb	0.18	1000	92.8	90 - 110	
137 Ba	115	1	972.50 ppb	0.87	1000	97.3	90 - 110	
205 Tl	165	1	947.60 ppb	0.99	1000	94.8	90 - 110	
208 Pb	165	1	915.00 ppb	0.94	1000	91.5	90 - 110	
232 Th	165	1	966.60 ppb	0.64	1000	96.7	90 - 110	
238 U	165	1	963.20 ppb	1.88	1000	96.3	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	328068	1.06	316659	103.6	30 - 120	
45 Sc	1	922726	2.01	888972	103.8	30 - 120	
72 Ge	1	430093	1.37	425816	101.0	30 - 120	
115 In	1	1364755	0.41	1335258	102.2	30 - 120	
165 Ho	1	2644039	0.70	2617754	101.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\015SMPL.D\015SMPL.D#

Date Acquired: Nov 9 2009 09:05 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: RINSE ISTD: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.02	ppb	173.25	3600	9
51 V	72	1	-0.02	-0.02	ppb	88.49	3600	
52 Cr	72	1	0.05	0.05	ppb	36.35	3600	
55 Mn	72	1	-0.01	-0.01	ppb	183.98	3600	
59 Co	72	1	0.01	0.01	ppb	88.77	3600	
60 Ni	72	1	0.02	0.02	ppb	167.72	3600	
63 Cu	72	1	0.03	0.03	ppb	35.08	3600	
66 Zn	72	1	0.05	0.05	ppb	19.57	3600	
75 As	72	1	0.02	0.02	ppb	85.94	3600	
78 Se	72	1	0.69	0.69	ppb	46.45	3600	
95 Mo	72	1	0.53	0.53	ppb	26.09	3600	
107 Ag	115	1	0.03	0.03	ppb	35.34	3600	
111 Cd	115	1	0.02	0.02	ppb	21.52	3600	
118 Sn	115	1	1.11	1.11	ppb	27.74	3600	
121 Sb	115	1 .	1.31	1.31	ppb	17.77	3600	
137 Ba	115	1	0.02	0.02	ppb	70.23	3600	
205 Tl	165	1	0.06	0.06	ppb	21.10	3600	
208 Pb	165	1	0.02	0.02	ppb	25.81	3600	
232 Th	165	1	0.13	0.13	ppb	10.54	1000	
238 U	165	1	0.13	0.13	ppb	15.65	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	341210	2.06	316659	107.8	30 - 120	
45 Sc	1	953002	0.82	888972	107.2	30 - 120	
72 Ge	1	451794	0.58	425816	106.1	30 - 120	
115 In	1	1384812	1.01	1335258	103.7	30 - 120	
165 Ho	1	2634408	0.76	2617754	100.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\016 CCV.D\016 CCV.D#

Date Acquired: Nov 9 2009 09:08 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCV ISTD: Pass

Misc Info: Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Nov 09 2009 08:35 pm

1107

Last Cal Update:

Sample Type: CCV Total Dil Factor: 1.00

QC E	lemen	its								
Elem	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.36	ppb	2.54	50	98.7	90 - 110	
51	V	72	1	50.77	ppb	1.34	50	101.5	90 - 110	
52	Cr	72	1	50.82	ppb	0.60	50	101.6	90 - 110	
55	Mn	72	1	50.95	ppb	1.41	50	101.9	90 - 110	
59	Co	72	1	50.68	ppb	1.40	50	101.4	90 - 110	
60	Ni	72	1	49.56	ppb	1.57	50	99.1	90 - 110	
63	Cu	72	1	49.68	ppb	0.10	50	99.4	90 - 110	
66	Zn	72	1	49.76	ppb	0.33	50	99.5	90 - 110	
75	As	72	1	50.93	ppb	0.82	50	101.9	90 - 110	
78	Se	72	1	51.94	ppb	5.89	50	103.9	90 - 110	
95	Mo	72	1	48.88	ppb	1.24	50	97.8	90 - 110	
107	Ag	115	1	50.11	ppb	0.43	50	100.2	90 - 110	
111	Cd	115	1	50.35	ppb	0.26	50	100.7	90 - 110	
118	Sn	115	1	50.40	ppb	1.11	50	100.8	90 - 110	
121	Sb	115	1	50.58	ppb	0.97	50	101.2	90 - 110	
137	Ва	115	1	50.03	ppb	0.58	50	100.1	90 - 110	
205	Tl	165	1	50.31	ppb	0.12	50	100.6	90 - 110	
208	Pb	165	1	50.77	ppb	1.01	50	101.5	90 - 110	
232	Th	165	1	50.58	ppb	2.06	50	101.2	90 - 110	
238	U	165	1	50.76	ppb	2.06	50	101.5	90 - 110	
IST	Eler	ments								
Elen	nent		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	339265		1.56	316659	107.1	30 - 120	
45	Sc		1	947544		0.15	888972	106.6	30 - 120	
72	Ge		1	441263		0.72	425816	103.6	30 - 120	
115	In		1	1386188		0.72	1335258	103.8	30 - 120	
165	Но		1	2649982		0.75	2617754	101.2	30 - 120	
	Tu	ne File#	1	c:\icpchem\1'	\7500`	\he.u				

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

ISTD: Pass

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\017 CCB.D\017 CCB.D#

Date Acquired: Nov 9 2009 09:10 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB

Misc Info:

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCB Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.008	ppb	173.22	1.00	
51 V	72	1	-0.046	ppb	29.01	1.00	
52 Cr	72	1	0.000	ppb	12322.00	1.00	
55 Mn	72	1	-0.007	ppb	43.73	1.00	
59 Co	72	1	0.001	ppb	393.70	1.00	
60 Ni	72	1	-0.005	ppb	329.15	1.00	
63 Cu	72	1	0.007	ppb	98.78	1.00	
66 Zn	72	1	0.040	ppb	14.37	1.00	
75 As	72	1	-0.008	ppb	123.42	1.00	
78 Se	72	1	0.405	ppb	68.29	1.00	
95 Mo	72	1	0.105	ppb	49.03	1.00	
107 Ag	115	1	0.009	ppb	76.77	1.00	
111 Cd	115	1	0.002	ppb	275.78	1.00	
118 Sn	115	1	0.252	ppb	28.94	1.00	
121 Sb	115	1	0.323	ppb	22.12	1.00	
137 Ba	115	1	0.000	ppb	357.00	1.00	
205 Tl	165	1	0.012	ppb	22.43	1.00	
208 Pb	165	1	0.003	ppb	36.91	1.00	
232 Th	165	1	0.060	ppb	22.01	1.00	
238 U	165	1	0.020	ppb	26.01	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	347509	1.01	316659	109.7	30 - 120	
45 Sc	1	955495	2.12	888972	107.5	30 - 120	
72 Ge	1	455532	0.79	425816	107.0	30 - 120	
115 In	1	1386791	1.63	1335258	103.9	30 - 120	
165 Ho	1	2651802	0.80	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\018WASH.D\018WASH.D#

Date Acquired: Nov 9 2009 09:13 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: RLCV ISTD: Pass Misc Info:

Vial Number: 1204

Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C Calibration File:

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.024 ppb	7.78	1.30	
51 V	72	1	5.126 ppb	1.88	6.50	
52 Cr	72	1	2.083 ppb	6.13	2.60	
55 Mn	72	1	1.010 ppb	2.87	1.30	
59 Co	72	1	1.062 ppb	1.70	1.30	
60 Ni	72	1	2.095 ppb	2.27	2.60	
63 Cu	72	1	2.060 ppb	2.82	2.60	
66 Zn	72	1	10.130 ppb	1.17	13.00	
75 As	72	1	5.125 ppb	4.68	6.50	
78 Se	72	1	5.045 ppb	5.92	6.50	
95 Mo	72	1	1.951 ppb	3.60	2.60	
107 Ag	115	1	5.311 ppb	0.48	6.50	
111 Cd	115	1	1.030 ppb	11.33	1.30	
118 Sn	115	1	10.360 ppb	1.60	13.00	
121 Sb	115	1	2.190 ppb	4.18	2.60	
137 Ba	115	1	1.055 ppb	3.38	1.30	
205 Tl	165	1	1.095 ppb	1.41	1.30	
208 Pb	165	1	1.069 ppb	0.47	1.30	
232 Th	165	1	2.172 ppb	3.24	2.60	
238 U	165	1	1.103 ppb	1.52	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350643	0.28	316659	110.7	30 - 120	
45 Sc	1	970129	1.19	888972	109.1	30 - 120	
72 Ge	1	456907	0.32	425816	107.3	30 - 120	
115 In	1	1395760	1.56	1335258	104.5	30 - 120	
165 Ho	1	2660739	0.79	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\019 BLK.D\019 BLK.D#

Date Acquired: Nov 9 2009 09:16 pm

Operator: LRD QC Summary: Sample Name: LNNP6B Analytes: Pass Misc Info: BLANK 9306276 6020 ISTD: Pass

Misc Info: BLANK 9306276 6020 Vial Number: 2201

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: BLK
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.018 ppb	41.70	2.00	
52 Cr	72	1	0.292 ppb	16.50	2.00	
55 Mn	72	1	0.185 ppb	7.72	2.00	
59 Co	72	1	0.011 ppb	24.75	2.00	
60 Ni	72	1	0.036 ppb	53.39	2.00	
63 Cu	72	1	0.169 ppb	20.87	2.00	
66 Zn	72	1	0.849 ppb	7.65	2.00	
75 As	72	1	0.010 ppb	67.79	2.00	
78 Se	72	1	0.510 ppb	48.19	2.00	
95 Mo	72	1	0.057 ppb	19.51	2.00	
107 Ag	115	1	0.010 ppb	26.04	2.00	
111 Cd	115	1	0.003 ppb	113.49	2.00	
118 Sn	115	1	0.208 ppb	18.28	2.00	
121 Sb	115	1	0.174 ppb	15.89	2.00	
137 Ba	115	1	0.038 ppb	22.70	2.00	
205 Tl	165	1	0.040 ppb	22.91	2.00	
208 Pb	165	1	0.011 ppb	12.89	2.00	
232 Th	165	1	0.031 ppb	18.41	2.00	
238 U	165	1	0.007 ppb	24.76	2.00	

ISTD Elements

TOID HIGHER							
Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355955	0.99	316659	112.4	30 - 120	
45 Sc	1	972462	1.01	888972	109.4	30 - 120	
72 Ge	1	458206	0.62	425816	107.6	30 - 120	
115 In	1	1400110	0.71	1335258	104.9	30 - 120	
165 Ho	1	2668336	0.83	2617754	101.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\020 LCS.D\020 LCS.D#

Date Acquired: Nov 9 2009 09:19 pm

NormISIS.M QC Summary: Acq. Method:

Analytes: **Pass** Operator: LRD Sample Name: LNNP6C ISTD: Pass

Misc Info: LCS Vial Number: 2202

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: LCS Prep Dil. Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Ra	nge (%)	Flag
9 Be	6	1	40.76	2.19	40	101.9	80	- 120	
51 V	72	1	43.16	0.76	40	107.9	80	- 120	
52 Cr	72	1	43.22	1.05	40	108.1	80	- 120	
55 Mn	72	1	43.24	0.21	40	108.1	80	- 120	
59 Co	72	1	42.64	0.71	40	106.6	80	- 120	
60 Ni	72	1	42.34	0.56	40	105.9	80	- 120	
63 Cu	72	1	42.72	0.89	40	106.8	80	- 120	
66 Zn	72	1	45.64	0.61	40	114.1	80	- 120	
75 As	72.	1	40.76	0.70	40	101.9	80	- 120	
78 Se	72	1	38.19	2.28	40	95.5	80	- 120	
95 Mo	72	1	35.78	2.03	40	89.5	80	- 120	
107 Ag	115	1	41.49	2.15	40	103.7	80	- 120	
111 Cd	115	1	40.17	0.57	40	100.4	80	- 120	
118 Sn	115	1	0.12	28.26	40	0.3	80	- 120	
121 Sb	115	1	35.81	0.84	40	89.5	80	- 120	
137 Ba	115	1	41.49	1.53	40	103.7	80	- 120	
205 Tl	165	1	43.86	2.13	40	109.7	80	- 120	
208 Pb	165	1	41.85	1.84	40	104.6	80	- 120	
232 Th	165	1	41.91	2.25	40	104.8	80	- 120	
238 U	165	1	41.55	2.69	40	103.9	80	- 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Rar	ıge (%)	Flag
6 Li	1	350822	0.51	316659	110.8	30 -	120	
45 Sc	1	980963	1.16	888972	110.3	30 -	- 120	
72 Ge	1	444654	1.31	425816	104.4	30 -	- 120	
115 In	1 .	1399733	0.66	1335258	104.8	30 -	- 120	
165 Ho	1	2665542	1.69	2617754	101.8	30 -	- 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\021SMPL.D\021SMPL.D#

Date Acquired: Nov 9 2009 09:21 pm

Acq. Method: NormISIS.M QC Summary: Operator: LRD Analytes: Pass

Sample Name: LNLN9 2X
Misc Info: D9J300353

Misc Info: D9J300353 Vial Number: 2203

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

QC Elements

Z									
Ele	ment	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Ве	6	1	0.09	0.05	ppb	92.24	3600	
51	V	72	1	37.96	18.98	ppb	1.34	3600	
52	Cr	72	1	114.94	57.47	ppb	0.72	3600	
55	Mn	72	1	36.50	18.25	ppb	2.00	3600	
59	Со	72	1	0.69	0.34	ppb	2.76	3600	
60	Ni	72	1	3.14	1.57	ppb	8.45	3600	
63	Cu	72	1	1.64	0.82	ppb	6.02	3600	
66	Zn	72	1	11.13	5.57	ppb	1.82	3600	
75	As	72	1	202.00	101.00	ppb	0.43	3600	
78	Se	72	1	3.22	1.61	ppb	48.25	3600	
95	Mo	72	1	18.83	9.42	ppb	0.68	3600	
107	Ag	115	1	0.17	0.08	ppb	17.24	3600	
111	Cd	115	1	0.10	0.05	ppb	51.39	3600	
118	Sn	115	1	0.28	0.14	ppb	42.81	3600	
121	Sb	115	1	0.34	0.17	ppb	20.62	3600	
137	Ba	115	1	37.72	18.86	ppb	0.70	3600	
205	Tl	165	1	0.13	0.06	ppb	19.45	3600	
208	Pb	165	1	0.71	0.35	ppb	3.38	3600	
232	Th	165	1	0.72	0.36	ppb	1.63	1000	
238	U	165	1	53.74	26.87	ppb	1.72	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298847	1.22	316659	94.4	30 - 120	
45 Sc	1	845797	1.37	888972	95.1	30 - 120	
72 Ge	1	386800	0.60	425816	90.8	30 - 120	
115 In	1	1191341	0.83	1335258	89.2	30 - 120	
165 Ho	1	2413317	1.23	2617754	92.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

ISTD: Pass

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\022SMPL.D\022SMPL.D#

Date Acquired: Nov 9 2009 09:24 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: LNLR4 2X ISTD: Pass

Misc Info: D9J300356
Vial Number: 2204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

QC Elements

Ac preme	11 CO							
Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.01	ppb	173.27	3600	
51 V	72	1	78.42	39.21	ppb	1.83	3600	
52 Cr	72	1	24.86	12.43	ppb	1.31	3600	
55 Mn	72	1	2,930.00	1465.00	ppb	2.13	3600	
59 Co	72	1	42.42	21.21	ppb	0.61	3600	
60 Ni	72	1	20.92	10.46	ppb	3.31	3600	
63 Cu	72	1	0.75	0.37	ppb	5.97	3600	
66 Zn	72	1	18.97	9.49	ppb	2.01	3600	
75 As	72	1	114.66	57.33	ppb	0.89	3600	
78 Se	72	1	6.57	3.28	ppb	20.64	3600	
95 Mo	72	1	26.74	13.37	ppb	0.88	3600	
107 Ag	115	1	0.11	0.05	ppb	25.16	3600	
111 Cd	115	1	0.42	0.21	ppb	16.72	3600	
118 Sn	115	1	0.13	0.06	ppb	44.87	3600	
121 Sb	115	1	0.27	0.13	ppb	7.83	3600	
137 Ba	115	1	27.28	13.64	ppb	2.04	3600	
205 Tl	165	1	0.19	0.10	ppb	3.70	3600	
208 Pb	165	1	0.11	0.06	ppb	1.85	3600	
232 Th	165	1	0.08	0.04	ppb	8.56	1000	
238 U	165	1	69.92	34.96	ppb	2.03	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	274893	1.24	316659	86.8	30 - 120	
45 Sc	1	779549	2.32	888972	87.7	30 - 120	
72 Ge	1	352268	1.67	425816	82.7	30 - 120	
115 In	1	1127758	1.03	1335258	84.5	30 - 120	
165 Ho	1	2240638	0.13	2617754	85.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

Date Acquired: Nov 9 2009 09:27 pm

Acq. Method: NormISIS.M

Operator: LRD Analytes: Pass Sample Name: LNME4 ISTD: Pass

Misc Info: D9J310138
Vial Number: 2205

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: AllRef
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.27	3600	
51 V	72	1	0.05	0.05	ppb	6.94	3600	
52 Cr	72	1	0.48	0.48	ppb	5.57	3600	
55 Mn	72	1	1.67	1.67	ppb	3.29	3600	
59 Co	72	1	0.03	0.03	ppb	17.85	3600	
60 Ni	72	1	0.16	0.16	ppb	28.53	3600	
63 Cu	72	1	0.43	0.43	ppb	6.97	3600	
66 Zn	72	1	8.86	8.86	ppb	0.90	3600	
75 As	72	1	0.01	0.01	ppb	328.51	3600	
78 Se	72	1	0.28	0.28	ppb	90.12	3600	
95 Mo	72	1	0.17	0.17	ppb	26.75	3600	
107 Ag	115	1	0.01	0.01	ppb	26.64	3600	
111 Cd	115	1	0.00	0.00	ppb	536.64	3600	
118 Sn	115	1	0.20	0.20	ppb	7.53	3600	
121 Sb	115	1	0.09	0.09	ppb	15.50	3600	
137 Ba	115	1	0.66	0.66	ppb	1.78	3600	
205 Tl	165	1	-0.01	-0.01	ppb	11.38	3600	
208 Pb	165	1	0.12	0.12	ppb	1.87	3600	
232 Th	165	1	0.01	0.01	ppb	21.46	1000	
238 U	165	1	0.01	0.01	ppb	24.76	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	· Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	373380	0.19	316659	117.9	30 - 120	
45 Sc	1	1006941	1.04	888972	113.3	30 - 120	
72 Ge	1	462649	0.57	425816	108.6	30 - 120	
115 In	1	1397361	0.27	1335258	104.7	30 - 120	
165 Ho	1	2660327	0.25	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

QC Summary:

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\024SDIL.D\024SDIL.D#

Date Acquired: Nov 9 2009 09:30 pm QC Summary:

Analytes: Acq. Method: NormISIS.M Pass ISTD: Pass Operator: LRD

Sample Name: LNME4P5

Misc Info: SERIAL DILUTION

Vial Number: 2206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SDIL Dilution Factor: 1.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

QC elements

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC I	Range(%)	Flag
9 Be	6	1	0.00	ppb	0.00	0.00	0.0	90	- 110	
51 V	72	1	-0.03	ppb	5.81	0.01	-342.2	90	- 110	
52 Cr	72	1	0.20	ppb	10.88	0.10	213.8	90	- 110	
55 Mn	72	. 1	0.34	ppb	10.16	0.33	103.1	90	- 110	
59 Co	72	1	0.01	ppb	47.19	0.01	96.0	90	- 110	
60 Ni	72	1	0.04	ppb	33.75	0.03	122.1	90	- 110	
63 Cu	72	1	0.10	ppb	5.61	0.09	114.0	90	- 110	
66 Zn	72	1	1.80	ppb	5.52	1.77	101.3	90	- 110	
75 As	72	1	-0.02	ppb	9.36	0.00	-1343.0	90	- 110	
78 Se	72	1	0.23	ppb	2.28	0.06	422.9	90	- 110	
95 Mo	72	1	0.04	ppb	19.93	0.03	118.9	90	- 110	
107 Ag	115	1	0.00	ppb	24.25	0.00	272.6	90	- 110	
111 Cd	115	1	0.02	ppb	89.75	0.00	2944.9	90	- 110	
118 Sn	115	1	0.12	ppb	5.20	0.04	296.9	90	- 110	
121 Sb	115	1	0.03	ppb	17.47	0.02	168.6	90	- 110	
137 Ba	115	1	0.14	ppb	19.11	0.13	109.3	90	- 110	
205 Tl	165	1	-0.01	ppb	30.49	0.00	501.4	90	- 110	
208 Pb	165	1	0.02	ppb	8.37	0.02	88.0	90	- 110	
232 Th	165	1	0.00	ppb	50.10	0.00	202.3	90	- 110	
238 U	165	1	0.00	ppb	87.66	0.00	61.5	90	- 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368778	0.88	316659	116.5	30 - 120	
45 Sc	1	979811	0.26	888972	110.2	30 - 120	
72 Ge	1	461996	0.57	425816	108.5	30 - 120	
115 In	1	1378236	0.67	1335258	103.2	30 - 120	
165 Ho	1	2636939	1.04	2617754	100.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Denver

SERIAL DILUTION

Department: 090 (Metals) Sample: LNME4P5	Serial Dilution:	5.00	Sample Dilution:	Spreadshee 1.00
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Instrument: Agilent7500 Channel 272
File: AG110909A # 24 Method 6020_
Acquired: 11/09/2009 21:30:00 ICPMS_024 Matrix: AQUEOUS
Calibrated: 11/09/2009 20:32:00 Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9		0	0.01470	100		*	
7440-62-2	Vanadium	51	380	-0.15675	0.04580	442		*	
7440-47-3	Chromium	52	2890	1.0235	0.47880	114		*	
7439-96-5	Manganese	55	2697	1.7180	1.6670	3.06		*	
7440-48-4	Cobalt	59	67	0.03211	0.03347	4.05		*	
7440-02-0	Nickel	60	130	0.19735	0.16160	22.1		*	
7440-50-8	Copper	63	490	0.48945	0.42930	14.0		*	
7440-66-6	Zinc	66	1801	8.9800	8.8630	1.32		*	
7440-38-2	Arsenic	75	27	-0.08160	0.00608	1440	0.21	NC	
7782-49-2	Selenium	78	140	1.1680	0.27620	323	0.70	NC	
7439-98-7	Molybdenum	95	110	0.20470	0.17210	18.9		*	
7440-22-4	Silver	107	27	0.01977	0.00725	173		*	
7440-43-9	Cadmium	111	17	0.08440	0.00287	2840		*	
7440-31-5	Tin	118	720	0.60300	0.20310	197		*	
7440-36-0	Antimony	121	164	0.15100	0.08954	68.6		*	
7440-39-3	Barium	137	248	0.71700	0.65610	9.28		*	
7440-28-0	Thallium	205	96	-0.04272	-0.00852			*	
7439-92-1	Lead	208	659	0.10510	0.11940	12.0		*	
7440-61-1	Uranium	238	111	0.00685	0.01113	38.5		*	
7440-29-1	Thorium	232	210	0.02068	0.01022	102		*	
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: U UOLOG

IDB Reports TestAmerica, Inc. Version: 6.02.068

View Page 1 of 1

Post Digestion Spiked Sample (PDS) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110909A.B\025PDS.D\025PDS.D#

Date Acquired:

Nov 9 2009 09:32 pm

QC Summary:

Acq. Method:

NormISIS.M

Analytes: Pass ISTD: Pass

Operator:

LRD

Sample Name: LNME4Z

Misc Info:

POST DIGESTION SPIKE

Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:35 pm
Sample Type:

Sample Type: Prep Dil. Factor: Autodil Factor:

PDS 1.00 Undiluted

Final Dil Factor:

1.00

Spike Ref. File:

QC Elements

Oc Eleme	nts									
Element	IS Ref	Tune	Conc.	Ref Conc		R\$D(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	185.00	0.01	ppb	1.86	200	92.5	75 - 125	
51 V	72	1	202.50	0.05	ppb	2.78	200	101.2	75 - 125	
52 Cr	72	1	203.90	0.48	ppb	2.06	200	101.7	75 - 125	
55 Mn	72	1	201.00	1.67	ppb	3.35	200	99.7	75 - 125	
59 Co	72	1	196.80	0.03	ppb	1.85	200	98.4	75 - 125	
60 Ni	72	1	194.90	0.16	ppb	1.47	200	97.4	75 - 125	
63 Cu	72	1	196.10	0.43	ppb	0.50	200	97.8	75 - 125	
66 Zn	72	1	196.80	8.86	ppb	0.36	200	94.2	75 - 125	
75 As	72	1	190.30	0.01	ppb	0.61	200	95.1	75 - 125	
78 Se	72	1	185.70	0.28	ppb	2.73	200	92.7	75 - 125	
95 Mo	72	1	192.00	0.17	ppb	0.97	200	95.9	75 - 125	
107 Ag	115	1	48.92	0.01	ppb	2.06	50	97.8	75 - 125	
111 Cd	115	1	188.70	0.00	ppb	1.65	200	94.3	75 - 125	
118 Sn	115	1	176.90	0.20	ppb	1.43	200	88.4	75 - 125	
121 Sb	115	1	184.30	0.09	ppb	1.52	200	92.1	75 - 125	
137 Ba	115	1	195.10	0.66	ppb	1.67	200	97.2	75 - 125	
205 Tl	165	1	191.80	-0.01	ppb	0.94	200	95.9	75 - 125	
208 Pb	165	1	186.80	0.12	ppb	0.48	200	93.3	75 ~ 125	
232 Th	165	1	0.03	0.01	ppb	13.35	200	0.0	75 - 125	
238 U	165	1	190.70	0.01	ppb	1.54	200	95.3	75 - 125	
ISTD Ele	ments									
Element		Tune	Counts	RSD(%)			Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li		1	354551	1.15			316659	112.0	30 - 120	
45 Sc		1	950915	0.92			888972	107.0	30 - 120	
72 Ge		1	426378	1.56			425816	100.1	30 - 120	
115 In		1	1327967	0.75			1335258	99.5	30 - 120	
			0540646	0 61			0.617754	07.4		

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

1 2548646

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0.61

0 :Element Failures 0 :ISTD Failures

165 Ho

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

2617754

97.4

30 - 120

Denver

SAMPLE SPIKE

Reported: 11/10/09 21:10:22 ICPMS_024 Method: 6020 (ICP/MS)

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4Z

Spike Dilution:

1.00

Sample Dilution: 1.00

Instrument: Agilent7500 File: AG110909A # 25 Acquired: 11/09/2009 21:32:00

Calibrated: 11/09/2009 20:32:00

Channel 272 Method 6020_ ICPMS_024

Matrix: AQUEOUS

Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	79764	185.00	0.01470	92.5	200		
7440-62-2	Vanadium	51	1055210	202.50	0.04580	101	200		
7440-47-3	Chromium	52	1091770	203.90	0.47880	102	200		
7439-96-5	Manganese	55	1258890	201.00	1.6670	99.7	200		
7440-48-4	Cobalt	59	1273250	196.80	0.03347	98.4	200		
7440-02-0	Nickel	60	279436	194.90	0.16160	97.4	200		
7440-50-8	Copper	63	665031	196.10	0.42930	97.8	200		
7440-66-6	Zinc	66	167299	196.80	8.8630	94.0	200		
7440-38-2	Arsenic	75	125313	190.30	0.00608	95.1	200		
7782-49-2	Selenium	78	25838	185.70	0.27620	92.7	200		
7439-98-7	Molybdenum	95	382233	192.00	0.17210	95.9	200		
7440-22-4	•	107	276951	48.920	0.00725	97.8	50.0		
7440-43-9	Cadmium	111	227986	188.70	0.00287	94.3	200		
7440-31-5	Tin	118	584583	176.90	0.20310	88.3	200		
7440-36-0	Antimony	121	730873	184.30	0.08954	92.1	200		
7440-39-3	-	137	308452	195.10	0.65610	97.2	200		
7440-28-0	Thallium	205	2761530	191.80	-0.00852	95.9	200		
7439-92-1	Lead	208	3935420	186.80	0.11940	93.3	200		
7440-61-1	Uranium	238	4535860	190.70	0.01113	95.3	200		
7440-29-1	Thorium	232	747	0.02849	0.01022				
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				

Date: | \ Reviewed by: Version: 6.02.068 IDB Reports TestAmerica, Inc.

> View Page 1 of 1

ISTD: Pass

Spiked Sample (MS) QC Report

C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D# Data File:

Date Acquired: Nov 9 2009 09:35 pm QC Summary: Acq. Method: NormISIS.M Analytes: Pass

LRD Operator: LNME4S Sample Name: Misc Info: MATRIX SPIKE

Vial Number: 2208

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: MS Prep Dil. Factor: 1.00 Undiluted Autodil Factor: Final Dil Factor: 1.00

Spike Ref. File:

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	38.95	0.01	ppb	4.02	40	97.3	50 - 150
51 V	72	1	42.14	0.05	ppb	0.45	40	105.2	50 - 150
52 Cr	72	1	41.88	0.48	ppb	0.82	40	103.5	50 - 150
55 Mn	72	1	44.00	1.67	ppb	0.81	40	105.6	50 - 150
59 Co	. 72	1	41.74	0.03	ppb	0.31	40	104.3	50 - 150
60 Ni	72	1	41.29	0.16	ppb	1.68	40	102.8	50 - 150
63, Cu	72	1	41.14	0.43	ppb	0.55	40	101.8	50 - 150
66 Zn	72	1	40.89	8.86	ppb	1.02	40	83.7	50 - 150
75 As	72	1	39.70	0.01	ppb	1.91	40	99.2	50 - 150
78 Se	72	1	37.66	0.28	ppb	2.21	40	93.5	50 - 150
95 Mo	72	1	35.56	0.17	ppb	1.29	40	88.5	50 - 150
107 Ag	115	1	40.57	0.01	ppb	0.75	40	101.4	50 - 150
111 Cd	115	1	38.88	0.00	ppb	0.89	40	97.2	50 - 150
118 Sn	115	1	0.26	0.20	ppb	7.26	40	0.7	50 - 150
121 Sb	115	1	35.78	0.09	ppb	0.84	40	89.3	50 - 150
137 Ba	115	1	40.55	0.66	ppb	1.52	40	99.7	50 - 150
205 Tl	165	1	42.66	-0.01	ppb	1.13	40	106.7	50 - 150
208 _. Pb	165	1	40.84	0.12	ppb	0.87	40	101.8	50 - 150
232 Th	165	1	40.88	0.01	ppb	1.61	40	102.2	50 - 150
238 U	165	1	40.76	0.01	ppb	1.03	40	101.9	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	358353	0.80	316659	113.2	30 - 120
45 Sc	1	939200	0.60	888972	105.7	30 - 120
72 Ge	1	422553	0.76	425816	99.2	30 - 120
115 In	1	1328078	0.75	1335258	99.5	30 - 120
165 Ho	1	2539000	0.43	2617754	97.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\027 MSD.D\027 MSD.D#

Date Acquired: Nov 9 2009 09:38 pm QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass

Sample Name: LNME4D

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 2209

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: MSD Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	38.17	ppb	2.44	38.95	2.02	20	
51 V	72	1	42.54	ppb	0.57	42.14	0.94	20	
52 Cr	72	1	42.55	ppb	0.81	41.88	1.59	20	
55 Mn	72	1	43.44	ppb	1.18	44.00	1.28	20	
59 Co	72	1	41.86	ppb	0.99	41.74	0.29	20	
60 Ni	72	1	41.95	ppb	1.55	41.29	1.59	20	
63 Cu	72	1	41.52	ppb	0.70	41.14	0.92	20	
66 Zn	72	1	40.14	ppb	0.44	40.89	1.85	20	
75 As	72	1	39.63	ppb	0.29	39.70	0.18	20	
78 Se	72	1	37.06	ppb	3.10	37.66	1.61	20	
95 Mo	72	1	35.66	ppb	0.62	35.56	0.28	20	
107 Ag	115	1	40.93	ppb	2.04	40.57	0.88	20	
111 Cd	115	1	39.64	ppb	0.46	38.88	1.94	20	
118 Sn	115	1	0.12	ppb	27.87	0.26	76.84	20	
121 Sb	115	1	35.83	ppb	0.62	35.78	0.14	20	
137 Ba	115	1	41.37	ppb	0.68	40.55	2.00	20	
205 Tl	165	1	42.77	ppb	1.75	42.66	0.26	20	
208 Pb	165	1	40.90	ppb	1.73	40.84	0.15	20	
232 Th	165	1	41.06	ppb	0.63	40.88	0.44	20	
238 U	165	1	40.94	ppb	0.83	40.76	0.44	20	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355186	0.16	316659	112.2	30 - 120	
45 Sc	1	936988	0.78	888972	105.4	30 - 120	
72 Ge	1	422235	0.79	425816	99.2	30 - 120	
115 In	1	1312991	0.53	1335258	98.3	30 - 120	
165 Ho	1	2541733	0.77	2617754	97.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\028 CCV.D\028 CCV.D#

Date Acquired: Nov 9 2009 09:41 pm

QC Summary: Operator: LRD Analytes: Pass CCV Sample Name: ISTD: Pass

Misc Info:

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCV Total Dil Factor: 1.00

QC Eleme	nts								
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	48.28	ppb	1.89	50	96.6	90 - 110	
51 V	72	1	51.66	ppb	1.31	50	103.3	90 - 110	
52 Cr	72	1	51.41	ppb	0.42	50	102.8	90 - 110	
55 Mn	72	1	50.80	ppb	0.70	50	101.6	90 - 110	
59 Co	72	1	50.98	ppb	1.52	50	102.0	90 - 110	
60 Ni	72	1	50.44	ppb	1.14	50	100.9	90 - 110	
63 Cu	72	1	50.68	ppb	0.38	50	101.4	90 - 110	
66 Zn	72	1	49.73	ppb	0.43	50	99.5	90 - 110	
75 As	72	1	51.43	ppb	1.43	50	102.9	90 - 110	
78 Se	72	1	50.58	ppb	4.06	50	101.2	90 - 110	
95 Mo	72	1	49.14	ppb	0.63	50	98.3	90 - 110	
107 Ag	115	1	49.88	ppb	1.55	50	99.8	90 - 110	
111 Cd	115	1	49.46	ppb	0.97	50	98.9	90 - 110	
118 Sn	115	1	49.89	ppb	2.37	50	99.8	90 - 110	
121 Sb	115	1	49.59	ppb	1.76	50	99.2	90 - 110	
137 Ba	115	1	50.39	ppb	1.52	50	100.8	90 - 110	
205 Tl	165	1	49.99	ppb	0.81	50	100.0	90 - 110	
208 Pb	165	1	50.66	ppb	1.69	50	101.3	90 - 110	
232 Th	165	. 1	50.62	ppb	1.15	50	101.2	90 - 110	
238 U	165	1	50.54	ppb	0.29	50	101.1	90 - 110	
ISTD Ele	ments								
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	351524		0.93	316659	111.0	30 - 120	
45 Sc		1	927694		1.28	888972	104.4	30 - 120	
72 Ge		1	421606		1.09	425816	99.0	30 - 120	
115 In		1	1310979		0.71	1335258	98.2	30 - 120	
165 Ho		1	2522093		0.90	2617754	96.3	30 - 120	

c:\icpchem\1\7500\he.u Tune File# 1 C:\ICPCHEM\1\7500\ Tune File# 2 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\029 CCB.D\029 CCB.D#

Date Acquired: Nov 9 2009 09:43 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB ISTD: Pass

Misc Info: Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCB Total Dil Factor: 1.00

QC Elements													
Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag						
9 Be	6	1	0.000	ppb	0.00	1.00							
51 V	72	1	-0.036	ppb	44.55	1.00							
52 Cr	72	1	0.019	ppb	63.89	1.00							
55 Mn	72	1	0.000	ppb	2382.10	1.00							
59 Co	72	1	0.002	ppb	93.07	1.00							
60 Ni	72	1	-0.010	ppb	1.82	1.00							
63 Cu	72	1	-0.002	ppb	211.49	1.00							
66 Zn	72	1	0.038	ppb	50.08	1.00							
75 As	72	1	-0.017	ppb	26.71	1.00							
78 Se	72	1	0.225	ppb	111.94	1.00							
95 Mo	72	1	0.046	ppb	45.40	1.00							
107 Ag	115	1	0.012	ppb	29.52	1.00							
111 Cd	115	1	0.002	ppb	311.75	1.00							
118 Sn	115	1	0.080	ppb	40.12	1.00							
121 Sb	115	1	0.165	ppb	24.61	1.00							
137 Ba	115	1	0.004	ppb	88.07	1.00							
205 Tl	165	1	0.004	ppb	78.72	1.00							
208 Pb	165	1	0.002	ppb	56.03	1.00							
232 Th	165	1	0.061	ppb	14.74	1.00							
238 U	165	1	0.013	ppb	31.22	1.00							

IST	D Elements							
Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	354787	1.32	316659	112.0	30 - 120	
45	Sc	1	923814	1.00	888972	103.9	30 - 120	
72	Ge	1	432478	0.52	425816	101.6	30 - 120	
115	In	1	1308981	0.63	1335258	98.0	30 - 120	
165	Но	1	2520572	0.23	2617754	96.3	30 - 120	

Tune File# 1 c:\icpchem $\1\7500$ he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D# ISTD Ref File :

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\030WASH.D\030WASH.D#

Date Acquired: Nov 9 2009 09:50 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: RLCV ISTD: Pass

Misc Info:

Vial Number: 1204

C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: WASH Total Dil Factor: 1.00

QC	El	emen	ts
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.009 ppb	18.75	1.30	
51 V	72	1	5.177 ppb	1.19	6.50	
52 Cr	72	1	2.111 ppb	3.52	2.60	
55 Mn	72	1	1.107 ppb	2.74	1.30	
59 Co	72	1	1.028 ppb	3.93	1.30	
60 Ni	72	1	2.108 ppb	1.73	2.60	
63 Cu	72	1	2.068 ppb	1.44	2.60	
66 Zn	72	1	9.967 ppb	0.46	13.00	
75 As	72	1	5.161 ppb	1.92	6.50	
78 Se	72	1	5.825 ppb	10.45	6.50	
95 Mo	72	1	1.986 ppb	5.92	2.60	
107 Ag	115	1	5.462 ppb	1.89	6.50	
111 Cd	115	1	1.025 ppb	1.41	1.30	
118 Sn	115	1	10.590 ppb	0.75	13.00	
121 Sb	115	1	2.089 ppb	2.01	2.60	
137 Ba	115	1	1.011 ppb	0.65	1.30	
205 Tl	165	1	1.109 ppb	3.60	1.30	
208 Pb	165	1	1.060 ppb	1.36	1.30	
232 Th	165	1	2.209 ppb	0.66	2.60	
238 U	165	1	1.106 ppb	2.50	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358611	0.21	316659	113.2	30 - 120	
45 Sc	1	931630	1.00	888972	104.8	30 - 120	
72 Ge	1	428811	1.09	425816	100.7	30 - 120	
115 In	1	1287825	1.17	1335258	96.4	30 - 120	
165 Ho	1	2504436	0.55	2617754	95.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\060 CCV.D\060 CCV.D#

Date Acquired: Nov 9 2009 11:12 pm

Operator: LRD QC Summary: Sample Name: CCV Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCV
Total Dil Factor: 1.00

ETe:	ment	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	47.76	ppb	2.01	50	95.5	90 - 110	
51	V	72	1	53.33	ppb	0.36	50	106.7	90 - 110	
52	Cr	72	1	52.02	ppb	0.91	50	104.0	90 - 110	
55	Mn	72	1	50.55	ppb	1.03	50	101.1	90 - 110	
59	Co	72	1	51.60	ppb	1.26	50	103.2	90 - 110	
60	Ni	72	1	51.77	ppb	1.81	50	103.5	90 - 110	
63	Cu	72	1	51.63	ppb	0.61	50	103.3	90 - 110	
66	Zn	72	1	48.55	ppb	1.53	50	97.1	90 - 110	
75	As	72	1	52.15	ppb	0.82	50	104.3	90 - 110	
78	Se	72	1	49.57	ppb	2.57	50	99.1	90 - 110	
95	Мо	72	1	47.79	ppb	1.06	50	95.6	90 - 110	
107	Ag	115	1	50.33	ppb	2.15	50	100.7	90 - 110	
111	Cd	115	1	48.29	ppb	2.01	50	96.6	90 - 110	
118	Sn	115	1	48.91	ppb	3.81	50	97.8	90 - 110	
121	Sb	115	1	48.67	ppb	1.99	50	97.3	90 - 110	
137	Ва	115	1	50.76	ppb	0.77	50	101.5	90 - 110	
205	T1	165	1	51.23	ppb	4.59	50	102.5	90 - 110	
208	Pb	165	1	49.88	ppb	2.00	50	99.8	90 - 110	
232	Th	165	1	49.71	ppb	2.61	50	99.4	90 - 110	
238	U	165	1	49.08	ppb	0.86	50	98.2	90 - 110	

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	371239	0.44	316659	117.2	30 - 120	
45	Sc	1	996118	0.60	888972	112.1	30 - 120	
72	Ge	1	449415	1.43	425816	105.5	30 - 120	
115	In	1	1358249	0.76	1335258	101.7	30 - 120	
165	Но	1	2424776	0.66	2617754	92.6	30 - 120	,

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\061 CCB.D\061 CCB.D#

Date Acquired: Nov 9 2009 11:15 pm

QC Summary: Operator: LRD Sample Name: Analytes: Pass CCB ISTD:

Misc Info:

Vial Number: 1307

Current Method: Current Method: C:\ICPCHEM\1\METHODS\NormISIS.
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 09 2009 08:35 pm C:\ICPCHEM\1\METHODS\NormISIS.M

Sample Type: CCB Total Dil Factor: 1.00

QC Elemen	nts
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Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.25	1.00	
51 V	72	1	-0.033	ppb	15.18	1.00	
52 Cr	72	1	0.027	ppb	19.92	1.00	
55 Mn	72	1	0.057	ppb	24.29	1.00	
59 Co	72	1	0.002	ppb	40.00	1.00	
60 Ni	72	1	-0.008	ppb	174.20	1.00	
63 Cu	72	1	0.033	ppb	81.15	1.00	
66 Zn	72	1	0.057	ppb	34.92	1.00	
75 As	72	1	-0.012	ppb	116.84	1.00	
78. Se	72	1	0.544	ppb	106.14	1.00	
95 Mo	72	1	0.025	ppb	55.86	1.00	
107 Ag	115	1	0.006	ppb	0.78	1.00	
111 Cd	115	1	0.011	ppb	84.87	1.00	
118 Sn	115	1	0.063	ppb	27.95	1.00	
121 Sb	115	1	0.170	ppb	15.64	1.00	
137 Ba	115	1	0.021	ppb	35.77	1.00	
205 Tl	165	1	0.004	ppb	85.40	1.00	
208 Pb	165	1	0.006	ppb	13.99	1.00	
232 Th	165	1	0.047	ppb	18.57	1.00	
238 U	165	1	0.010	ppb	26.90	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	375737	0.86	316659	118.7	30 - 120	
45 Sc	1	1005396	1.10	888972	113.1	30 - 120	
72 Ge	1	462662	0.61	425816	108.7	30 - 120	
115 In	1	1347936	0.72	1335258	100.9	30 - 120	
165 Ho	1	2437556	0.89	2617754	93.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Pass

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\062WASH.D\062WASH.D#

Date Acquired: Nov 9 2009 11:18 pm

Operator: QC Summary: LRD Analytes: Pass Sample Name: RLCV ISTD: Pass Misc Info:

Vial Number: 1204

C:\ICPCHEM\1\CALIB\NormISIS.C
Nov 09 2009 00007 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File:

Last Cal Update:

Sample Type: WASH Total Dil Factor: 1.00

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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.988 ppb	13.49	1.30	
51 V	72	1	5.317 ppb	1.85	6.50	
52 Cr	72	1	2.215 ppb	1.75	2.60	
55 Mn	72	1	1.081 ppb	2.43	1.30	
59 Co	72	1	1.073 ppb	4.20	1.30	
60 Ni	72	1	2.102 ppb	1.66	2.60	
63 Cu	72	1	2.102 ppb	1.56	2.60	
66 Zn	72	1	10.000 ppb	2.32	13.00	
75 As	72	1	5.122 ppb	1.19	6.50	
78 Se	72	1	5.883 ppb	5.54	6.50	
95 Mo	72	1	1.969 ppb	1.32	2.60	
107 Ag	115	1	5.324 ppb	0.46	6.50	
111 Cd	115	1	0.960 ppb	12.77	1.30	
118 Sn	115	1	10.230 ppb	2.10	13.00	
121 Sb	115	1	2.053 ppb	1.15	2.60	
137 Ba	115	1	1.068 ppb	9.25	1.30	
205 Tl	165	1	1.085 ppb	2.24	1.30	
208 Pb	165	1	1.017 ppb	0.46	1.30	
232 Th	165	1	2.117 ppb	2.07	2.60	
238 U	165	1	1.040 ppb	1.77	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	377304	1.01	316659	119.2	30 - 120	
45 Sc	1	1005985	1.51	888972	113.2	30 - 120	
72 Ge	1	461018	0.47	425816	108.3	30 - 120	
115 In	1	1347706	0.37	1335258	100.9	30 - 120	
165 Ho	1	2446876	0.21	2617754	93.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\063CALB.D\063CA

Date Acquired: Nov 9 2009 11:21 pm

Acq. Method: NormISIS.M

Operator: LRD

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M

Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: CalBlk

TO D. C. M.

QC Elements

Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	3	173.23
51	Λ	72	1	377	2.88
52	Cr	72	1	1847	11.91
55	Mn	72	1	490	7.02 /
59	Co	72	1	27	43.08
60	Ni	72	1	90	38.28
63	Cu	72	1	207	26.41
66	Zn	72	1	224	7/60
75	As	72	. 1	37	2 .96
78	Se	72	1	180	£14.95
95	Mo	72	1	70	/ 0.37
107	Ag	115	1	37	/ 102.75
111	Cd	115	1	1 /	1018.80
118	Sn	115	1	230 /	7.23
121	Sb	115	1	168 /	17.49
137	Ва	115	1	30 /	19.55
205	Tl	165	1	118 /	2.17
208	Pb	165	1	187/	13.74
232	Th	165	1	340	3.31
238	U	165	1	107	28.05

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	381407	0.74
45	Sc	1	1012136	1.26
72	Ge	1	467118	0.37
115	In	1	1351742	0.80
165	Но	1	2415684	0.57

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

..."During the course of an analytical run, the instrument may be "resloped" or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed."

Analyst:	LRD	_
Date:	11/09/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

Nov 9 2009 11:23 pm NormISIS.M Date Acquired:
Acq. Method:

Operator: LRD

Sample Name: Cal Blank

Misc Info:

2101 Vial Number:

Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 11:21 pm

Sample Type: CalBlk

QC Elements

*					
Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	3	173.21
51	V	72	1	330	13.77
52	Cr	72	1	2014	3.51
55	Mn	72	1	663	10.90
59	Co	72	1	33	75.74
60	Ni	72	1	80	50.41
63	Cu	72	1	197	11.45
66	Zn	72	1	343	6.91
75	As	72	1	34	14.74
78	Se	72	1	173	12.49
95	Мо	72	1	40	49.31
107	Ag	115	1	10	99.72
111	Cd	115	1	5	690.53
118	Sn	115	1	340	20.42
121	Sb	115	1	100	28.11
137	Ва	115	1	23	24.93
205	Tl	165	1	98	12.19
208	Pb	165	1	236	9.19
232	Th	165	1	170	15.62
238	U	165	1	78	28.11

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	380157	0.54
45	Sc	1	1002329	1.13
72	Ge	1	466393	0.79
115	In	1	1358080	0.44
165	Но	1	2422153	0.33

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\065ICAL.D\065ICAL.D#

Date Acquired: Nov 9 2009 11:26 pm

Acq. Method: NormISIS.M

Operator: LRD Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 11:24 pm

Sample Type: ICAL

QC Elements

E					
Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	43479	0.71
51	V	72	1	576998	0.10
52	Cr	72	1	580585	0.35
55	Mn	72	1	647521	2.20
59	Co	72	1	696629	1.39
60	Ni	72	1	153810	1.14
63	Cu	72	1	367490	0.55
66	Zn	72	1	85809	0.55
75	As	72	1	71337	0.80
78	Se	72	1	14168	2.89
95	Mo	72	1	198709	1.88
107	Ag	115	1	570960	1.47
111	Cd	115	1	117474	1.83
118	Sn	115	1	325069	1.28
121	Sb	115	1	387694	1.11
137	Ва	115	1	161998	1.24
205	Tl	165	1	1342275	1.10
208	Pb	165	1	1942480	0.67
232	Th	165	1	2057394	0.68
238	U	165	1	2166904	0.49

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%) Flag
6	Li	1	365465	0.26	380157	96.1	30 - 12	0
45	Sc	1	986653	1.27	1002329	98.4	30 - 12	C
72	Ge	1	442828	1.10	466393	94.9	30 - 12	C
115	In	1	1328586	0.28	1358080	97.8	30 - 12	0
165	Но	1	2432710	0.17	2422153	100.4	30 - 12	0

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures
0 :ISTD Failures
0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\066 CCV.D\066 CCV.D#

Date Acquired: Nov 9 2009 11:29 pm

QC Summary: Operator: LRD Sample Name: Analytes: Pass CCV ISTD: Pass

Misc Info:

Vial Number: 1107

C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Nov 09 2009 11:27 pm Last Cal Update:

CCV Sample Type: Total Dil Factor: 1.00

Second Fig. Fig. Fig. Conc. RSD(%) Expected Rec(%) QC Range(%) Flag PB	QC Eleme	ents								
Si v	Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
S2	9 Be	6	1	46.93	ppb	3.91	50	93.9	90 - 110	
S5 Mn 72	51 V	72	1	49.96	ppb	0.87	50	99.9	90 - 110	
S9	52 Cr	72	1	49.84	ppb	0.96	50	99.7	90 - 110	
60 Ni 72 1 50.29 ppb 1.97 50 100.6 90 - 110 63 Cu 72 1 49.99 ppb 0.18 50 100.0 90 - 110 66 Zn 72 1 50.01 ppb 0.68 50 100.0 90 - 110 75 As 72 1 50.48 ppb 0.16 50 101.0 90 - 110 78 Se 72 1 49.48 ppb 2.05 50 99.0 90 - 110 95 Mo 72 1 49.81 ppb 0.18 50 99.6 90 - 110 107 Ag 115 1 49.81 ppb 2.30 50 99.6 90 - 110 111 Cd 115 1 50.05 ppb 1.51 50 100.1 90 - 110 118 Sn 115 1 50.31 ppb 2.81 50 100.6 90 - 110 121 Sb 115 1 50.31 ppb 2.81 50 100.6 90 - 110 121 Sb 115 1 49.63 ppb 3.25 50 99.3 90 - 110 121 Sb 115 1 49.63 ppb 3.25 50 99.3 90 - 110 120 Tl 165 1 52.26 ppb 4.30 50 100.6 90 - 110 205 Tl 165 1 51.13 ppb 1.50 50 104.5 90 - 110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 233 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 TISTD Elements Element Tune CPS Mean RSD(*) Ref Value Rec(*) QC Range(*) Flag 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	55 Mn	72	1	51.01	ppb	0.50	50	102.0	90 - 110	
63 Cu 72 1 49.99 ppb 0.18 50 100.0 90 - 110 66 Zn 72 1 50.01 ppb 0.68 50 100.0 90 - 110 75 As 72 1 50.48 ppb 0.16 50 101.0 90 - 110 78 Se 72 1 49.48 ppb 2.05 50 99.0 90 - 110 95 Mo 72 1 49.81 ppb 0.18 50 99.6 90 - 110 107 Ag 115 1 49.81 ppb 2.30 50 99.6 90 - 110 111 Cd 115 1 50.05 ppb 1.51 50 100.1 90 - 110 118 Sn 115 1 50.05 ppb 1.51 50 100.1 90 - 110 121 Sb 115 1 50.31 ppb 2.81 50 100.6 90 - 110 121 Sb 115 1 50.29 ppb 2.80 50 100.6 90 - 110 137 Ba 115 1 49.63 ppb 3.25 50 99.3 90 - 110 205 Tl 165 1 52.26 ppb 4.30 50 104.5 90 - 110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 238 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	59 Co	72	1	50.30	ppb	0.45	50	100.6	90 - 110	
66 Zn 72 1 50.01 ppb 0.68 50 100.0 90 - 110 75 As 72 1 50.48 ppb 0.16 50 101.0 90 - 110 78 Se 72 1 49.48 ppb 2.05 50 99.0 90 - 110 95 Mo 72 1 49.81 ppb 0.18 50 99.6 90 - 110 107 Ag 115 1 49.81 ppb 2.30 50 99.6 90 - 110 111 Cd 115 1 50.05 ppb 1.51 50 100.1 90 - 110 118 Sn 115 1 50.31 ppb 2.81 50 100.6 90 - 110 121 Sb 115 1 50.29 ppb 2.80 50 100.6 90 - 110 137 Ba 115 1 49.63 ppb 3.25 50 99.3 90 - 110 205 Tl 165 1 52.26 ppb 4.30 50 104.5 90 - 110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 233 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 ISTD Element Flement Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	60 Ni	72	1	50.29	ppb	1.97	50	100.6	90 - 110	
75 As 72 1 50.48 ppb 0.16 50 101.0 90 - 110 78 Se 72 1 49.48 ppb 2.05 50 99.0 90 - 110 95 Mo 72 1 49.81 ppb 0.18 50 99.6 90 - 110 107 Ag 115 1 49.81 ppb 2.30 50 99.6 90 - 110 111 Cd 115 1 50.05 ppb 1.51 50 100.1 90 - 110 118 Sn 115 1 50.31 ppb 2.81 50 100.6 90 - 110 121 Sb 115 1 50.29 ppb 2.80 50 100.6 90 - 110 137 Ba 115 1 49.63 ppb 3.25 50 99.3 90 - 110 205 Tl 165 1 52.26 ppb 4.30 50 104.5 90 - 110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 238 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 **TSTD Element** **Element** **Element** **CPS Mean** **RSD(%)** **Ref Value** **Rec(%)** **QC Range(%)** **Flag 6 Li** 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 47 Ge 1 439576 1.54 466393 94.3 30 - 120 48 Ti Ti Ti Ti Ti Ti Ti Ti Ti Ti Ti Ti Ti	63 Cu	72	1	49.99	ppb	0.18	50	100.0	90 - 110	
78 Se 72 1 49.48 ppb 2.05 50 99.0 90-110 95 Mo 72 1 49.81 ppb 0.18 50 99.6 90-110 107 Ag 115 1 49.81 ppb 2.30 50 99.6 90-110 111 Cd 115 1 50.05 ppb 1.51 50 100.1 90-110 118 Sn 115 1 50.31 ppb 2.81 50 100.6 90-110 121 Sb 115 1 50.29 ppb 2.80 50 100.6 90-110 137 Ba 115 1 49.63 ppb 3.25 50 99.3 90-110 205 Tl 165 1 52.26 ppb 4.30 50 104.5 90-110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90-110 232 Th 165 1 51.46 ppb 0.54 50 102.3 90-110 238 U 165 1 51.98 ppb 0.56 50 104.0 90-110 ISTD Elements Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag 6 Li 1 367332 1.49 380157 96.6 30-120 45 Sc 1 986000 0.43 1002329 98.4 30-120 72 Ge 1 439576 1.54 466393 94.3 30-120 115 In 1 1323940 1.40 1358080 97.5 30-120	66 Zn	72	1	50.01	ppb	0.68	50	100.0	90 - 110	
95 Mo 72 1 49.81 ppb 0.18 50 99.6 90 - 110 107 Ag 115 1 49.81 ppb 2.30 50 99.6 90 - 110 111 Cd 115 1 50.05 ppb 1.51 50 100.1 90 - 110 118 Sn 115 1 50.31 ppb 2.81 50 100.6 90 - 110 121 Sb 115 1 50.29 ppb 2.80 50 100.6 90 - 110 137 Ba 115 1 49.63 ppb 3.25 50 99.3 90 - 110 205 Tl 165 1 52.26 ppb 4.30 50 104.5 90 - 110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 238 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 ISTD Element Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	75 As	72	1	50.48	ppb	0.16	50	101.0	90 - 110	
107 Ag 115 1 49.81 ppb 2.30 50 99.6 90 - 110 111 Cd 115 1 50.05 ppb 1.51 50 100.1 90 - 110 118 Sn 115 1 50.31 ppb 2.81 50 100.6 90 - 110 121 Sb 115 1 50.29 ppb 2.80 50 100.6 90 - 110 137 Ba 115 1 49.63 ppb 3.25 50 99.3 90 - 110 205 Tl 165 1 52.26 ppb 4.30 50 104.5 90 - 110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 232 Th 165 1 51.98 ppb 0.56 50 104.0 90 - 110 238 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 ISTD Element Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	78 Se	72	1	49.48	ppb	2.05	50	99.0	90 - 110	
111 Cd 115 1 50.05 ppb 1.51 50 100.1 90 - 110 118 Sn 115 1 50.31 ppb 2.81 50 100.6 90 - 110 121 Sb 115 1 50.29 ppb 2.80 50 100.6 90 - 110 137 Ba 115 1 49.63 ppb 3.25 50 99.3 90 - 110 205 Tl 165 1 52.26 ppb 4.30 50 104.5 90 - 110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 238 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 TISTD Elements Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 45 Sc 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	95 Mo	72	1	49.81	ppb	0.18	50	99.6	90 - 110	
118 Sn 115	107 Ag	115	1	49.81	ppb	2.30	50	99.6	90 - 110	
121 Sb 115 1 50.29 ppb 2.80 50 100.6 90 - 110 137 Ba 115 1 49.63 ppb 3.25 50 99.3 90 - 110 205 Tl 165 1 52.26 ppb 4.30 50 104.5 90 - 110 208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 238 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 ISTD Elements Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	111 Cd	115	1	50.05	ppb	1.51	50	100.1	90 - 110	
137 Ba 115	118 Sn	115	1	50.31	ppb	2.81	50	100.6	90 - 110	
205 Tl 165	121 Sb	115	1	50.29	ppb	2.80	50	100.6	90 - 110	
208 Pb 165 1 51.13 ppb 1.50 50 102.3 90 - 110 232 Th 165 1 51.46 ppb 0.54 50 102.9 90 - 110 238 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 ISTD Elements Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	137 Ba	115	1	49.63	ppb	3.25	50	99.3	90 - 110	
232 Th	205 Tl	165	1	52.26	ppb	4.30	50	104.5	90 - 110	
238 U 165 1 51.98 ppb 0.56 50 104.0 90 - 110 ISTD Elements Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	208 Pb	165	1	51.13	ppb	1.50	50	102.3	90 - 110	
ISTD Elements Element Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	232 Th	165	1	51.46	ppb	0.54	50	102.9	90 - 110	
Element Tune CPS Mean RSD(%) Ref Value Rec (%) QC Range (%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	238 U	165	1	51.98	ppb	0.56	50	104.0	90 - 110	
Element Tune CPS Mean RSD(%) Ref Value Rec (%) QC Range (%) Flag 6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120										
6 Li 1 367332 1.49 380157 96.6 30 - 120 45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	ISTD Ele	ements								
45 Sc 1 986000 0.43 1002329 98.4 30 - 120 72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	Element		Tune	CPS Mean		RSD(%)	Ref Value			Flag
72 Ge 1 439576 1.54 466393 94.3 30 - 120 115 In 1 1323940 1.40 1358080 97.5 30 - 120	6 Li		1	367332		1.49				
115 In 1 1323940 1.40 1358080 97.5 30 - 120	45 Sc		1	986000		0.43	1002329			
	72 Ge		1	439576		1.54	466393			
165 Ho 1 2412483 0.54 2422153 99.6 30 - 120	115 In		1	1323940		1.40	1358080			
	165 Ho		1	2412483		0.54	2422153	99.6	30 - 120	

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D\#

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Continuing Calibration Blank (CCB) QC Report

C:\ICPCHEM\1\DATA\AG110909A.B\067 CCB.D\067 CCB.D# Data File:

Date Acquired: Nov 9 2009 11:32 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB ISTD: Pass Misc Info:

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\Normal Last Cal Update: Nov 09 2009 11:27 pm C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Sample Type: CCB Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.000	ppb	7714.50	1.00	
51 V	72	1	0.007	ppb	88.19	1.00	
52. Cr	72	1	-0.013	ppb	132.92	1.00	
55 Mn	72	1	0.016	ppb	41.75	1.00	
59 Co	72	1	-0.002	ppb	220.37	1.00	
60 Ni	72	1	-0.013	ppb	101.75	1.00	
63 Cu	72	1	0.005	ppb	237.12	1.00	
66 Zn	72	1	-0.125	ppb	6.55	1.00	
75 As	72	1	-0.003	ppb	254.46	1.00	
78 Se	72	1	0.068	ppb	820.68	1.00	
95 Mo	72	1	0.036	ppb	12.78	1.00	
107 Ag	115	1	0.013	ppb	34.78	1.00	
111 Cd	115	1	-0.004	ppb	335.65	1.00	
118 Sn	115	1	0.114	ppb	40.09	1.00	
121 Sb	115	1	0.218	ppb	17.21	1.00	
137 Ba	115	1	0.020	ppb	38.49	1.00	
205 Tl	165	1	0.017	ppb	13.22	1.00	
208 Pb	165	1	0.004	ppb	41.00	1.00	
232 Th	165	1	0.058	ppb	8.27	1.00	
238 U	165	1	0.015	ppb	19.36	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	370403	0.21	380157	97.4	30 - 120	
45 Sc	1	986390	1.51	1002329	98.4	30 - 120	
72 Ge	1	448979	0.79	466393	96.3	30 - 120	
115 In	1	1330065	0.95	1358080	97.9	30 - 120	
165 Ho	1	2397227	1.01	2422153	99.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D# ISTD Ref File :

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

C:\ICPCHEM\1\DATA\AG110909A.B\068WASH.D\068WASH.D#

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\068WASH.D\068WASH.D\#

Date Acquired: Nov 9 2009 11:34 pm

Operator: LRD QC Summary:
Sample Name: RLCV Analytes: Pass
Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 11:27 pm

Sample Type: WASH Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.846 ppb	15.54	1.30	
51 V	72	1	5.105 ppb	1.52	6.50	
52 Cr	72	1	1.946 ppb	5.53	2.60	
55 Mn	72	1	1.034 ppb	8.27	1.30	
59 Co	72	1	1.006 ppb	1.60	1.30	
60 Ni	72	1	2.032 ppb	5.86	2.60	
63 Cu	72	1	2.022 ppb	3.80	2.60	
66 Zn	72	1	10.060 ppb	2.89	13.00	
75 As	72	1	5.074 ppb	1.10	6.50	
78 Se	72	1	5.789 ppb	19.52	6.50	
95 Mo	72	1	2.059 ppb	3.74	2.60	
107 Ag	115	1	5.439 ppb	1.68	6.50	
111 Cd	115	1	1.029 ppb	3.65	1.30	
118 Sn	115	1	10.700 ppb	3.27	13.00	
121 Sb	115	1	2.106 ppb	1.70	2.60	
137 Ba	115	1	1.052 ppb	6.93	1.30	
205 Tl	165	1	1.129 ppb	1.04	1.30	
208 Pb	165	1	1.059 ppb	0.98	1.30	
232 Th	165	1	2.213 ppb	1.62	2.60	
238 U	165	1	1.097 ppb	1.65	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	371066	0.42	380157	97.6	30 - 120	
45 Sc	1	964688	0.29	1002329	96.2	30 - 120	
72 Ge	1	445105	0.41	466393	95.4	30 - 120	
115 In	1	1302898	1.20	1358080	95.9	30 - 120	
165 Но	1	2377516	0.60	2422153	98.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D\#

0 :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\069ICSA.D\069ICSA.D#

Date Acquired: Nov 9 2009 11:37 pm

QC Summary: NormISIS.M Acq. Method:

Analytes: Pass Operator: LRD ISTD: Pass Sample Name: ICSA

Misc Info:

2108 Vial Number:

C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: C:\ICPCHEM\1\CALIB\NormISIS.C Calibration File: C:\1CFCHER\1.

Last Cal. Update:

Sample Type: ICSA Dilution Factor: 1.00

Elen	nent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	-0.01 ppb	0.00	1.00	
51	V	72	1	3.14 ppb	3.11	1.00	
52	Cr	72	1	1.87 ppb	2.39	1.00	
55	Mn	72	1	3.00 ppb	3.46	1.00	
59	Co	72	1	0.12 ppb	14.06	1.00	
60	Ni	72	1	1.18 ppb	6.20	1.00	
63	Cu	72	1	0.57 ppb	5.88	1.00	
66	Zn	72	1	4.08 ppb	4.97	10.00	
75	As	72	1	0.40 ppb	5.91	1.00	
78	Se	72	1	0.25 ppb	58.42	1.00	
95	Mo	72	1	1968.00 ppb	1.40	2000.00	
107	Ag	115	1	0.05 ppb	11.35	1.00	
111	Cd	115	1	0.47 ppb	58.03	1.00	
118	Sn	115	1	0.17 ppb	23.23	10.00	
121	Sb	115	1	0.97 ppb	1.38	1.00	
137	Ba	115	1	0.04 ppb	20.16	1.00	
205	Tl	165	1	0.04 ppb	30.89	1.00	
208	Pb	165	1	1.00 ppb	1.65	1.00	
232	Th	165	1	0.03 ppb	24.22	1.00	
238	U	165	1	0.01 ppb	11.29	1.00	

ISTD Elements

Eler	nent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	291637	0.61	380157	76.7	30 - 120	
4.5	Sc	1	784216	1.43	1002329	78.2	30 - 120	
72	Ge	1	362840	1.19	466393	77.8	30 - 120	
	In	1	1050065	1.20	1358080	77.3	30 - 120	
	Но	1	2003482	0.67	2422153	82.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Nnumber of ISTD Failures Allowed 0 :ISTD Failures

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\070ICSB.D\070ICSB.D#

Date Acquired: Nov 9 2009 11:40 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: ICSAB ISTD: Pass

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 11:27 pm

Sample Type: ICSAB
Dilution Factor: 1.00

\sim	121.7	ements
CR:	P: L	ements

OC Flewe	ents							
Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	98.69	0.29	100	98.7	80 - 120	
51 V	72	1	100.10	0.51	100	100.1	80 - 120	
52 Cr	72	1	96.39	1.13	100	96.4	80 - 120	
55 Mn	72	1	100.10	0.37	100	100.1	80 - 120	
59 Co	72	1	92.34	0.82	100	92.3	80 - 120	
60 Ni	72	1	90.79	1.30	100	90.8	80 - 120	
63 Cu	72	1	86.68	0.74	100	86.7	80 - 120	
66 Zn	72	1	97.33	0.89	100	97.3	80 - 120	
75 As	72	1	98.23	0.81	100	98.2	80 - 120	
78 Se	72	1	104.70	2.41	100	104.7	80 - 120	
95 Mo	72	1	2087.00	0.34	2100	99.4	80 - 120	
107 Ag	115	1	85.94	0.48	100	85.9	80 - 120	
111 Cd	115	1	94.98	1.32	100	95.0	80 - 120	
118 Sn	115	1	99.84	0.78	100	99.8	80 - 120	
121 Sb	115	1	102.50	0.96	100	102.5	80° - 120	
137 Ba	115	1	99.50	0.68	100	99.5	80 - 120	
205 Tl	165	1	94.70	0.86	100	94.7	80 - 120	
208 Pb	165	1	94.59	1.37	100	94.6	80 - 120	
232 Th	165	1	101.60	1.79	100	101.6	80 - 120	
238 U	165	1	101.00	1.69	100	101.0	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	284581	0.95	380157	74.9	30 - 120	
45 Sc	1	773360	0.68	1002329	77.2	30 - 120	
72 Ge	1	354105	0.59	466393	75.9	30 - 120	
115 In	1	1057991	0.87	1358080	77.9	30 - 120	
165 Ho	1	2026193	0.86	2422153	83.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\AG110909A.B\071WASH.D\071WASH.D#

ISTD:

Pass

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\071WASH.D\071WASH.D#

Date Acquired: Nov 9 2009 11:43 pm

Operator: LRD QC Summary: Sample Name: WASH Analytes: Pass

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 11:27 pm

Sample Type: WASH Total Dil Factor: 1.00

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.007 ppb	0.00	1.30	
51 V	72	1	0.175 ppb	10.68	6.50	
52 Cr	72	1	-0.015 ppb	224.26	2.60	
55 Mn	72	1	-0.011 ppb	101.02	1.30	
59 Co	72	1	0.002 ppb	273.67	1.30	
60 Ni	72	1	-0.002 ppb	1290.40	2.60	
63 Cu	72	1	0.012 ppb	163.09	2.60	
66 Zn	72	1	-0.119 ppb	10.41	13.00	
75 As	72	1	0.016 ppb	84.22	6.50	
78 Se	72	1	0.333 ppb	141.71	6.50	
95 Mo	72	1	0.839 ppb	19.14	2.60	
107 Ag	115	1	0.007 ppb	41.41	6.50	
111 Cd	115	1	0.003 ppb	77.60	1.30	
118 Sn	115	1	0.020 ppb	132.11	13.00	
121 Sb	115	1	0.104 ppb	5.43	2.60	
137 Ba	115	1	0.013 ppb	14.03	1.30	
205 Tl	165	1	0.006 ppb	22.65	1.30	
208 Pb	165	1	0.002 ppb	44.35	1.30	
232 Th	165	1	0.032 ppb	26.02	2.60	
238 U	165	1	0.022 ppb	3.15	1.30	

ISTD Elements CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag Element Tune 0.78 30 - 120 380157 91.0 346070 1 6 Li 30 - 120 1002329 93.3 1.04 934865 1 45 Sc 0.16 466393 94.5 30 - 120 440586 72 Ge 1 1358080 95.1 30 - 1200.88 1292185 115 In 100.1 30 - 120 2422153 2424319 0.81 165 Ho 1

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\072 CCV.D\072 CCV.D#

Date Acquired: Nov 9 2009 11:45 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCV ISTD: Pass

Misc Info:

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 11:27 pm

Sample Type: CCV Total Dil Factor: 1.00

QC I	Eleme	nts								
Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Вe	6	1	49.64	ppb	0.29	50	99.3	90 - 110	
51	V	72	1	49.05	ppb	0.51	50	98.1	90 - 110	
52	Cr	72	1	49.17	ppb	1.20	50	98.3	90 - 110	
55	Mn	72	1	50.37	ppb	0.69	50	100.7	90 - 110	
59	Co	72	1	49.63	ppb	1.02	50	99.3	90 - 110	
60	Ni	72	1	50.09	ppb	0.34	50	100.2	90 - 110	
63	Cu	72	1	49.59	ppb	0.85	50	99.2	90 - 110	
66	Zn	72	1	49.99	ppb	1.41	50	100.0	90 - 110	
75	As	72	1	49.85	ppb	0.63	50	99.7	90 - 110	
78	Se	72	1	50.96	ppb	3.57	50	101.9	90 - 110	
95	Мо	72	1	50.33	ppb	1.11	50	100.7	90 - 110	
107	Ag	115	1	49.87	ppb	2.11	50	99.7	90 - 110	
111	Cd	115	1	49.47	ppb	1.27	50	98.9	90 - 110	
118	Sn	115	1	49.40	ppb	0.99	50	98.8	90 - 110	
121	Sb	115	1	49.90	ppb	1.97	50	99.8	90 - 110	
137	Ва	115	1	49.24	ppb	1.59	50	98.5	90 - 110	
205	Tl	165	1	52.17	ppb	4.22	50	104.3	90 - 110	
208	Pb	165	1	51.29	ppb	1.50	50	102.6	90 - 110	
232	Th	165	1	51.54	ppb	0.75	50	103.1	90 - 110	
238	U	165	1	51.49	ppb	1.24	50	103.0	90 - 110	
IST	D Ele	ments								
Ele	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	344840		0.36	380157	90.7	30 - 120	
45	Sc		1	960040		0.97	1002329	95.8	30 - 120	
72	Ge		1	435616		0.46	466393	93.4	30 - 120	
115	In		1	1327656		0.92	1358080	97.8	30 - 120	
165	Но		1	2430200		0.49	2422153	100.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D\#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\073 CCB.D\073 CCB.D#

Date Acquired: Nov 9 2009 11:48 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB ISTD: Pass Misc Info:

Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 09 2009 11:27 pm
Sample Type: CCB

Sample Type: Total Dil Factor: 1.00

QC	Elements	
QC	Elements	

ΔC 1	r.Teme	11 CS						
Ele	ment	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Ве	6	1	0.001	ppb	2466.00	1.00	
51	V	72	1	0.058	ppb	15.57	1.00	
52	Cr	72	1	-0.012	ppb	231.32	1.00	
55	Mn	72	1	0.017	ppb	109.77	1.00	
59	Со	72	1	0.003	ppb	86.96	1.00	
60	Ni	72	1	-0.007	ppb	180.98	1.00	
63	Cu	72	1	-0.002	ppb	619.28	1.00	
66	Zn	72	1	-0.062	ppb	46.64	1.00	
75	As	72	1	0.009	ppb	16.14	1.00	
78	Se	72	1	0.083	ppb	474.84	1.00	
95	Мо	72	1	0.119	ppb	13.01	1.00	
107	Ag	115	1	0.012	ppb	51.78	1.00	
111	Cd	115	1	0.015	ppb	63.58	1.00	
118	Sn	115	1	0.055	ppb	78.86	1.00	
121	Sb	115	1	0.163	ppb	17.84	1.00	
137	Ва	115	1	0.017	ppb	13.64	1.00	
205	Tl	165	1	0.018	ppb	11.16	1.00	
208	Pb	165	1	0.005	ppb	21.07	1.00	
232	Th	165	1	0.054	ppb	24.52	1.00	
238	U	165	1	0.015	ppb	17.65	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	354004	0.85	380157	93.1	30 - 120	
45 Sc	1	982510	1.03	1002329	98.0	30 - 120	
72 Ge	1	452984	0.53	466393	97.1	30 - 120	
115 In	1	1333424	0.83	1358080	98.2	30 - 120	
165 Но	1	2422993	0.32	2422153	100.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\074WASH.D\074WASH.D#

Date Acquired: Nov 9 2009 11:51 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: RLCV ISTD: Pass

Misc Info:

1204 Vial Number:

C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 11:27 pm

Sample Type: WASH Total Dil Factor: 1.00

OC	Elemen	.ts
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.952 ppb	11.71	1.30	
51 V	72	1	4.966 ppb	1.97	6.50	
52 Cr	72	1	1.993 ppb	3.95	2.60	
55 Mn	72	1	1.097 ppb	4.84	1.30	
		1		2.48	1.30	
59 Co	72	1	1.021 ppb			
60 Ni	72	1	2.009 ppb	4.37	2.60	
63 Cu	72	1	2.060 ppb	6.37	2.60	
66 Zn	72	1	11.960 ppb	1.85	13.00	
75 As	72	1	4.930 ppb	2.64	6.50	
78 Se	72	1	5.436 ppb	4.49	6.50	
95 Mo	72	1	2.193 ppb	2.61	2.60	
107 Ag	115	1	5.282 ppb	1.22	6.50	
111 Cd	115	1	0.986 ppb	2.05	1.30	
118 Sn	115	1	10.340 ppb	1.29	13.00	
121 Sb	115	1	2.115 ppb	3.91	2.60	
137 Ba	115	1	1.056 ppb	4.52	1.30	
205 Tl	165	1	1.119 ppb	1.07	1.30	
208 Pb	165	1	1.065 ppb	1.09	1.30	
232 Th	165	1	2.185 ppb	3.45	2.60	
238 U	165	1	1.104 ppb	0.87	1.30	

ISTD Elements

Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
1	356450	1.14	380157	93.8	30 - 120	
1	964047	0.67	1002329	96.2	30 - 120	
1	452729	0.90	466393	97.1	30 - 120	
1	1319982	1.15	1358080	97.2	30 - 120	
1	2426292	0.34	2422153	100.2	30 - 120	
	Tune 1 1 1 1 1 1	1 356450 1 964047 1 452729 1 1319982	1 356450 1.14 1 964047 0.67 1 452729 0.90 1 1319982 1.15	1 356450 1.14 380157 1 964047 0.67 1002329 1 452729 0.90 466393 1 1319982 1.15 1358080	1 356450 1.14 380157 93.8 1 964047 0.67 1002329 96.2 1 452729 0.90 466393 97.1 1 1319982 1.15 1358080 97.2	1 356450 1.14 380157 93.8 30 - 120 1 964047 0.67 1002329 96.2 30 - 120 1 452729 0.90 466393 97.1 30 - 120 1 1319982 1.15 1358080 97.2 30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D# ISTD Ref File :

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\115 CCV.D\115 CCV.D#

Date Acquired: Nov 10 2009 01:46 am

Operator: LRD QC Summary: Sample Name: CCV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 11:27 pm

Sample Type: CCV
Total Dil Factor: 1.00

QC E	leme	nts								
Elem	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	49.47	ppb	2.23	50	98.9	90 - 110	
51	V .	72	1	50.56	ppb	0.37	50	101.1	90 - 110	
52	Cr	72	1	50.65	ppb	0.47	50	101.3	90 - 110	
55	Mn	72	1	50.77	ppb	1.14	50	101.5	90 - 110	
59	Co	72	1	50.40	ppb	0.87	50	100.8	90 - 110	
60	Ni	72	1	49.84	ppb	0.41	50	99.7	90 - 110	
63	Cu	72	1	50.51	ppb	0.76	50	101.0	90 - 110	
66	Zn	72	1	49.77	ppb	0.09	50	99.5	90 - 110	
75	As	72	1	50.26	ppb	0.16	50	100.5	90 - 110	
78	Se	72	1	49.87	ppb	2.78	50	99.7	90 - 110	
95	Мо	72	1	49.39	ppb	0.94	50	98.8	90 - 110	
107	Aq	115	1	50.12	ppb	2.41	50	100.2	90 - 110	
111	Cd	115	1	49.40	ppb	2.86	50	98.8	90 - 110	
118		115	1	49.66	ppb	2.32	50	99.3	90 - 110	
121		115	1	49.95	ppb	2.09	50	99.9	90 - 110	
137	Ва	115	1	49.37	ppb	3.54	50	98.7	90 - 110	
205	Tl	165	1	52.74	ppb	1.97	50	105.5	90 - 110	
208		165	1	51.04	ppb	1.99	50	102.1	90 - 110	
232	Th	165	1	50.20	ppb	0.81	50	100.4	90 - 110	
238	U	165	1	50.45	ppb	0.19	50	100.9	90 - 110	
IST	D Ele	ements								_
Ele	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	369807		1.50	380157	97.3	30 - 120	
45	Sc		1	1018477		0.34	1002329	101.6	30 - 120	
72	Ge		1	453154		1.41	466393	97.2	30 - 120	
115	In		1	1349823		1.36	1358080	99.4	30 - 120	
165	Но		1	2413896		0.92	2422153	99.7	30 - 120	
	T	une File#	1	c:\icpchem\1						

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

Tune File# 2
Tune File# 3

C:\ICPCHEM\1\7500\

C:\ICPCHEM\1\7500\

0 :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\116 CCB.D\116 CCB.D#

Date Acquired: Nov 10 2009 01:49 am

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB ISTD: Pass Misc Info:

1307 C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 11:27 pm

Sample Type:

Sample Type: CCB Total Dil Factor: 1.00

QC	El	emen	ts
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Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.008	ppb	169.87	1.00	
51 V	72	1	0.084	ppb	16.99	1.00	
52 Cr	72	1	-0.004	ppb	232.14	1.00	
55 Mn	72	1	-0.012	ppb	86.50	1.00	
59 Co	72	1	0.002	ppb	114.75	1.00	
60 Ni	72	1	0.010	ppb	269.98	1.00	
63 Cu	72	1	0.021	ppb	60.58	1.00	
66 Zn	72	1	0.020	ppb	111.79	1.00	
75 As	72	1	0.011	ppb	110.07	1.00	
78 Se	72	1	-0.018	ppb	805.68	1.00	•
95 Mo	72	1	0.019	ppb	66.39	1.00	
107 Ag	115	1	0.013	ppb	61.58	1.00	
111 Cd	115	1	-0.003	ppb	256.84	1.00	
118 Sn	115	1	0.069	ppb	66.41	1.00	
121 Sb	115	1	0.152	ppb	15.07	1.00	
137 Ba	115	1	0.009	ppb	26.07	1.00	
205 Tl	165	1	0.013	ppb	9.99	1.00	
208 Pb	165	1	0.002	ppb	100.06	1.00	
232 Th	165	1	0.053	ppb	19.40	1.00	
238 U	165	1	0.012	ppb	14.27	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	372110	0.64	380157	97.9	30 - 120	
45 Sc	1	1022224	0.42	1002329	102.0	30 - 120	
72 Ge	1	464891	0.56	466393	99.7	30 - 120	
115 In	1	1352890	0.37	1358080	99.6	30 - 120	
165 Ho	1	2419064	1.22	2422153	99.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

ISTD: Pass

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\117WASH.D\117WASH.D\#

Date Acquired: Nov 10 2009 01:52 am

Operator: LRD QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info:

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update:

Nov 09 2009 11:27 pm

Sample Type: WASH Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.035 ppb	2.74	1.30	
51 V	72	1	5.187 ppb	0.57	6.50	
52 Cr	72	1	2.031 ppb	0.75	2.60	
55 Mn	72	1	1.067 ppb	2.38	1.30	
59 Co	72	1	0.970 ppb	1.63	1.30	
60 Ni	72	1	2.058 ppb	2.00	2.60	
63 Cu	72	1	2.068 ppb	3.91	2.60	
66 Zn	72	1	11.900 ppb	1.49	13.00	
75 As	72	1	5.068 ppb	3.34	6.50	
78 Se	72	1	5.362 ppb	14.08	6.50	
95 Mo	72	1	2.047 ppb	1.20	2.60	
107 Ag	115	1	5.331 ppb	2.52	6.50	
111 Cd	115	1	1.046 ppb	1.94	1.30	
118 Sn	115	1	10.310 ppb	1.17	13.00	
121 Sb	115	1	2.073 ppb	0.88	2.60	
137 Ba	115	1	1.049 ppb	2.40	1.30	
205 Tl	165	1	1.100 ppb	1.48	1.30	
208 Pb	165	1	1.054 ppb	0.90	1.30	
232 Th	165	1	2.156 ppb	2.05	2.60	
238 U	165	1	1.079 ppb	1.97	1.30	

ISTD Elements

	ISID Flements							
Element		Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
	6 Li	1	368170	0.68	380157	96.8	30 - 120	
	45 Sc	1	1000230	0.23	1002329	99.8	30 - 120	
	72 Ge	1	456074	0.97	466393	97.8	30 - 120	
	115 In	1	1327112	0.29	1358080	97.7	30 - 120	
	165 Ho	1	2402449	0.69	2422153	99.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\118SMPL.D\118SMPL.D#

Date Acquired: Nov 10 2009 01:54 am

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: RINSE ISTD: Pass

Misc Info:

Vial Number: 1301

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 11:27 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elemen	ts
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-								/	
Ele	ment	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	⊮igh Limit	Flag
9	Ве	6	1	18.76	18.76	ppb	0.54	/ 3600	
51	V	72	1	23.38	23.38	ppb	1.45 /	3600	
52	Cr	72	1	20.11	20.11	ppb	1.09/	3600	
55	Mn	72	1	22.39	22.39	ppb	1.2/8	3600	
59	Co	72	1	18.57	18.57	ppb	0/84	3600	
60	Ni	72	1	18.78	18.78	ppb	್ರಶೆ.80	3600	
63	Cu	72	1	17.78	17.78	ppb	/1.66	3600	
66	Zn	72	1	22.05	22.05	ppb	/ 1.64	3600	
75	As	72	1	19.60	19.60	ppb/	1.50	3600	
78	Se	. 72	1	20.84	20.84	ppþ	12.31	3600	
95	Mo	72	1	2,115.00	2115.00	ppb	0.39	3600	
107	Ag	115	1	16.62	16.62	ppb	3.07	3600	
111	Cd	115	1	16.24	16.24	ppb	1.06	3600	
118	Sn	115	1	40.85	40.85	/ ppb	1.86	3600	
121	Sb	115	1	42.03	42.03/	ppb	1.54	3600	
137	' Ba	115	1	19.75	19. <i>7</i> /5	ppb	1.56	3600	
205	Tl	165	1	19.50	19,/50	ppb	2.07	3600	
208	Pb	165	1	19.31	1ø.31	ppb	2.03	3600	
232	. Th	165	1	20.35	20.35	ppb	1.43	1000	
238	U	165	1	20.19	/20.19	ppb	1.38	3600	

ISTD Elements

Element	Tune	CPS Mean	/ RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	285150 /	0.98	380157	75.0	30 - 120	
45 Sc	1	779494 /	1.35	1002329	77.8	30 - 120	
72 Ge	1	350892 /	0.50	466393	75.2	30 - 120	
115 In	1	1024662 /	0.55	1358080	75.4	30 - 120	
165 Но	1	1912062/	0.40	2422153	78.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures
0 :ISTD Failures

^{0 :}Max. Number of Failures Allowed 0 :Max. Number of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\119SMPL.D\119SMPL.D# Date Acquired: Nov 10 2009 01:57 am QC Summary: Acq. Method: NormISIS.M Analytes: **Pass** Operator: LRD ISTD: Pass Sample Name: RINSE Misc Info: Vial Number: 1101 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal. Update: Nov 09 2009 11:27 pm Sample Type: SA Dilution Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00 QC Elements Element IS Ref Tune Corr Conc Raw Conc Units RSD(%)/ High Limit Flag 9 Be 6 0.01 0.01 313.8/9 3600 1 ppb 20.44 3600 51 V 72 1 0.16 0.16 ppb 701/.08 52 Cr 72 0.00 0.00 3600 ppb 34.36 55 Mn 72 1 -0.03 -0.03 3600 ppb 2064.30 0.00 3600 59 Co 72 1 0.00 ppb 39.77 3600 60 Ni 72 -0.02 -0.02 ppb 79.63 63 Cu 72 1 -0.01 -0.01 ppb 3600 66 Zn 72 0.10 0.10 21.02 3600 1 ppb/ 155.04 3600 75 As 72 1 -0.01 -0.01 dgg ppb 54.66 3600 78 Se 72 1 0.58 0.58 20.97 3600 0.71 0.71 72 ppb 95 Mo 1 3600 115 0.01 0.01 ppb 34.30 107 Ag ppb 292.93 3600 111 Cd 115 1 0.00 0.00 81.68 3600 118 Sn 115 -0.03 -0.03/ ppb 1 0.01 74.05 3600 121 Sb 115 1 0.01 ppb 137 Ba 0.00 0.Ø0 64.23 3600 115 1 dqq 3600 205 Tl 0.00 0/00 52.33 165 1 ppb 0.00 3600 34.79 208 Pb 165 1 0.00 ppb 1000 232 Th 165 0.01 0.01 dqq 12.23 238 U 0.00 3600 0.00 ppb 63.73 165 ISTD Elements QC Range(%) RSD(%) Ref Value Rec(%) Flag Tune CPS Mean Element 380157 89.2 30 - 120339194 1.35 6 Li 1 1002329 30 - 120 45 Sc 93.4 1 935735 0.87 30 - 120 0.42 466393 93.8 72 Ge 1 437417 30 - 120 0.24 1358080 95.7 1299039 115 In 1 95.2 30 - 120 2422153 2306804 0.65 165 Ho 1 c:\icpchem\1\7500\he.u Tune File# 1 Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# C:\ICPCHEM\1\7500\ ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D# 0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\120CALB.D\120¢ALB.D#

Date Acquired: Nov 10 2009 02:00 am

Acq. Method: NormISIS.M

Operator: LRD

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 11:27 pm

Sample Type: CalBlk

QC Elements

Element		IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	897	5.64
52	Cr	72	1	1794	15.11
55	Mn	72	1	377	11.82
59	Co	72	1	27	78.54
60	Ni	72	1	60	33.98
63	Cu	72	1	160	5.50
66	Zn	72	1	389	5.28
75	As	72	1	38	9.69
78	Se	72	1	183	14.07/
95	Mo	72	1	390	15.0ø
107	Ag	115	1	23	89.4/8
111	Cd	115	1	9	30,⁄03
118	Sn	115	1	200	52/.50
121	Sb	115	1	96	2,3.66
137	Ва	115	1	22	5 2.67
205	Tl	165	1	41	/13.17
208	Pb	165	1	174	/ 3.68
232	Th	165	1	167	/ 27.85
238	U	165	1	68	/ 20.50

Internal Standard Elements

Eleme	ent	Tune	CPS Mean/	RSD(%)
6	Li	1	346465/	1.01
45	Sc	1	96522 ∮	0.47
72	Ge	1	44917 \$	0.78
115	In	1	1321554	0.64
165	Но	1	2347213	0.78

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

..."During the course of an analytical run, the instrument may be "resloped" or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed."

Analyst:	LRD	
Date:	11/10/2009	

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

Date Acquired: Nov 10 2009 02:03 am Acq. Method: NormISIS.M

Operator: LRD

Cal Blank Sample Name:

Misc Info:

Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 10 2009 02:01 am
Sample Type: CalBlk

QC Elements

QC Elements								
Element		IS Ref	Tune	CPS Mean	RSD(%)			
9	Ве	6	1	0	0.00			
51	V	72	1	730	18.51			
52	Cr	72	1	1797	5.23			
55	Mn	72	1	380	20.15			
59	Co	72	1	23	65.65			
60	Ni	72	1	80	12.92			
63	Cu	72	1	177	12.30			
66	Zn	72	1	295	3.34			
75	As	72	1	29	28.60			
78	Se	72	1	180	31.25			
95	Mo	72	1	177	34.62			
107	Ag	115	1	10	100.23			
111	Cd	115	1	2	77.88			
118	Sn	115	1	250	7.37			
121	Sb	115	1	63	13.14			
137	Ва	115	1	26	26.02			
205	T1	165	1	46	23.48			
208	Pb	165	1	193	5.70			
232	Th	165	1	160	44.04			
238	U	165	1	51	14.32			

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	350699	0.51
45	Sc	1	975170	1.39
72	Ge	1	456352	0.62
115	In	1	1314315	1.31
165	Но	1	2357107	0.71

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\122ICAL.D\122ICAL.D\#

Date Acquired: Nov 10 2009 02:05 am

Acq. Method: NormISIS.M

Operator: LRD Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 10 2009 02:03 am

Sample Type: ICAL

QC Elements

Fremenca				
ement	IS Ref	Tune	CPS Mean	RSD(%)
Ве	6	1	40216	1.15
V	72	1	565936	0.42
Cr	72	1	564690	0.33
Mn	72	1	641392	0.30
Co	72	1	668817	1.09
Ni	72	1	151107	0.73
Cu	72	1	358263	0.61
Zn	72	1	82902	0.25
As	72	1	70507	0.36
Se	72	1	14505	2.61
Mo	72	1	194487	0.27
7 Ag	115	1	559008	2.42
1 Cd	115	1	115153	2.20
8 Sn	115	1	321843	1.50
1 Sb	115	1	379416	1.53
7 Ba	115	1	159256	1.48
5 Tl	165	1	1303983	2.38
8 Pb	165	1	1889337	1.40
2 Th	165	1	2003367	1.08
8 U	165	1	2096675	0.62
	V Cr Mn Co Ni Cu Zn As Se Mo 7 Ag 1 Cd 8 Sn 1 Sb 7 Ba 5 Tl 8 Pb 2 Th	Be 6 V 72 Cr 72 Mn 72 Co 72 Ni 72 Cu 72 Zn 72 As 72 Se 72 Mo 72 Mo 72 7 Ag 115 1 Cd 115 8 Sn 115 7 Ba 115 7 Ba 115 5 T1 165 8 Pb 165 2 Th 165	Be 6 1 V 72 1 Cr 72 1 Mn 72 1 Co 72 1 Ni 72 1 Cu 72 1 Zn 72 1 As 72 1 Se 72 1 Mo 72 1 1 Cd 115 1 1 Cd 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Sb 115 1 1 Th 165 1	Be 6 1 40216 V 72 1 565936 Cr 72 1 564690 Mn 72 1 641392 Co 72 1 668817 Ni 72 1 151107 Cu 72 1 358263 Zn 72 1 82902 As 72 1 70507 Se 72 1 14505 Mo 72 1 194487 7 Ag 115 1 559008 1 Cd 115 1 15153 8 Sn 115 1 321843 1 Sb 115 1 379416 7 Ba 115 1 159256 5 T1 165 1 1889337 2 Th 165 1 2003367

ISTD Elements

Eleme	nt	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	338335	1.13	350699	96.5	30 - 120	
45	Sc	1	958735	1.30	975170	98.3	30 - 120	
72	Ge	1	428707	1.21	456352	93.9	30 - 120	
115	In	1	1296877	0.96	1314315	98.7	30 - 120	
165	Но	1	2326407	0.76	2357107	98.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Element Failures
0 :ISTD Failures

0

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\123 CCV.D\123 CCV.D\#

Date Acquired: Nov 10 2009 02:08 am

Operator: LRD QC Summary: Sample Name: CCV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 10 2009 02:06 am

Sample Type: CCV
Total Dil Factor: 1.00

QC I	Eleme	nts								
Eler	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	49.91	ppb	2.75	50	99.8	90 - 110	
51	V	72	1	49.24	ppb	0.23	50	98.5	90 - 110	
52	Cr	72	1	49.45	ppb	0.29	50	98.9	90 - 110	
55	Mn	72	1	49.86	ppb	0.27	50	99.7	90 - 110	
59	Со	72	1	50.04	ppb	0.73	50	100.1	90 - 110	
60	Ni	72	1	49.40	ppb	1.02	50	98.8	90 - 110	
63	Cu	72	1	49.26	ppb	0.55	50	98.5	90 - 110	
66	Zn	72	1	49.37	ppb	0.57	50	98.7	90 - 110	
75	As	72	1	49.47	ppb	0.63	50	98.9	90 - 110	
78	Se	72	1	47.86	ppb	3.12	50	95.7	90 - 110	
95	Mo	72	1	49.27	ppb	1.81	50	98.5	90 - 110	
107	Ag	115	1	49.54	ppb	2.30	50	99.1	90 - 110	
111	Cd	115	1	49.21	ppb	1.38	50	98.4	90 - 110	
118	Sn	115	1	48.98	ppb	1.17	50	98.0	90 - 110	
121	Sb	115	1	49.67	ppb	0.57	50	99.3	90 - 110	
137	Ва	115	1	49.45	ppb	0.45	50	98.9	90 - 110	
205	Tl	165	1	52.26	ppb	1.95	50	104.5	90 - 110	
208	Pb	165	1	50.46	ppb	2.07	50	100.9	90 - 110	
232	Th	165	1	51.10	ppb	1.01	50	102.2	90 - 110	
238	U	165	1	50.56	ppb	2.70	50	101.1	90 - 110	
IST	D Ele	ements								
Ele	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	339355		0.90	350699	96.8	30 - 120	
45	Sc		1	953700		0.62	975170	97.8	30 - 120	
72	Ge		1	425622		0.78	456352	93.3	30 - 120	
115	In		1	1290326		0.89	1314315	98.2	30 - 120	
165	Но		1	2316506		0.95	2357107	98.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Continuing Calibration Blank (CCB) QC Report

C:\ICPCHEM\1\DATA\AG110909A.B\124 CCB.D\124 CCB.D# Data File:

Nov 10 2009 02:11 am Date Acquired:

QC Summary: Operator: LRD Analytes: Pass CCB Sample Name: ISTD: Pass

Vial Number: 1307
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 10 2009 02:06 am
Sample Type: CCB

Total Dil Factor: 1.00

OC Freme	nts						
Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.000	ppb	0.00	1.00	
51 V	72	1	-0.043	ppb	3.53	1.00	
52 Cr	72	1	0.018	ppb	155.75	1.00	
55 Mn	72	1	0.020	ppb	32.27	1.00	
59 Co	72	1	0.006	ppb	60.80	1.00	
60 Ni	72	1	-0.011	ppb	58.90	1.00	
63 Cu	72	1	-0.008	ppb	59.29	1.00	
66 Zn	72	1	0.060	ppb	53.66	1.00	
75 As	72	1	0.016	ppb	150.06	1.00	
78 Se	72	1	-0.177	ppb	77.78	1.00	
95 Mo	72	1	-0.001	ppb	3159.70	1.00	
107 Ag	115	1	0.011	ppb	29.33	1.00	
111 Cd	115	1	0.017	ppb	45.14	1.00	
118 Sn	115	1	0.139	ppb	49.06	1.00	
121 Sb	115	1	0.222	ppb	11.27	1.00	
137 Ba	115	1	0.004	ppb	98.08	1.00	
205 Tl	165	1	0.025	ppb	20.85	1.00	
208 Pb	165	1	0.005	ppb	19.31	1.00	
232 Th	165	1	0.066	ppb	20.41	1.00	
238 U	165	1	0.016	ppb	18.15	1.00	

ISTD Elements

Elemen	3	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	344141	0.34	350699	98.1	30 - 120	
45 Sc		1	943043	0.60	975170	96.7	30 - 120	
72 Ge		1	437268	0.59	456352	95.8	30 - 120	
115 In		1	1299591	0.93	1314315	98.9	30 - 120	
165 Ho		1	2322442	0.24	2357107	98.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\125WASH.D\125WASH.D#

Date Acquired: Nov 10 2009 02:14 am

Operator: LRD QC Summary: Sample Name: RLCV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 10 2009 02:06 am

Sample Type: WASH
Total Dil Factor: 1.00

QC Eleme	nts					
Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Ве	6	1	0.915 ppb	26.94	1.30	
51 V	72	1	4.853 ppb	1.04	6.50	
52 Cr	72	1	2.109 ppb	4.44	2.60	
55 Mn	72	1	0.986 ppb	3.94	1.30	
59 Co	72	1	1.067 ppb	3.16	1.30	
60 Ni	72	1	2.030 ppb	2.53	2.60	
63 Cu	72	1	2.033 ppb	2.52	2.60	
66 Zn	72	1	11.810 ppb	0.98	13.00	
75 As	72	1	5.019 ppb	1.79	6.50	
78 Se	72	1	5.516 ppb	15.59	6.50	
95 Mo	72	1	1.978 ppb	4.60	2.60	
107 Ag	115	1	5.258 ppb	1.36	6.50	
111 Cd	115	1	1.018 ppb	4.53	1.30	
118 Sn	115	1	10.530 ppb	2.41	13.00	
121 Sb	115	1	2.096 ppb	2.55	2.60	
137 Ba	115	1	1.042 ppb	4.12	1.30	
205 Tl	165	1	1.095 ppb	0.66	1.30	
208 Pb	165	1	1.059 ppb	2.54	1.30	
232 Th	165	1	2.173 ppb	2.30	2.60	
238 U	165	1	1.093 ppb	2.96	1.30	

6 Li	1	343734	1.06	350699	98.0	30 - 120	
45 Sc	1	947887	0.88	975170	97.2	30 - 120	
72 Ge	1	434228	1.12	456352	95.2	30 - 120	
115 In	1	1279175	0.95	1314315	97.3	30 - 120	
165 Ho	1	2318596	0.84	2357107	98.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

QC Summary:

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\126 BLK.D\126 BLK.D#

Date Acquired: Nov 10 2009 02:16 am

LRD Operator:

Analytes: Pass Sample Name: LNNPLBF ISTD: Pass

Misc Info: BLANK 9306272 6020

Vial Number: 3209

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Nov 10 2009 02:06 am Last Cal Update:

Sample Type: BLKTotal Dil Factor: 1.00

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.044 ppb	10.66	2.00	
52 Cr	72	1	0.015 ppb	322.40	2.00	
55 Mn	72	1	0.014 ppb	64.37	2.00	
59 Co	72	1	-0.001 ppb	62.65	2.00	
60 Ni	72	1	0.006 ppb	175.60	2.00	
63 Cu	72	1	0.026 ppb	7.95	2.00	
66 Zn	72	1	0.611 ppb	14.90	2.00	
75 As	72	1	0.005 ppb	203.55	2.00	
78 Se	72	1	0.348 ppb	61.24	2.00	
95 Mo	72	1	-0.049 ppb	32.97	2.00	
107 Ag	115	1	0.008 ppb	53.28	2.00	
111 Cd	115	1	0.003 ppb	121.88	2.00	
118 Sn	115	1	0.058 ppb	43.50	2.00	
121 Sb	115	1	0.038 ppb	17.73	2.00	
137 Ba	115	.1	0.006 ppb	106.39	2.00	
205 Tl	165	1	0.011 ppb	13.90	2.00	
208 Pb	165	1	0.004 ppb	43.46	2.00	
232 Th	165	1	0.006 ppb	36.94	2.00	
238 U	165	1	0.001 ppb	143.60	2.00	

CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag Element Tune 98.9 30 - 120 350699 6 Li 1 346963 0.13 30 - 120 975170 97.6 1.34 45 Sc 1 951585 30 - 120 97.2 72 Ge 1 443386 0.68 456352 30 - 120 99.5 115 In 1 1307444 0.59 1314315

2357107

 $c:\icpchem\1\7500\he.u$ Tune File# 1 C:\ICPCHEM\1\7500\ Tune File# 2 Tune File# 3 C:\ICPCHEM\1\7500\

2346896

1

ISTD Ref File :

ISTD Elements

165 Ho

C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

99.6

30 - 120

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

0.83

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\127 LCS.D\127 LCS.D#

Date Acquired: Nov 10 2009 02:19 am

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: LNNPLCF ISTD: Pass

Misc Info: LCS Vial Number: 3210

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 10 2009 02:06 am

Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte	Elements
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MIATYCE	P.Temen C.	•							
Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Rai	nge (%)	Flag
9 Ве	6	1	41.81	3.42	40	104.5	80 -	- 120	
51 V	72	1	39.88	0.32	40	99.7	80 -	- 120	
52 Cr	72	1	40.14	0.83	40	100.4	80 -	- 120	
55 Mn	72	1	40.18	0.90	40	100.5	80	- 120	
59 Co	72	1	41.13	0.04	40	102.8	80	- 120	
60 Ni	72	1	39.91	1.84	40	99.8	80	- 120	
63 Cu	72	1	40.25	1.79	40	100.6	80	- 120	
66 Zn	72	1	41.36	0.99	40	103.4	80	- 120	
75 As	72	1	40.90	0.30	40	102.3	80	- 120	
78 Se	72	1	37.94	1.38	40	94.9	80	- 120	
95 Mo	72	1	40.38	0.63	40	101.0	80	- 120	
107 Ag	115	1	40,53	1.12	40	101.3	80	- 120	
111 Cd	115	1	39.89	2.28	40	99.7	80	- 120	
118 Sn	115	1	0.05	32.95	40	0.1	80	- 120	
121 Sb	115	1	40.96	2.24	40	102.4	80	- 120	
137 Ba	115	1	40.53	1.17	40	101.3	80	- 120	
205 Tl	165	1	42.97	2.90	40	107.4	80	- 120	
208 Pb	165	1	41.26	2.67	40	103.2	80	- 120	
232 Th	165	1	40.71	2.12	40	101.8	80	- 120	
238 U	165	1	40.95	2.09	40	102.4	80	- 120	

ISTD Elements

Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
1	340888	0.87	350699	97.2	30 - 120	
1	951495	0.57	975170	97.6	30 - 120	
1	426874	0.91	456352	93.5	30 - 120	
1	1295292	0.62	1314315	98.6	30 - 120	
1	2330700	1.20	2357107	98.9	30 - 120	
	Tune 1 1 1 1 1	1 340888 1 951495 1 426874 1 1295292	1 340888 0.87 1 951495 0.57 1 426874 0.91 1 1295292 0.62	1 340888 0.87 350699 1 951495 0.57 975170 1 426874 0.91 456352 1 1295292 0.62 1314315	1 340888 0.87 350699 97.2 1 951495 0.57 975170 97.6 1 426874 0.91 456352 93.5 1 1295292 0.62 1314315 98.6	1 340888 0.87 350699 97.2 30 - 120 1 951495 0.57 975170 97.6 30 - 120 1 426874 0.91 456352 93.5 30 - 120 1 1295292 0.62 1314315 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\AG110909A.B\121CALB.D\121CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\128AREF.D\128AREF.D#

Date Acquired: Nov 10 2009 02:22 am

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: LNLPFF ISTD: Pass

Misc Info: D9J300353
Vial Number: 3211

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 10 2009 02:06 am

Sample Type: AllRef
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

-								
Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.03	0.03	ppb	99.86	3600	
51 V	72	1	34.25	34.25	ppb	1.07	3600	
52 Cr	72	1	110.00	110.00	ppb	0.22	3600	
55 Mn	72	1	11.49	11.49	ppb	1.50	3600	
59 Co	72	1	0.46	0.46	ppb	2.80	3600	
60 Ni	72	1	1.55	1.55	dqq	7.05	3600	
63 Cu	72	1	0.30	0.30	ppb	12.66	3600	
66 Zn	72	1	5.27	5.27	ppb	0.46	3600	
75 As	72	1	193.00	193.00	ppb	0.37	3600	
78 Se	72	1	2.23	2.23	ppb	31.94	3600	
95 Mo	72	1	20.17	20.17	ppb	3.64	3600	
107 Ag	115	1	0.05	0.05	ppb	21.37	3600	
111 Cd	115	1	-0.02	-0.02	ppb	40.78	3600	
118 Sn	115	1	0.06	0.06	ppb	26.67	3600	
121 Sb	115	1	0.19	0.19	ppb	12.22	3600	
137 Ba	115	1	29.52	29.52	ppb	2.85	3600	
205 Tl	165	1	0.08	0.08	ppb	9.28	3600	
208 Pb	165	1	0.04	0.04	ppb	36.93	3600	
232 Th	165	1	0.07	0.07	ppb	19.57	1000	
238 U	165	1	48.03	48.03	ppb	1.11	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	289357	0.40	350699	82.5	30 - 120	
45 Sc	1	836531	0.72	975170	85.8	30 - 120	
72 Ge	1	353830	0.41	456352	77.5	30 - 120	
115 In	1	1052250	2.02	1314315	80.1	30 - 120	
165 Ho	1	1999926	0.66	2357107	84.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\129SDIL.D\129SDIL.D#

Date Acquired: Nov 10 2009 02:25 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass

Sample Name: LNLPFP5F

Misc Info: SERIAL DILUTION

Vial Number: 3212

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 10 2009 02:06 am

Sample Type: SDIL Dilution Factor: 1.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\128AREF.D\128AREF.D#

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Element	TC Dof	Turo	Conc.ppb		RSD(%)	Ref Conc.	Actual (%)	OC B	lange(%)	Flag
Element	IS Ref		• •					-	3	1149
9 Be	6	1	0.01	ppb	173.25	0.01		90	- 110	
51 V	72	1	6.90	ppb	1.30	6.85	100.8	90	- 110	
52 Cr	72	1	22.03	ppb	0.64	22.00	100.1	90	- 110	
55 Mn	72	1	2,28	ppb	2.22	2.30	99.0	90	- 110	
59 Co	72	1	0.09	ppb	17.97	0.09	99.6	90	- 110	
60 Ni	72	1	0.30	ppb	15.94	0.31	95.8	90	- 110	
63 Cu	72	1	0.06	ppb	12.54	0.06	99.8	90	- 110	
66 Zn	72	1	1.06	ppb	10.16	1.05	100.9	90	- 110	
75 As	72	1	37.81	ppb	0.56	38.60	98.0	90	- 110	
78 Se	72	1	0.76	ppb	71.63	0.45	171.2	90	- 110	
95 Mo	72	1	3.99	ppb	2.84	4.03	98.9	90	- 110	
107 Ag	115	1	0.01	ppb	42.77	0.01	110.6	90	- 110	
111 Cd	115	1	0.01	ppb	99.86	0.00	-154.7	90	- 110	
118 Sn	115	1	0.05	ppb	41.04	0.01	391.8	90	- 110	
121 Sb	115	1	0.04	ppb	14.05	0.04	109.6	90	- 110	
137 Ba	115	1	5.99	ppb	0.43	5.90	101.5	90	- 110	
205 Tl	165	1	0.02	ppb	20.14	0.02	98.3	90	- 110	
208 Pb	165	1	0.00	ppb	22.52	0.01	70.4	90	- 110	
232 Th	165	1	0.01	ppb	30.40	0.01	99.3	90	- 110	
238 U	165	1	10.60	ppb	1.65	9.61	110.3	90	- 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Ra	nge(%)	Flag
6 Li	1	323515	0.30	350699	92.2	30	- 120	
45 Sc	1	897309	1.04	975170	92.0	30	- 120	
72 Ge	1	404701	0.58	456352	88.7	30	- 120	
115 In	1	1198504	0.76	1314315	91.2	30	- 120	
165 Ho	1	2239209	0.44	2357107	95.0	30	- 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Denver

SERIAL DILUTION

Sample: LNLPFP5F	Serial Dilution:	5.00	Sample Dilution:	1.00
Department: 090 (Metals)				Spreadshe

Instrument: Agilent7500	Channel 272	
File: AG110909A # 129	Method 6020_	
Acquired: 11/10/2009 02:25:00	ICPMS_024	Matrix: AQUEOUS
Calibrated: 11/10/2009 02:03:00		Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	3	0.04332	0.02910	48.9		*	
	Vanadium	51	37477	34.510	34.250	0.759		*	
7440-47-3	Chromium	52	118663	110.15	110.00	0.136		*	
7439-96-5	Manganese	55	14107	11.380	11.490	0.957		*	
7440-48-4	-	59	593	0.45385	0.45570	0.406		*	
7440-02-0	Nickel	60	493	1.4815	1.5470	4.23		*	
7440-50-8	Copper	63	360	0.30060	0.30110	0.166		*	
7440-66-6		66	1090	5.3150	5.2660	0.930		*	
7440-38-2		75	25179	189.05	193.00	2.05	0.21	2.0	
	Selenium	78	263	3.8185	2.2300	71.2	0.70	NC	abla
	Molybdenum	95	7472	19.940	20.170	1.14		*	
7440-22-4	•	107	63	0.05255	0.04750	10.6		*	
7440-43-9	Cadmium	111	9	0.03275	-0.02117			*	
7440-31-5	Tin	118	373	0.24465	0.06244	292		*	
7440-36-0	Antimony	121	201	0.20460	0.18670	9.59		*	
7440-39-3	•	137	8843	29.965	29.520	1.51		*	
7440-28-0	Thallium	205	252	0.08330	0.08470	1.65		*	
7439-92-1		208	274	0.02493	0.03542	29.6		*	
7440-61-1		238	213883	53.000	48.030	10.3		*	
7440-29-1		232	413	0.06765	0.06813	0.705		*	
7439-93-2		6			0			*	
	Scandium	45			0			*	
7440-74-6		115			0			*	
	Germanium	72			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: 11009

IDB Reports TestAmerica, Inc. Version: 6.02.068

View Page 1 of 1

Post Digestion Spiked Sample (PDS) QC Report

C:\ICPCHEM\1\DATA\AG110909A.B\130PDS.D\130PDS.D# Data File:

QC Summary: Nov 10 2009 02:27 am Date Acquired:

NormISIS.M Analytes: Pass Acq. Method: ISTD: Pass LRD Operator:

LNLPFZF Sample Name:

Misc Info: POST DIGESTION SPIKE

Vial Number: 3301

C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: C:\ICPCHEM\1\CALIB\NormISIS.C Calibration File:

Nov 10 2009 02:06 am Last Cal. Update:

PDS Sample Type: 1.00 Prep Dil. Factor: Undiluted Autodil Factor: Final Dil Factor: 1.00

Spike Ref. File: ---

QC Elements

Eleme	nt	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 1	Ве	6	1	195.60	0.03	ppb	2.10	200	97.8	75 - 125	
51 '	V	72	1	232.10	34.25	ppb	1.43	200	99.1	75 - 125	
52 (Cr	72	1	301.20	110.00	ppb	0.45	200	97.2	75 - 125	
55 1	Mn	72	1	206.10	11.49	ppb	1.50	200	97.5	75 - 125	
59 (Co	72	1	188.30	0.46	ppb	0.58	200	93.9	75 - 125	
60 1	Ni	72	1	173.40	1.55	ppb	1.12	200	86.0	75 - 125	
63	Cu	72	1	169.40	0.30	ppb	0.32	200	84.6	75 - 125	
66	Zn	72	1	191.40	5.27	ppb	0.70	200	93.2	75 - 125	
75 .	As	72	1	382.30	193.00	ppb	0.41	200	97.3	75 - 125	
78	Se	72	1	213.20	2.23	ppb	3.06	200	105.4	75 - 125	
95	Mo	72	1	220.50	20.17	ppb	0.77	200	100.1	75 - 125	
107	Ag	115	1	42.23	0.05	ppb	2.46	50	84.4	75 - 125	
111	Cd	115	1	182.90	-0.02	ppb	2.38	200	91.5	75 - 125	
118	Sn	115	1	174.80	0.06	ppb	2.35	200	87.4	75 - 125	
121	Sb	115	1	197.00	0.19	ppb	2.14	200	98.4	75 - 125	
137	Ва	115	1	222.10	29.52	ppb	2.19	200	96.8	75 - 125	
205	Tl	165	1	175.00	0.08	ppb	1.85	200	87.5	75 - 125	
208	Pb	165	1	171.30	0.04	ppb	1.07	200	85.6	75 - 125	
232	Th	165	1	0.02	0.07	ppb	29.01	200	0.0	75 - 125	
238	U	165	1	229.40	48.03	ppb	0.35	200	92.5	75 - 125	
ISTD	Elen	nents									
								D. C. C	D = = /0.1	OG D /0 \	00 51-

							-
Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	282205	1.65	350699	80.5	30 - 120	
45 Sc	1	826929	1.35	975170	84.8	30 - 120	
72 Ge	1	345026	0.74	456352	75.6	30 - 120	
115 In	1	1060151	1.59	1314315	80.7	30 - 120	
165 Ho	1	2026385	1.11	2357107	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\AG110909A.B\121CALB.D\121CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Denver

SAMPLE SPIKE

Reported: 11/10/09 21:11:44 ICPMS_024 Method: 6020 (ICP/MS)

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNLPFZF

Spike Dilution:

1.00

Sample Dilution: 1.00

Instrument: Agilent7500 File: AG110909A # 130 Acquired: 11/10/2009 02:27:00 Calibrated: 11/10/2009 02:03:00

Channel 272 Method 6020_ ICPMS_024

Matrix: AQUEOUS

Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	65594	195.60	0.02910	97.8	200		
	Vanadium	51	1056370	232.10	34.250	98.9	200		\square
7440-47-3	Chromium	52	1366090	301.20	110.00	95.6	200		
	Manganese	55	1063370	206.10	11.490	97.3	200		
7440-48-4		59	1013750	188.30	0.45570	93.9	200		
7440-02-0	Nickel	60	210849	173.40	1.5470	85.9	200		
7440-50-8	Copper	63	488211	169.40	0.30110	84.5	200		
7440-66-6	Zinc	66	127521	191.40	5.2660	93.1	200		
7440-38-2	Arsenic	75	216887	382.30	193.00	94.7	200		☑
7782-49-2	Selenium	78	24729	213.20	2.2300	105	200		
7439-98-7	Molybdenum	95	345057	220.50	20.170	100	200		
7440-22-4	Silver	107	192966	42.230	0.04750	84.4	50.0		
7440-43-9	Cadmium	111	172106	182.90	-0.02117	91.4	200		
7440-31-5	Tin	118	459555	174.80	0.06244	87.4	200		
7440-36-0	Antimony	121	610833	197.00	0.18670	98.4	200		
7440-39-3	•	137	289039	222.10	29.520	96.3	200		
7440-28-0	Thallium	205	1988070	175.00	0.08470	87.5	200		\square
7439-92-1	Lead	208	2819610	171.30	0.03542	85.6	200		
7440-61-1	Uranium	238	4189290	229.40	48.030	90.7	200		
7440-29-1		232	523	0.02212	0.06813				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6		115			0				
	Germanium	72			0				
7440-60-0	Holmium	165			0				

View Page 1 of 1

TestAmerica

Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\131_MS.D\131_MS.D#

Date Acquired: Nov 10 2009 02:30 am QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass

Sample Name: LNLPFSF
Misc Info: MATRIX SPIKE

Vial Number: 3302

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 10 2009 02:06 am

Sample Type: MS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	40.51	0.03	ppb	3.27	40	101.2	50 - 150
51 V	72	1	75.39	34.25	ppb	0.49	40	101.5	50 - 150
52 Cr	72	1	149.40	110.00	ppb	0.12	40	99.6	50 - 150
55 Mn	72	1	51.52	11.49	ppb	0.97	40	100.1	50 - 150
59 Co	72	1	39.33	0.46	ppb	0.61	40	97.2	50 - 150
60 Ni	72	1	38.37	1.55	ppb	1.01	40	92.4	50 - 150
63 Cu	72	1	36.03	0.30	ppb	1.55	40	89.4	50 - 150
66 Zn	72	1	44.88	5.27	ppb	0.42	40	99.1	50 - 150
75 As	72	1	235.40	193.00	ppb	0.54	40	101.0	50 - 150
78 Se	72	1	47.11	2.23	ppb	3.63	40	111.6	50 - 150
95 M o	72	1	62.80	20.17	ppb	0.36	40	104.4	50 - 150
107 Ag	115	1	36.00	0.05	ppb	0.30	40	89.9	50 - 150
111 Cd	115	1	38.34	-0.02	ppb	1.53	40	95.9	50 - 150
118 Sn	115	1	0.35	0.06	ppb	35.85	40	0.9	50 - 150
121 Sb	115	1	42.07	0.19	ppb	1.10	40	104.7	50 - 150
137 Ba	115	1	69.60	29.52	ppb	0.74	40	100.1	50 - 150
205 Tl	165	1	39.18	0.08	ppb	1.36	40	97.7	50 - 150
208 Pb	165	1	37.37	0.04	ppb	1.21	40	93.3	50 - 150
232 Th	165	1	40.11	0.07	ppb	1.37	40	100.1	50 - 150
238 U	165	1	86.79	48.03	ppb	1.41	40	98.6	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	280713	0.10	350699	80.0	30 - 120
45 Sc	1	827834	1.10	975170	84.9	30 - 120
72 Ge	1	347291	0.49	456352	76.1	30 - 120
115 In	1	1068961	0.12	1314315	81.3	30 - 120
165 Ho	1	2030469	0.74	2357107	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\AG110909A.B\121CALB.D\121CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\132 MSD.D\132 MSD.D#

QC Summary: Date Acquired: Nov 10 2009 02:33 am Acq. Method: NormISIS.M Analytes: Pass ISTD: Pass Operator: LRD

Sample Name: LNLPFDF

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 3303

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\Non
Last Cal. Update: Nov 10 2009 02:06 am C:\ICPCHEM\1\CALIB\NormISIS.C

MSD Sample Type: Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\131 MS.D\131 MS.D#

QC Elements

•										
Clem	nent	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Ве	6	1	40.90	ppb	3.48	40.51	0.96	20	
51	V	72	1	75.26	ppb	0.56	75.39	0.17	20	
52	Cr	72	1	147.40	ppb	0.61	149.40	1.35	20	
55	Mn	72	1	51.41	ppb	0.38	51.52	0.21	20	
59	Co	72	1	39.21	ppb	0.62	39.33	0.31	20	
60	Ni	72	1	38.33	ppb	1.67	38.37	0.10	20	
63	Cu	72	1	35.92	ppb	0.80	36.03	0.31	20	
66	Zn	72	1	43.45	ppb	1.30	44.88	3.24	20	
75	As	72	1	235.10	ppb	0.28	235.40	0.13	20	
78	Se	72	1	45.50	ppb	1.13	47.11	3.48	20	
95	Мо	72	1	62.23	ppb	1.00	62.80	0.91	20	
107	Ag	115	1	35.73	ppb	0.68	36.00	0.75	20	
111	Cd	115	1	38.65	ppb	0.32	38.34	0.81	20	
118	Sn	115	1	0.12	ppb	52.37	0.35	96.83	20	
121	Sb	115	1	42.23	ppb	1.10	42.07	0.38	20	
137	Ва	115	1	70.22	ppb	0.76	69.60	0.89	20	
205	Tl	165	1	38.89	ppb	0.66	39.18	0.74	20	
208	Pb	165	1	37.01	ppb	1.13	37.37	0.97	20	
232	Th	165	1	40.22	ppb	0.34	40.11	0.27	20	
238	Ü	165	1	86.99	ppb	0.51	86.79	0.23	20	
	61 62 65 65 66 75 107 111 118 121 1205 208 2232	51 V 52 Cr 55 Mn 59 Co 50 Ni 53 Cu 56 Zn 75 As	Be 6 11 V 72 12 Cr 72 15 Mn 72 15 Mn 72 16 Co 72 16 Co 72 16 Co 72 17 Co 72 18 Se 72 19 Mo 72 10 Mo 72 11 Cd 115 11 Cd 115 11 Cd 115 11 Sn 115 12 Sb 115 12 Sb 115 12 Sb 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165 12 Co 71 165	Be 6 1 1 V 72 1 1 2 Cr 72 1 1 5 Mn 72 1 2 5 Mn 72 1 3 Cu 72 1 3 Cu 72 1 3 Cu 72 1 3 Se 72 1 3 Se 72 1 4 Se 72 1 5 Se 72 1	Be 6 1 40.90 51 V 72 1 75.26 52 Cr 72 1 147.40 55 Mn 72 1 51.41 59 Co 72 1 39.21 50 Ni 72 1 38.33 53 Cu 72 1 35.92 56 Zn 72 1 43.45 75 As 72 1 235.10 78 Se 72 1 45.50 79 Mo 72 1 62.23 107 Ag 115 1 35.73 111 Cd 115 1 38.65 118 Sn 115 1 0.12 121 Sb 115 1 42.23 137 Ba 115 1 70.22 1205 Tl 165 1 38.89 1232 Th 165 1 40.22	Be 6 1 40.90 ppb 51 V 72 1 75.26 ppb 52 Cr 72 1 147.40 ppb 55 Mn 72 1 51.41 ppb 59 Co 72 1 39.21 ppb 50 Ni 72 1 38.33 ppb 53 Cu 72 1 35.92 ppb 56 Zn 72 1 43.45 ppb 75 As 72 1 235.10 ppb 75 As 72 1 235.10 ppb 76 Mo 72 1 62.23 ppb 107 Ag 115 1 35.73 ppb 111 Cd 115 1 38.65 ppb 118 Sn 115 1 0.12 ppb 121 Sb 115 1 42.23 ppb 123 Ba 115 1 70.22 ppb 1208 Pb 165 1 37.01 ppb 1232 Th 165 1 40.22 ppb	Be 6 1 40.90 ppb 3.48 61 V 72 1 75.26 ppb 0.56 62 Cr 72 1 147.40 ppb 0.61 65 Mn 72 1 51.41 ppb 0.38 69 Co 72 1 39.21 ppb 0.62 60 Ni 72 1 38.33 ppb 1.67 63 Cu 72 1 35.92 ppb 0.80 66 Zn 72 1 43.45 ppb 1.30 67 As 72 1 235.10 ppb 0.28 68 Se 72 1 45.50 ppb 1.13 69 Mo 72 1 62.23 ppb 1.00 107 Ag 115 1 35.73 ppb 0.68 111 Cd 115 1 38.65 ppb 0.32 118 Sn 115 1 0.12 ppb 52.37 121 Sb 115 1 42.23 ppb 1.10 137 Ba 115 1 70.22 ppb 0.66 137 Ba 115 1 38.89 ppb 0.66 138 Sp 15 1 37.01 ppb 1.13 123 Th 165 1 40.22 ppb 0.34	Be 6 1 40.90 ppb 3.48 40.51 1 V 72 1 75.26 ppb 0.56 75.39 1 2 Cr 72 1 147.40 ppb 0.61 149.40 15 Mn 72 1 51.41 ppb 0.38 51.52 16 Co 72 1 39.21 ppb 0.62 39.33 16 Ni 72 1 38.33 ppb 1.67 38.37 16 Zn 72 1 43.45 ppb 0.80 36.03 17 Z 1 235.10 ppb 0.28 235.40 18 Se 72 1 45.50 ppb 1.13 47.11 19 Mo 72 1 62.23 ppb 1.00 62.80 10 Ag 115 1 38.65 ppb 0.32 38.34 118 Sn 115 1 0.12 ppb 52.37 0.35 121 Sb 115 1 42.23 ppb 0.76 69.60 120 T1 165 1 38.89 ppb 0.66 39.18 120 S Pb 165 1 37.01 ppb 1.13 37.37 120 S Pb 165 1 37.01 ppb 1.13 37.37	Be 6 1 40.90 ppb 3.48 40.51 0.96 1 V 72 1 75.26 ppb 0.56 75.39 0.17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Be 6 1 40.90 ppb 3.48 40.51 0.96 20 1 V 72 1 75.26 ppb 0.56 75.39 0.17 20 1 20 1 20 1 20 1 20 1 20 1 20 1 20

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272006	1.70	350699	77.6	30 - 120	
45 Sc	1	827095	0.29	975170	84.8	30 - 120	
72 Ge	1	348133	0.48	456352	76.3	30 - 120	
115 In	1	1071353	1.22	1314315	81.5	30 - 120	
165 Ho	1	2053912	0.58	2357107	87.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\133 CCV.D\133 CCV.D#

Nov 10 2009 02:36 am Date Acquired:

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCV ISTD: Pass Misc Info:

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 10 2009 02:06 am

CCV Sample Type: Total Dil Factor: 1.00

QC E	leme	nts								
Elem	ent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	50.28	ppb	2.38	50	100.6	90 - 110	
51	V	72	1	48.96	ppb	0.30	50	97.9	90 - 110	
52	Cr	72	1	49.12	ppb	0.17	50	98.2	90 - 110	
55	Mn	72	1	49.62	ppb	0.45	50	99.2	90 - 110	
59	Co	72	1	50.08	ppb	0.94	50	100.2	90 - 110	
60	Ni	72	1	49.56	ppb	1.80	50	99.1	90 - 110	
63	Cu	72	1	48.84	ppb	0.28	50	97.7	90 - 110	
66	Zn	72	1	49.37	ppb	0.25	50	98.7	90 - 110	
75	As	72	1	49.28	ppb	0.71	50	98.6	90 - 110	
78	Se	72	1	48.24	ppb	4.46	50	96.5	90 - 110	
95	Мо	72	1	49.87	ppb	0.48	50	99.7	90 - 110	
107	Aq	115	1	50.07	ppb	3.00	50	100.1	90 - 110	
111	Cd	115	1	49.67	ppb	1.99	50	99.3	90 - 110	
118	Sn	115	1	49.62	ppb	2.42	50	99.2	90 - 110	
121	Sb	115	1	49.81	ppb	1.98	50	99.6	90 - 110	
137	Ва	115	1	49.23	ppb	2.16	50	98.5	90 - 110	
205	Tl	165	1	50.35	ppb	2.32	50	100.7	90 - 110	
208	Pb	165	1	49.83	ppb	1.40	50	99.7	90 - 110	
232	Th	165	1	50.00	ppb	0.93	50	100.0	90 - 110	
238	U	165	1	50.10	ppb	1.03	50	100.2	90 - 110	
		ments				(0)	- C 1	D = - (0)	OC Dangs (%)	El ac
	ment		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li		1	347177		1.04	350699	99.0	30 - 120	
45	Sc		1	979990		1.26	975170	100.5	30 - 120	
72	Ge		1	443155		0.97	456352	97.1	30 - 120	
115	In		1	1346824		0.94	1314315	102.5	30 - 120	
165	Но		1	2437526		0.34	2357107	103.4	30 - 120	
	Tu	ne File#	1	c:\icpchem\1	\7500	\he.u				

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

C:\ICPCHEM\1\7500\

Tune File# 2 C:\ICPCHEM\1\7500\

Tune File# 3

0 :Max. Number of Failures Allowed 0 :Element Failures 0 : Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Continuing Calibration Blank (CCB) QC Report

C:\ICPCHEM\1\DATA\AG110909A.B\134 CCB.D\134 CCB.D# Data File:

Nov 10 2009 02:38 am Date Acquired:

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB ISTD: Pass

Misc Info:

1307 Vial Number:

C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: C:\ICPCHEM\1\CALIB\NormISIS.C Calibration File:

Nov 10 2009 02:06 am Last Cal Update:

Sample Type: CCB Total Dil Factor: 1.00

QC Elements

OC Freme	nts						
Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.016	ppb	86.57	1.00	
51 V	72	1	-0.070	ppb	9.46	1.00	
52 Cr	72	1	0.035	ppb	125.03	1.00	
55 Mn	72	1	0.013	ppb	91.60	1.00	
59 Co	72	1	0.002	ppb	210.58	1.00	
60 Ni	72	1	0.003	ppb	931.20	1.00	
63 Cu	72	1	0.010	ppb	89.16	1.00	
66 Zn	72	1	0.049	ppb	99.14	1.00	
75 As	72	1	0.012	ppb	129.24	1.00	
78 Se	. 72	1	0.151	ppb	183.62	1.00	
95 Mo	72	1	-0.025	ppb	123.56	1.00	
107 Ag	115	1	0.006	ppb	68.99	1.00	
111 Cd	115	1	0.003	ppb	176.80	1.00	
118 Sn	115	1	0.089	ppb	28.29	1.00	
121 Sb	115	1	0.166	ppb	19.22	1.00	
137 Ba	115	1	0.009	ppb	167.28	1.00	
205 Tl	165	1	0.024	ppb	7.37	1.00	
208 Pb	165	1	0.008	ppb	9.92	1.00	
232 Th	165	1	0.060	ppb	12.69	1.00	
238 U	165	1	0.022	ppb	19.67	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	346622	0.31	350699	98.8	30 - 120	
45 Sc	1	975725	0.87	975170	100.1	30 - 120	
72 Ge	1	449852	1.00	456352	98.6	30 - 120	
115 In	1	1336701	0.73	1314315	101.7	30 - 120	
165 Ho	1	2391832	0.48	2357107	101.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

ISTD: Pass

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\135WASH.D\135WASH.D#

Date Acquired: Nov 10 2009 02:41 am

Operator: LRD QC Summary: Sample Name: RLCV Analytes: Pass

Misc Info:

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 10 2009 02:06 am

Sample Type: WASH
Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.092 ppb	8.59	1.30	
51 V	72	1	4.885 ppb	2.42	6.50	
52 Cr	72	1	2.003 ppb	4.27	2.60	
55 Mn	72	1	0.968 ppb	3.96	1.30	
59 Co	72	1	1.004 ppb	4.24	1.30	
60 Ni	72	1	2.034 ppb	7.09	2.60	
63 Cu	72	1	2.052 ppb	0.86	2.60	
66 Zn	72	1	11.880 ppb	1.17	13.00	
75 As	72	1	5.004 ppb	0.86	6.50	
78 Se	72	1	4.648 ppb	15.88	6.50	
95 Mo	72	1	2.011 ppb	3.95	2.60	
107 Ag	115	1	5.236 ppb	3.11	6.50	
111 Cd	115	1	0.996 ppb	7.24	1.30	
118 Sn	115	1	10.400 ppb	2.63	13.00	
121 Sb	115	1	2.094 ppb	1.25	2.60	
137 Ba	115	1	1.064 ppb	5.87	1.30	
205 Tl	165	1	1.106 ppb	2.01	1.30	
208 Pb	165	1	1.059 ppb	0.95	1.30	
232 Th	165	1	2.142 ppb	2.42	2.60	
238 U	165	1	1.089 ppb	1.55	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	341628	0.56	350699	97.4	30 - 120	
45 Sc	1	959675	0.78	975170	98.4	30 - 120	
72 Ge	1	440992	0.96	456352	96.6	30 - 120	
115 In	1	1309315	1.56	1314315	99.6	30 - 120	
165 Но	1	2382062	0.58	2357107	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts



	Lot ID: <u>D95300356</u>
	Client: Northgate Env.
	Batch(es) #: 9306276
Associa	ted Samples:
	I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.
Sicroture	100 11/10/2009

TestAmerica 860

Metals Raw Data RoadMap

LotID		Metal	WorkOrder	Anal Dat	e TestDesc	Batch	File Id	Instr	_
D9J300356	1	SE	LNLR41AC	20091109	6020TOTA	9306276	AG110909A	024	
D9J300356	1	AS	LNLR41AA	20091109	6020TOTA	9306276	AG110909A	024	

METALS PREPARATION LOGS ICP-MS



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 862

Batch Number: 9306276

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:	
JRW	

Prep Date:

11/02/09 Snw

Lot	Work Order		Due Date:	11/11/09	Initial Weight/Volume
D9K020000 Water	LNNP6	В	Due Date: SDG:		<u>50 mL</u>
D9K020000 Water	LNNP6	С	Due Date: SDG:		<u>50 mL</u>
D9J300353 Water	LNLN9 Total		Due Date: 11/11/09 SDG:		<u>50 mL</u>
D9J300356 Water	LNLR4 Total		Due Date: 11/11/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total		Due Date: 11/12/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total	S	Due Date: 11/12/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total	D	Due Date: 11/12/09 SDG:		<u>50 mL</u>

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

PR/10/09

METALS PREP SHEET SOP: DEN-IP-0014



TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH#	9306276	ALLIQ	UOTTED BY:	KS
PREP DATE:	11/3/2009	DIGES	TED BY:	JRW
CONSUMABLES	JSED		<u> </u>	
Digestion Cups:	Manufacturer:	Environmental Express	Lot #:	A901LS268
One or more samples	were filtered prior to a	nalysis at the instrume	nt. Yes	☐ No
If "yes", then the metho	d blank and the LCS wer	e also filtered in the sam	e manner using the sam	e type of filter.
			Analyst(s) Initials:	
STANDARDS USE	D			
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15
		The The		
REAGENTS USED)			
Reagent	Manufacturer	Lot#	Volume Used (mL)	
HNO ₃	JT Baker	H14024	3	
TEMPERATURE C	CYCLES		ı	
Thermometer ID:	: 4110	Block &	& Cup # : 3/2	
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1400	95	1815	96
HNO3	1830	96	1900	96
HNO3				
Samples and QC re	evolumed to:	50mL	Analyst's Initials	1nw
COMMENTS:				

I certify that all information above is correct and complete.

Signature: Anwih

Date: 11 3 04

1/10/04

METALS SAMPLE DATA ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

G:\Metals\Hidden\Forms\MassSpec\ICP-MS Std and Spike True Values.doc

ICP-MS Standard and Spike True Values

Post	Digestion Spike	200	200	200	200	200	200	200	200	200	200	200	200	200	200	50	200	200	200	200	200			-
Matrix Spike	Sample and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	-	ry for the	ICSAB.
Laboratory	Control Sample and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40		tion, the % recover	ne ICSA from the
Interference	Check Sample AB		100	100	100	100	100	100	100	100	100	1	100	100	100	100	100	100	100	100	100		in the ICSA solut	ing the levels in th
Interference Check	Sample A	100,000 Aluminum	100,000 Calcium	100,000 Iron	100,000 Magnesium	100,000 Sodium	100,000 Phosphorus	100,000 Potassium	100,000 Sulfur	200,000 Carbon	1,000,000 Chloride	2000 Molybdenum	2000 Titanium										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
Continuing	Calibration Standard	20	50	50	50	50	50	20	50	20	20	50	50	20	50	50	20	20	50	50	05		to the presence	SAB solution is
	Calibration Standard	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
Cal.	Std. 100 ppb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		All units are	I/gu
Element		Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc			

Quality Control Standards

ICB = Initial Calibration Blank	CCB = Continuing Calibration Blank
ICV = Initial Calibration Verification (Second Source)	CCV = Continuing Calibration Verification

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

IC IL). Adiios							
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	C
3	Cal Blank				1.0	11/09/09 20:32		
4	100 ppb				1.0	11/09/09 20:35		
5	ICV				1.0	11/09/09 20:37		
6	RLIV				1.0	11/09/09 20:40		
7	ICB				1.0	11/09/09 20:43	-	ן [
8	RL STD				1.0	11/09/09 20:46]
9	AFCEE RL				1.0	11/09/09 20:48		[
10	ALTSe				1.0	11/09/09 20:51		I
11	ICSA				1.0	11/09/09 20:54] [
12	ICSAB				1.0	11/09/09 20:57		
13	RINSE				1.0	11/09/09 20:59]
14	LR1				1.0	11/09/09 21:02		
15	RINSE				1.0	11/09/09 21:05		[
16	CCV		1.1		1.0	11/09/09 21:08] ا
17	ССВ				1.0	11/09/09 21:10		
18	RLCV				1.0	11/09/09 21:13		
19	LNNP6B	D9K020000	9306276	MS	1.0	11/09/09 21:16		
20	LNNP6C	D9K020000	9306276	MS	1.0	11/09/09 21:19]
21	LNLN9 2X	D9J300353-1	9306276	MS	2.0	11/09/09 21:21		
22	LNLR4 2X	D9J300356-1	9306276	мѕ	2.0	11/09/09 21:24		
23	LNME4	D9J310138-1	9306276	MS	1.0	11/09/09 21:27		
24	LNME4P5	D9J310138	9306276		5.0	11/09/09 21:30		
25	LNME4Z	D9J310138-1	9306276		1.0	11/09/09 21:32		
26	LNME4S	D9J310138-1	9306276	мѕ	1.0	11/09/09 21:35		
27	LNME4D	D9J310138-1	9306276	мѕ	1.0	11/09/09 21:38		
28	CCV				1.0	11/09/09 21:41		
29	ССВ				1.0	11/09/09 21:43		
30	RLCV				1.0	11/09/09 21:50		
31	LM900B	D9J260000	9299244	MS	1.0	11/09/09 21:52		
32	LM900C	D9J260000	9299244	MS	1.0	11/09/09 21:55		
33	LM900L	D9J260000	9299244	MS	1.0	11/09/09 21:58		
34	LM9J9	D9J240206-1	9299244	MS	1.0	11/09/09 22:01		
35	LM9KA 2X	D9J240206-2	9299244	мз	2.0	11/09/09 22:03	2	
	LM9KC 2X	D9J240206-3	9209244	MS	2.0	T1/09/09 22:08	- DHU	
37	LM9KD	D9J240206-4	9299244	MS	1.0	11/09/09 22:09	120]
	LM9KE 2X	D9J240206-5	9299244	мз	2.0	11/09/09 22:12	1110-25	
39	LM9KF 2X	D9J240206-6	9299244	MS	2.0	11/09/00-22:14		
40	LM9KG	D9J240206-7	9299244	MS	1.0	11/09/09 22:17		
41	CCV				1.0	11/09/09 22:20		
42	ССВ				1.0	11/09/09 22:23		
43	RLCV			1	1.0	11/09/09 22:26		
44	LM9KH	D9J240206-8	9299244	MS	1.0	11/09/09 22:28		
45	LM9KJ	D9J240206-9	9299244	мѕ	1.0	11/09/09 22:31		
46	LM9KK	D9J240206-10	9299244	мѕ	1.0	11/09/09 22:34		
47	LM9KL	D9J240206-11	9299244	MS	1.0	11/09/09 22:37		
48	LM9KP	D9J240206-13	9299244	MS	1.0	11/09/09 22:39		

Denver

RUN SUMMARY

Reported: 11/10/09 12:39:51 ICPMS_024 (024) Method: 6020 (ICP/MS)

File II	D: AG110	909A			Analyst: LRD							
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q				
49	LM9KPP5	D9J240206	9299244		5.0	11/09/09 22:42						
50	LM9KPZ	D9J240206-13	9299244		1.0	11/09/09 22:45						
51	LM9KPS	D9J240206-13	9299244	MS	1.0	11/09/09 22:48						
52	LM9KPD	D9J240206-13	9299244	MS	1.0	11/09/09 22:50						
53	CCV			1 1	1.0	11/09/09 22:53						
54	ССВ			1 1	1.0	11/09/09 22:56						
55	RLCV			1 1	1.0	11/09/09 22:59		┌				
56	LM9KA	D9J240206-2	9299244	MS	1.0	11/09/09 23:01						
57	LM9KC	D9J240206-3	9299244	MS	1.0	11/09/09 23:04						
58	LM9KE	D9J240206-5	9299244	MS	1.0	11/09/09 23:07		$\neg \neg$				
59	LM9KF	D9J240206-6	9299244	MS	1.0	11/09/09 23:10		□□				
60	CCV				1.0	11/09/09 23:12						
61	ССВ				1.0	11/09/09 23:15						
62	RLCV				1.0	11/09/09 23:18		╗				
64	Cal Blank				1.0	11/09/09 23:23						
65	100 ppb			1	1.0	11/09/09 23:26						
66	CCV				1.0	11/09/09 23:29						
67	ССВ			+ +	1.0	11/09/09 23:32		╗				
68	RLCV			+	1.0	11/09/09 23:34						
69	ICSA			+	1.0	11/09/09 23:37						
70	ICSAB			+	1.0	11/09/09 23:40						
71	WASH				1.0	11/09/09 23:43	-					
72	CCV				1.0	11/09/09 23:45						
73	ССВ			1	1.0	11/09/09 23:48						
74	RLCV				1.0	11/09/09 23:51		□⊏				
75	LN04NB	D9K060000	9310238	04	1.0	11/09/09 23:54						
76	LN04NC	D9K060000	9310238	04	1.0	11/09/09 23:57						
77	LNEA7	D9J280172-1	9310238	04	1.0	11/10/09 00:00						
78	LNEA7P5	D9J280172	9310238	+ +	5.0	11/10/09 00:02		╡				
79	LNEA7Z	D9J280172-1	9310238	1	1.0	11/10/09 00:05						
	LNEA7S	D9J280172-1	9310238	04		11/10/09 00:08		\neg \sqsubseteq				
81	LNEA7D	D9J280172-1	9310238	04	1.0	11/10/09 00:11		□□				
82	LNECN	D9J280172-2	9310238	04	1.0	11/10/09 00:13						
83	CCV				1.0	11/10/09 00:16		□□				
84	ССВ				1.0	11/10/09 00:20						
85	RLCV				1.0	11/10/09 00:22						
86	LNECV	D9J280172-3	9310238	04	1.0	11/10/09 00:25						
87	LNECX	D9J280172-4	9310238	04	1.0	11/10/09 00:28						
88	LNEC0	D9J280172-5	9310238	04	1.0	11/10/09 00:31						
89	LNEC1	D9J280172-6	9310238	04	1.0	11/10/09 00:34	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
90	LNEC3	D9J280172-7	9310238	04	1.0	11/10/09 00:36						
91	LNEC5	D9J280172-8	9310238	04	1.0	11/10/09 00:39						
92	CCV			\top	1.0	11/10/09 00:42						
93	ССВ			1 1	1.0	11/10/09 00:45						
94	RLCV				1.0	11/10/09 00:48						
95		D9J300000	9303368	04	1.0	11/10/09 00:51						

Denver RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

File II	D: AG1109	09A		Analyst: LRD								
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	C				
96	LNKFHC	D9J300000	9303368	04	1.0	11/10/09 00:53	Water Control of the					
97	LNC5C	D9J270250-1	9303368	04	1.0	11/10/09 00:56		1				
98	LNC5E	D9J270250-2	9303368	04	1.0	11/10/09 00:59		I				
99	LNC5F	D9J270250-3	9303368	04	1.0	11/10/09 01:02						
100	LNEHJ	D9J280192-1	9303368	04	1.0	11/10/09 01:05						
101	LNEHJP5	D9J280192	9303368		5.0	11/10/09 01:07						
102	LNEHJZ	D9J280192-1	9303368	1	1.0	11/10/09 01:10						
103	LNEHJS	D9J280192-1	9303368	04	1.0	11/10/09 01:13						
104	CCV				1.0	11/10/09 01:16						
105	ССВ				1.0	11/10/09 01:18						
106	RLCV				1.0	11/10/09 01:21						
107	LNEHJD	D9J280192-1	9303368	04	1.0	11/10/09 01:24						
108	LNGXD 5X	D9J290182-1	9303368	04	5.0	11/10/09 01:27		[
109	LNGXG 5X	D9J290182-2	9303368	04	5.0	11/10/09 01:29						
110	LNG17	D9J290192-1	9303368	04	1.0	11/10/09 01:32						
111	LNG2D	D9J290192-2	9303368	04	1.0	11/10/09 01:35		•				
112	LNH27 2X	D9J290314-1	9393308	04	2.0	11/10/09 01:38	-DNU Lalor					
113	LNH20 2X	D9J290314-2	9303368	04	2.0	11/10/09 01:40	- LED 11/10/09					
114	LNH3A	D9J290314-3	9303368	04	1.0	11/10/09 01:43						
115	CCV				1.0	11/10/09 01:46						
116	ССВ	· · · · · · · · · · · · · · · · · · ·			1.0	11/10/09 01:49						
117	RLCV				1.0	11/10/09 01:52						
118	RINSE				1.0	11/10/09 01:54						
119	RINSE				1.0	11/10/09 01:57						
121	Cal Blank				1.0	11/10/09 02:03						
122	100 ppb				1.0	11/10/09 02:05						
123	CCV				1.0	11/10/09 02:08						
124	ССВ				1.0	11/10/09 02:11						
125	RLCV				1.0	11/10/09 02:14						
126	LNNPLBF	D9K020000	9306272	MD	1.0	11/10/09 02:16						
127	LNNPLCF	D9K020000	9306272	MD	1.0	11/10/09 02:19						
128	LNLPFF	D9J300353-2	9306272	MD	1.0	11/10/09 02:22						
129	LNLPFP5F	D9J300353	9306272		5.0	11/10/09 02:25						
130	LNLPFZF	D9J300353-2	9306272		1.0	11/10/09 02:27						
131	LNLPFSF	D9J300353-2	9306272	MD	1.0	11/10/09 02:30						
132	LNLPFDF	D9J300353-2	9306272	MD	1.0	11/10/09 02:33						
133	CCV				1.0	11/10/09 02:36						
134	ССВ				1.0	11/10/09 02:38						
135	RLCV				1.0	11/10/09 02:41						
136	LNNQ5BF	D9K020000	9306285	MD	1.0	11/10/09 02:44						
137	LNNQ5CF	D9K020000	9306285	MD	1.0	11/10/09 02:47						
138	LNLGXF 2X	D9J300326-1	9306285	MD	2.0	11/10/09 02:50						
139	LNLG3F	D9J300326-2	9306285	MD	1.0	11/10/09 02:52						
140	LNLG4F	D9J300326-3	9306285	MD	1.0	11/10/09 02:55						
141	LNLHHF	D9J300329-1	9306285	MD	1.0	11/10/09 02:58						
142	LNLHMF	D9J300329-2	9306285	MD	1.0	11/10/09 03:01						

Denver RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

File ID:	AG110909A	Analyst: LRD
File ID:	AGTTUSUSA	Alaiyst. Lilb

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
143	CCV		1		1.0	11/10/09 03:03		
144	ССВ				1.0	11/10/09 03:06		
145	RLCV				1.0	11/10/09 03:09		
146	LNLHPF	D9J300329-3	9306285	MD	1.0	11/10/09 03:12		
147	LNLJJF	D9J300340-1	9306285	MD	1.0	11/10/09 03:15		
148	LNLJJP5F	D9J300340	9306285		5.0	11/10/09 03:17		
149	LNLJJZF	D9J300340-1	9306285	1 1	1.0	11/10/09 03:20		
150	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/10/09 03:23		
151	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/10/09 03:25		
152	LNLJMF	D9J300340-2	9306285	MD	1.0	11/10/09 03:28		
153	CCV				1.0	11/10/09 03:31		
154	ССВ				1.0	11/10/09 03:34		
155	RLCV			1	1.0	11/10/09 03:37		
156	LN0Q4BF	D9K060000	9310095	MD	1.0	11/10/09 03:39		
157	LN0Q4CF	D9K060000	9310095	MD	1.0	11/10/09 03:42		
158	LN0Q4LF	D9K060000	9310095	MD	1.0	11/10/09 03:45		
159	LNR5CF	D9K040450-3	9310095	MD	1.0	11/10/09 03:48		
160	LNR5CP5F	D9K040450	9310095	1	5.0	11/10/09 03:50		
161	LNR5CZF	D9K040450-3	9310095		1.0	11/10/09 03:53		
162	CCV	2010101000	100.0000	1	1.0	11/10/09 03:56		
163	CCB				1.0	11/10/09 03:59		
164	RLCV			+	1.0	11/10/09 04:01		
165	RINSE			++	1.0	11/10/09 04:04		\dashv
166	RINSE			-	1.0	11/10/09 04:07		$\neg \bar{c}$
168	Cal Blank			+	1.0	11/10/09 04:12		=
169	100 ppb			1	1.0	11/10/09 04:12		$\neg \bar{c}$
170	CCV			+-+	1.0	11/10/09 04:18		
171	CCB		<u> </u>	1	1.0	11/10/09 04:10		
	RLCV			+	1.0	11/10/09 04:21		\dashv
172 173	LN16EB	D9K060000	9310417	04	2.5	11/10/09 04:26		
		D9K060000	9310417	04	2.5	11/10/09 04:29		
174	LN16EC			04	2.5	11/10/09 04:29		
175	LN1FW	D9K060478-7 D9K060478-17	9310417 9310417	04		11/10/09 04:35		
	LN1LX			04	2.5	11/10/09 04:37		
177	LN1MD	D9K060478-19	9310417	+		11/10/09 04:40		
178	LN1MH	D9K060478-21	9310417	04	2.5	11/10/09 04:43		
179	LN1MHS	D9K060478-21	9310417	04		11/10/09 04:46		
180	LN1MHD	D9K060478-21	9310417	04	2.5	11/10/09 04:48		
181	CCV			+	1.0	11/10/09 04:48		
182	RLCV		-	+	1.0	11/10/09 04:54		
183		D9K060000	9310368	87	2.5	11/10/09 04:57		
184	LN1T6BF		9310368	87	2.5	11/10/09 04:57		
185	LN1T6CF	D9K040610-1	9310368	87	2.5	11/10/09 05:00		
186 187	LNVQWF	D9K040610-1 D9K040610-3	9310368	87	2.5	11/10/09 05:02		
		D9K040610-5	9310368	87	2.5	11/10/09 05:08		
188	LNVRLF	D9K040610-5	9310368	87	2.0	11/10/09 05:08		

Denver RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

File II	D: AG1109	909A				Anal	lyst: LRD	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
190	LNVRLDF	D9K040610-5	9310368	87	2.5	11/10/09 05:14		
191	LNX48F	D9K050627-2	9310368	87	2.5	11/10/09 05:16		
192	LNX5JF	D9K050627-6	9310368	87	2.5	11/10/09 05:19		
193	CCV				1.0	11/10/09 05:22		
194	ССВ			-	1.0	11/10/09 05:25		
195	RLCV				1.0	11/10/09 05:27		
196	LN4QNB	D9K090000	9313106	04	2.5	11/10/09 05:30		
197	LN4QNC	D9K090000	9313106	04	2.5	11/10/09 05:33		
198	LN314	D9K070460-2	9313106	04	2.5	11/10/09 05:36		
199	LN3L7 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:39		
200	LN3L7S 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:41		
201	LN3L7D 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:44		╛
202	CCV				1.0	11/10/09 05:47		
203	ССВ				1.0	11/10/09 05:50		
204	RLCV				1.0	11/10/09 05:52		
205~	LNOPDBF	D9K060000	9310068	PD	2.5	11/10/09 05:55		
206	LN0PDCF	D9K060000	9310068	PD	2.5	11/10/09 05:58		
207	LNT1RF	D9K040539-2	9310068	PD	2.5	11/10/09 06:01		
208	LNT15F	D9K040539-3	9310068	PD	3,5	11/10/09 06:04	DNU	
209	LNT15SF	D9K040539-3	9310068	PD	2.5	11/10/09 06:06		
210	LNT15DF	D9K040539-3	9310068	PD	2.5	11/10/09 06:09	URD	
211	LNT2CF	D9K040539-4	9310068	PD	2.5	11/10/09 06:12	11-10-2009	
212	LNPC2F	D9K020476-1	9310068	PD	2.5	11/10/09 06:15		
213	LNPC4F	D9K020476-2	9310068	PD	2.5	11/10/09 06:18		
214	CCV				1.0	11/10/09 06:20		
215	ССВ				1.0	11/10/09 06:23		
216	RLCV				1.0	11/10/09 06:26		
217	RIN8E				1.0	11/10/09 06:29		
218_	RINSE				1.0	11/10/09 06:31		
220	Cal Blank				1.0	11/10/09 06:37		
221	100 ppb				1.0	11/10/09 06:40		
222	CCV				1.0	11/10/09 06:42		
223	ССВ				1.0	11/10/09 06:45		
224	RLCV				1.0	11/10/09 06:48		
225	LNW1QB	D9K050000	9309222	MS	1.0	11/10/09 06:51		
226	LNW1QC	D9K050000	9309222	MS	1.0	11/10/09 06:53		
227	LNR42	D9K040449-1	9309222	MS	1.0	11/10/09 06:56		
228	LNR42P5	D9K040449	9309222		5.0	11/10/09 06:59		
229	LNR42Z	D9K040449-1	9309222		1.0			
230	LNR42S	D9K040449-1	9309222	MS				
231	LNR42D	D9K040449-1	9309222	MS		11/10/09 07:07		
232	CCV			_	1.0	11/10/09 07:10		
233	CCB			-	1.0	11/10/09 07:13		
234	RLCV	Dal/a45 115 5	2000000	1	1.0	11/10/09 07:16		
235	LNR48	D9K040449-2	9309222	MS	1.0	11/10/09 07:18		
236	LNR5E	D9K040449-3	9309222	MS	1.0	11/10/09 07:21		

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10	/09 12:39:51

File II	D: AG1109	909A			Analyst: LRD									
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q						
237	LNR5G	D9K040449-4	9309222	MS	1.0	11/10/09 07:24								
238	LNP8M	D9K030460-1	9309222	MS	1.0	11/10/09 07:27								
239	LNP8X	D9K030460-2	9309222	MS	1.0	11/10/09 07:30								
240	LNP81	D9K030460-3	9309222	MS	1.0	11/10/09 07:32								
241	CCV			+	1.0	11/10/09 07:35								
242	ССВ			1	1.0	11/10/09 07:38								
243	RLCV				1.0	11/10/09 07:41								
244	LNN6NB	D9K020000	9306426	MS	1.0	11/10/09 07:44								
245	LNN6NC	D9K020000	9306426	MS	1.0	11/10/09 07:46								
246	LNN6NL	D9K020000	9306426	мѕ	1.0	11/10/09 07:49								
247	LNM4D	D9J310189-1	9306426	мѕ	1.0	11/10/09 07:52								
248	LNM4DP5	D9J310189	9306426	1 1	5.0	11/10/09 07:55								
249	LNM4DZ	D9J310189-1	9306426	1	1.0	11/10/09 07:58								
250	LNM4E	D9J310189-2	9306426	MS	1.0	11/10/09 08:00								
251	LNM5E	D9J310191-14	9306426	MS	1.0	11/10/09 08:03								
252	CCV			1	1.0	11/10/09 08:06								
253	ССВ				1.0	11/10/09 08:09								
254	RLCV				1.0	11/10/09 08:11								
255	LNRQVB	D9K040000	9308149	MS	1.0	11/10/09 08:14								
256	LNRQVC	D9K040000	9308149	MS	1.0	11/10/09 08:17								
257	LNQ0L	D9K030552-1	9308149	MS	1.0	11/10/09 08:20								
258	LNQ0LP5	D9K030552	9308149	+***	5.0	11/10/09 08:22		$\exists \overline{a}$						
259	LNQ0LZ	D9K030552-1	9308149		1.0	11/10/09 08:25								
260	LNQ0LS	D9K030552-1	9308149	мѕ	1.0	11/10/09 08:28								
261	LNQ0LD	D9K030552-1	9308149	MS	1.0	11/10/09 08:30								
262	LNQ0R	D9K030554-1	9308149	MS	1.0	11/10/09 08:33		$\neg \neg$						
263	LNQ0T	D9K030554-2	9308149	MS	1.0	11/10/09 08:36								
264	CCV			1	1.0	11/10/09 08:39								
265	ССВ			1-1	1.0	11/10/09 08:41								
266	RLCV				1.0	11/10/09 08:44								
267	LNWG5BF	D9K050000	9309184	87	2.5	11/10/09 08:47								
268	LNWG5CF	D9K050000	9309184	87	2.5	11/10/09 08:50								
269	LNT4AF	D9K040553-1	9309184	87	2.5	11/10/09 08:52								
270	LNT42F	D9K040553-2	9309184	87	2.5	11/10/09 08:55								
271	LNT42SF	D9K040553-2	9309184	87	2.5	11/10/09 08:58								
272	LNT42DF	D9K040553-2	9309184	87	2.5	11/10/09 09:01	· · · · · · · · · · · · · · · · · · ·							
273	LNT5HF	D9K040553-3	9309184	87	2.5	11/10/09 09:03								
274	CCV				1.0	11/10/09 09:06								
275	ССВ				1.0	11/10/09 09:09								
276	RLCV				1.0	11/10/09 09:12								
277	LNT5LF	D9K040553-4	9309184	87	2.5	11/10/09 09:14								
278	LNT5VF	D9K040553-5	9309184	87	2.5	11/10/09 09:17								
279	LNT51F	D9K040553-6	9309184	87	2.5	11/10/09 09:20								
280	LNT55F	D9K040553-7	9309184	87	2.5	11/10/09 09:23								
281	LNT57F	D9K040553-8	9309184	87	2.5	11/10/09 09:26								
282	LNT58F	D9K040553-9	9309184	87	2.5	11/10/09 09:28								

Denver

Sample ID

D9J270274-0

283 LNT59F

284 CCV

285 CCB

286 RLCV

289 CCB

290 RLCV

287 288 CCV

RUN SUMMARY

Deliver		
Method: 6020 (ICP/MS)	ICPMS_024 (024)	ported: 11/10/09 12:39:51

DF

1.0

11/10/09 09:50

87

Batch

9309184

File ID:	AG110909A

Lot No.

D9K040553-10

	Analys	st: LRD	
F	Analyzed Date	Comment	Q
2.5	11/10/09 09:31		
1.0	11/10/09 09:34		
1.0	11/10/09 09:37		╛
1.0	11/10/09 09:39		
1.0	11/10/09 09:42		
1.0	11/10/09 09:45		
1.0	11/10/09 09:48		

TestAmerica Denver

Standards Preparation Logbook Record

Nov-10-2009

Analyst: trudelll

Logbook: \Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Lot No.: B2-SE02003

Vendor's Expiration Date: 12-01-2009

Solvent: 2% HNO3

Date Prep./Opened: 11-25-2008

Vendor: Inorganic Ventures

Date Received: 11-25-2008

Date Expires(1): 12-01-2009 (None) Date Expires(2): 12-01-2009 (None)

(METALS)-Inventory ID: 803

Component

Se

Initial Conc (mg/L)

Final Conc (mg/L)

Analyst: trudelll

1,000.0

1,000.0

STD1198-09, 1000 mg/L Sn

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

Final Conc (mg/L)

Se

Component

Initial Conc (mg/L) 1,000.0

1.0000

Page 1 of 10

STD2483-09, 1000 Zn (Inorganic Ventures)

Vendor: Inorganic Ventures Lot N

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

Solvent: 5% HNO3 Lot No.: H14024

Analyst: DIAZL Volume (ml): 250.00

Analyst: trudelll

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

ComponentInitial Conc (mg/L)Final Conc (ug/L)Lithium61,000.04,000.0

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

 $\begin{tabular}{ll} \hline Component & \underline{Initial\ Conc\ (mg/L)} & \underline{Final\ Conc\ (ug/L)} \\ Sc & 1,000.0 & 2,000.0 \\ \hline \end{tabular}$

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

Volume (ml): 50.000 Lot No.: H14024 Solvent: 5% HNO3

Analyst: DIAZL

Analyst: DIAZL

Date Prep./Opened: 10-31-2009 Date Expires(1): 03-01-2010 (1 Year) Date Expires(2): 03-01-2010 (None)

Aliquot Amount (ml): 0.0500 Parent Std No.: STD1198-09, 1000 mg/L Sn

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Initial Conc (mg/L) Final Conc (mg/L) Component 1,000.0 1.0000 Sn

Aliquot Amount (ml): 0.0500 Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures)

Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Final Conc (mg/L) Initial Conc (mg/L) Component 1,000.0 1.0000 1000 Zn

STD6795-09, ICP-MS ICSA

Analyst: DIAZL Volume (ml): 50.000 Solvent: 5% HNO3 Lot No.: H14024

Date Prep./Opened: 11-05-2009

Date Expires(1): 12-05-2009 (1 Month) Date Expires(2): 11-01-2010 (None)

pipettes: Met 8

Aliquot Amount (ml): 5.0000 Parent Std No.: STD6475-09, ICPMS Interferent Check Standard

Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD6858-09, ICP-MS BLANK

Volume (ml): 1,000.0 Solvent: Water

Date Prep./Opened: 11-09-2009

Date Expires(1): 05-09-2010 (6 Months) Date Expires(2): 05-09-2010 (6 Months)

Date Verified: 12-31--4714 by - (Verification ID: 0)

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Parent Std No.: STD6857-09, NITRIC ACID Aliquot Amount (ml): 50.000

Component	Initial Conc (%)	Final Conc (%)
HNO3	100.00	5.0000

STD6859-09, ICP-MS CAL STD

Lot No.: H14024 Volume (ml): 100.00

Analyst: DIAZL

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

Solvent: 5% HNO3

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

STD6860-09, ICP-MS CCV STD Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

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

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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
	20.000	0.0500
Zn		
Parent Std No.: STD3110-09, ICP-MS CALSTD 2	Aliquo	Amount (ml): 0.2500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500
STD6861-09, ICP-MS RL STD		Analyst: DIAZL
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
		volume (mi): 10.000
Date Prep./Opened: 11-09-2009		
Date Expires(1): 11-10-2009 (1 Day)		
Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn	Aliquo	t Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2)		
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090
Parent Std No.: STD6859-09, ICP-MS CAL STD	Aliquo	t 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		0.0010
	0.1000	0.0010
Pb	0.1000	0.0010
Pb Se		
Pb Se Th	0.1000	0.0010

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Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010

STD6862-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Analyst: DIAZL

Aliquot Amount (ml): 2.0000

Solvent: 5% HNO3

Lot No.: H14024 Volume (ml): 10.000

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD6861-09, ICP-MS RL STD

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002

STD6863-09, ICP-MS ICSAB

Solvent: 5% HNO3

Lot No.: H14024 Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.0500

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.1000

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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
	20.000	0.1000
Zn	20.000	0.1000
Parent Std No.: STD3110-09, ICP-MS CALSTD 2	Aliquot	t Amount (ml): 0.0500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD4542-09, ICPMS Interferent Check Star	•	t Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010 Parent Date Expires(2)	2): 08-01-2010	
Component	Initial Conc (ug/ml)	Final Conc (mg/L)
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
	1,000.0	100.00
P	1,000.0	100.00
S T:	20.000	2.0000
Ti	20.000	2.0000
STD6864-09, ICP-MS LR STD		Analyst: DIAZL
Solvent: 5% HNO3 Lot No.: H14024 Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)		Volume (ml): 10.000
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Aliquo	t Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	1.0000
As	20.000	1.0000

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Doront Std No. STD2110 00 JCD MS CALSTD 2	Aliquot Amou	nt (ml): 0.5000
Zn	20.000	1.0000
V	20.000	1.0000
U	20.000	1.0000
Tl	20.000	1.0000
Th	20.000	1.0000
Se	20.000	1.0000
Pb	20.000	1.0000
Ni	20.000	1.0000
Mn	20.000	1.0000
Cu	20.000	1.0000
Cr	20.000	1.0000
Co	20.000	1.0000
Cd	20.000	1.0000
Be	20.000	1.0000
Ba	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

STD6865-09, ICP-MS ICV STD

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000

Analyst: DIAZL

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

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

Page 8 of 10

Parent Std No.: STD3114-09, ICP-MS TA ICV B

Aliquot Amount (ml): 0.1000

Volume (ml): 50.000

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

STD6866-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3 Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se Aliquot Amount (ml): 0.1000

Lot No.: H14024

ComponentInitial Conc (mg/L)Final Conc (mg/L)Se1.00000.0020

STD6867-09, LLCCV/RLICV

Analyst: DIAZL Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 20

Solvent: 5% HNO3

Parent Std No.: STD6469-09, ICP-MS LLCCV 1 Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000

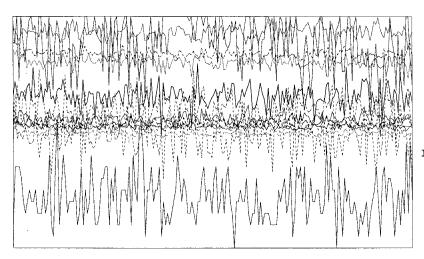
Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000
Parent Std No.: STD6470-09, ICP-MS LLCCV 2	Aliquot	Amount (ml): 1.0000
Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010	
Component	Initial Conc (mg/L)	Final Conc (ug/L)
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

File A6110909A

Reviewed By:	LRD 1	1	110	12009

Page 10 of 10

Tune File : NORM.U Comment : AG110909

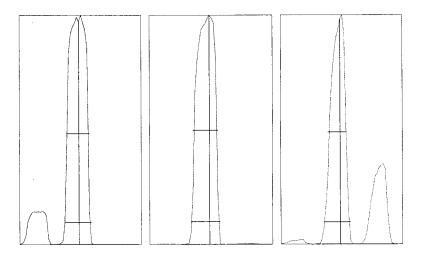


Integration Time: 0.1000 sec Sampling Period: 1.5300 sec

n: 200

Oxide: 156/140 1.475% Doubly Charged: 70/140 1.275%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2614.0	2789.3	3.67	0.80
7	20,000	18632.0	18633.8	3.00	0.50
59	20,000	15677.0	16033.1	2.87	1.00
63	50	35.0	45.6	15.88	0.70
70	500	313.0	327.1	7.08	0.40
75	20	4.0	4.4	46.88	0.60
. 78	200	109.0	120.3	9.42	0.60
89	50,000	26589.0	26185.6	2.22	1.00
115	50,000	24518.0	24639.8	1.99	1.10
118	100	33.0	48.4	15.31	0.80
137	5,000	2637.0	2712.3	2.91	1.20
205	20,000	16431.0	16723.1	2.17	1.70
238	50,000	25920.0	26106.3	1.87	2.50
156/140	2	1.499%	1.485%	7.38	
70/140	2	1.311%	1.332%	7.11	



m/z: 205 18,699 26,853 Height: 17,221 7.00 89.00 205.00 Axis: ₩-50%: 0.55 0.60 0.45 0.6500 W-10%: 0.6500 0.700

Integration Time: 0.1000 sec Acquisition Time: 22.7600 sec

Y axis : Linear

Page: 1

Generated : Nov 09, 2009 18:55:12 Printed : Nov 09, 2009 18:55:15

Tune Report

Tune File : NORM.U Comment : AG110909

Maria I area December 1											
Tuning Paramet	ters										
===Plasma Condi	tion	===		===Ion Lenses==	=			===Q-Pole Param	iet:	ers===	
RF Power	:	1600	W	Extract 1	:	0	V	AMU Gain	:	134	
RF Matching	:	1.7	V	Extract 2	:	-170	V	AMU Offset	:	125	
Smpl Depth	:	8	mm	Omega Bias-ce	:	-30	V	Axis Gain	:	1.0007	
Torch-H	:	-0.8	mm	Omega Lens-ce	:	1.4	V	Axis Offset	:	-0.03	
Torch-V	:	-0.3	mm	Cell Entrance	:	-30	V	QP Bias	:	-3	V
Carrier Gas	:	0.81	L/min	QP Focus	:	7	V				
Makeup Gas	:	0.23	L/min	Cell Exit	:	-30	V	===Detector Par	am	eters==	=
Optional Gas	:		용					Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Par	ame	ters===	=	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 Cel	1===										
Reaction Mode	:	OFF									
H2 Gas	:	0	mL/min	He Gas	:	0	mL/min	Optional Gas	:		8

Page: 2

Generated : Nov 09, 2009 18:55:12 Printed : Nov 09, 2009 18:55:18

P/A Factor Tuning Report

Acquired:Nov 9 2009 08:15 pm

Mass[amu]	Element	P/A Factor		
6	Li	Sensitivity	too	high
7	(Li)	0.055201		_
9	Ве	0.058738		
23	Na	0.063579		
24	Mg	0.064637		
27	Αĺ	0.065724		
39	K	0.065936		
43	Ca	Sensitivity	too	low
45	Sc	0.065581		
51	V	0.066938		
52	Cr	0.068029		
53	(Cr)	Sensitivity	too	low
55	Mn	0.069052		
57	Fe	Sensitivity	too	low
59	Co	0.070056		
60	Ni	Sensitivity	too	low
63	Cu	Sensitivity	too	low
66	Zn	Sensitivity	too	low
72	Ge	0.069902		
75	As	Sensitivity	too	low
77	(Se)	Sensitivity		
78	Se	Sensitivity	too	low
82	(Se)	Sensitivity	too	low
83	(Se)	Sensitivity	too	low
93	Nb	Sensitivity	too	low
95	Mo	Sensitivity	too	low
98	(Mo)	0.071630		
99	(Mo)	Sensitivity	too	low
105	Pd	Sensitivity	too	low
106	(Cd)	0.071534		
107	Aq	Sensitivity	too	low
108	(Cd)	0.071984		
111	Cd	Sensitivity	too	low
115	In	0.068812		
118	Sn	0.070115		
121	Sb	0.070721		
137	Ba	Sensitivity	too	low
165	Но	0.069269		
182	W	Sensitivity	too	low
195	Pt	Sensitivity	too	low
205	Tl	0.071349		
206	(Pb)	0.070737		
207	(Pb)	0.071002		
208	Pb	0.070189		
232	Th	0.070155		
238	U	0.070301		

---Detector Parameters--Discriminator: 8.0 mV
Analog HV: 1770 V
Pulse HV: 1480 V

- 1 -

P/A Factor Tuning Report

Acquired:Nov 9 2009 08:21 pm

Mass[amu] 6	Element Li	P/A Factor Sensitivity	too	hiah
7	(Li)	0.055259	000	111911
9	Ве	0.058421		
23	Na	0.062917		
24	Mg	0.063700		
27	Al	0.064930		
39	K	0.065662		
43	Ca	Sensitivity	too	low
45	Sc	0.065581		
51 52	V Cr	0.066016 0.066969		
53	(Cr)	Sensitivity	too	low
55 55	Mn	0.067116	100	TOW
57	Fe	Sensitivity	too	low
59	Co	0.068255		
60	Ni	0.068756		
63	Cu	0.069073		
66	Zn	0.068997		
72	Ge	0.068697		
75	As	0.069000		
77	(Se)	Sensitivity		
78	Se	Sensitivity		
82	(Se)	Sensitivity		
83 93	(Se) Nb	Sensitivity Sensitivity		low
95 95	Мо	0.071094	100	TOM
98	(Mo)	0.069583		
99	(Mo)	0.069992		
105	Pd	0.069782		
106	(Cd)	0.069206		
107	Ag	Sensitivity	too	low
108	(Cd)	0.069821		
111	Cd	0.069450		
115	In	0.068812		
118	Sn	0.068484		
121	Sb	0.068561		
137 165	Ba Ho	0.070024 0.068599		
182	W	Sensitivity	±00	low
195	Pt	Sensitivity		
205	Tl	0.068219	200	
206	(Pb)	0.067897		
207	(Pb)	0.068227		
208	Pb	0.070189		
232	Th	0.070155		
238	U	0.070301		

===Detector Parameters===
Discriminator: 8.0 mV
Analog HV: 1770 V
Pulse HV: 1480 V

- 1 -

200.8 QC Tune Report

Data File:

C:\ICPCHEM\1\DATA\AG110909A.B\001TUNE.D

Date Acquired:

Nov 9 2009 08:26 pm

Acq. Method:

tun_isis.M

Operator:

LRD

Sample Name:

200.8 TUNE

Misc Info:

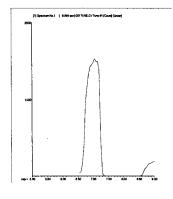
Vial Number:

4

Current Method:

C:\ICPCHEM\1\METHODS\tun isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	14906	14929	14975	14838	14916	14868	0.36	5.00	~
9 Be	1915	1908	1914	1983	1809	1957	3.47	5.00	RSDEATIL PUSS
24 Mg	8679	8669	8688	8662	8744	8633	0.48	5.00	(19)
59 Co	35756	36567	35777	35985	34517	35933	2.11	5.00	LLDONOK
115 In	692825	688204	694293	692146	693236	696245	0.43	5.00	• • •
208 Pb	51450	52572	50561	51250	51590	51275	1.42	5.00	
238 U	109376	111991	110522	109499	107788	107079	1.83	5.00	



7 Li

Mass Calib.

Actual: 7.05

Required:6.90 -

7.10

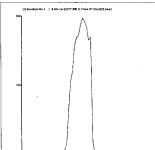
Flag:

Peak Width

Actual: 0.60

Required:0.90

Flag:



9 Be

Mass Calib.

Actual: 9.00

Required:8.90 - 9.10

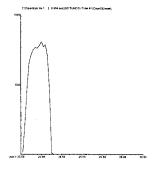
Flag:

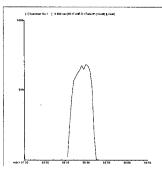
Peak Width

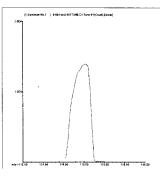
Actual: 0.55

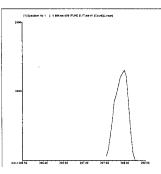
Required: 0.90

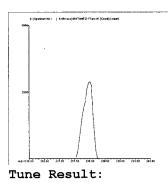
Flag:











24 Mg

Mass Calib.

Actual: 24.00 Required:23.90 -24.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

59 Co

Mass Calib.

Actual: 59.00 Required: 58.90 59.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

115 In

Mass Calib.

Actual: 115.00 Required: 114.90 -115.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

208 Pb

Mass Calib.

Actual: 207.95 Required: 207.90 - 208.10 Flag:

Peak Width

Actual: 0.55 Required: 0.90 Flag:

238 U

Mass Calib.

Actual: 237.95 Required: 237.90 - 238.10 Flag:

Peak Width

Actual: 0.50 Required: 0.90 Flag:

F2/1745 UP 109/04

C:\ICPCHEM\1\RPTTMP\2008tn.qct

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\002CALB.D\002CALB.D#

Nov 9 2009 08:29 pm

Date Acquired:
Acq. Method:

NormISIS.M

Operator:

operator:

LRD

Sample Name:

Cal Blank

Misc Info:

Vial Number: 1101

Current Method:
Calibration File:

C:\ICPCHEM\1\METHODS\NormISIS.M
C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update:

Nov 09 2009 08:30 pm

Sample Type:

Calble Obulnloy

QC	Elem	ents
----	------	------

Eleme	nt	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	5 7 .7	3.61
52	Cr	72	1	1697	4.80
55	Mn	72	1	263	10.96
59	Со	72	1	17	34.64
60	Ni	72	1	63	32.87
63	Cu	72	1	100	43.59
66	Zn	72	1	131	19.98
75	As	72	1	31	32.13
78	Se	72	1	153	20.97
95	Мо	72	1	23	24.74
107	Ag	115	1	7	86.60
111	Cd	115	1	-4	15.03
118	Sn	115	1	123	26.06
121	Sb	115	1	43	42.83
137	Ва	115	1	10	33.33
205	Tl	165	1	341	20.90
208	Pb	165	1	206	7.66
232	Th	165	1	130	26.65
238	U	165	1	97	23.89

Internal Standard Elements

Elemen	nt	Tune	CPS Mean	RSD(%)
6	Li	1	307725	0.62
45	Sc	1	863740	1.75
72	Ge	1	419764	0.40
115	In	1	1321877	2.10
165	Но	1	2596118	0.41

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Date Acquired: Nov 9 2009 08:32 pm

Acq. Method: NormISIS.M

Operator: LRD

Sample Name: Cal Blank

Misc Info:

2101 Vial Number:

Vial Number: Z101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:30 pm

Sample Type: CalBlk

QC Elements

QC E.	remen	CS			
Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	1	0	0.00
51	V	72	1	513	5.95
52	Cr	72	1	1570	2.30
55	Mn	72	1	337	11.25
59	Co	72	1	20	50.00
60 -	Ni	72	1	63	48.24
63	Cu	72	1	120	44.10
66	Zn	72	1	137	9.29
75	As	72	1	35	18.20
78	Se	72	1	97	23.89
95	Mo	72	1	20	50.00
107	Ag	115	1	3	173.21
111	Cd	115	1	-4	393.57
118	Sn	115	1	297	22.95
121	Sb	115	1	39	26.19
137	Ва	115	1	12	41.66
205	T1	165	1	221	20.47
208	Pb	165	1	199	12.35
232	Th	165	1	113	22.21
238	U	165	1	77	26.09

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	316659	2.14
45	Sc	1	888972	0.50
72	Ge	1	425816	0.47
115	In	1	1335258	0.87
165	Но	1	2617754	0.65

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\004ICAL.D\004ICAL.D#

Date Acquired: Nov 9 2009 08:35 pm

Acq. Method: NormISIS.M

Operator: LRD Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: Last Cal. Update: C:\ICPCHEM\1\CALIB\NormISIS.C

Nov 09 2009 08:33 pm

Sample Type: ICAL

QC Elements

20 D		-			
Eleme	ent	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	38609	1,25
51	V	72	1	510366	0.88
52	Cr	72	1	524956	1.26
55	Mn	72	1	613525	1.41
59	Co	72	1	633231	0.83
60	Ni	72	1	140397	0.74
63	Cu	72	1	332088	1.69
66	Zn	72	1	83275	0.84
75	As	72	1	64491	1.06
78	Se	72	1	13670	3.37
95	Mo	72	1	194872	1.16
107	Ag	115	1	568219	1.98
111	Cd	115	1	121298	1.44
118	Sn	115	1	331811	1.14
121	Sb	115	1	398020	0.91
137	Ва	115	1	158724	1.91
205	Tl	165	1	1472389	1.01
208	Pb	165	1	2154560	0.36
232	Th	165	1	2284596	1.76
238	U	165	1	2432923	0.19

ISTD Elements

Eleme	nt .	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	317523	0.04	316659	100.3	30 - 120	
45	Sc	1	902480	1.79	888972	101.5	30 - 120	
72	Ge	1	417361	1.39	425816	98.0	30 - 120	
115	In	1	1332995	0.81	1335258	99.8	30 - 120	
165	Но	1	2606293	0.43	2617754	99.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :ISTD Failures

0

0

Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\005 ICV.D\005 ICV.D#

Date Acquired: Nov 9 2009 08:37 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: ICV ISTD: Pass

Misc Info:

Vial Number: 2103

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: ICV Total Dil Factor: 1.00

QC Eleme	nts						•		
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	39.82	ppb	0.59	40	99.6	90 - 110	1149
51 V	72	1	40.01	ppb	0.57	40	100.0	90 - 110	
52 Cr	72	1	40.10	ppb	1.04	40	100.3	90 - 110	
55 Mn	72	1	40.83	ppb	1.35	40	102.1	90 - 110	
59 Co	72	1	39.98	ppb	2.35	40	100.0	90 - 110	
60 Ni	72	1	39.48	ppb	1.75	40	98.7	90 - 110	
63 Cu	72	1	39.44	ppb	0.71	40	98.6	90 - 110	
66 Zn	72	1	40.87	ppb	1.27	40	102.2	90 - 110	
75 As	72	1	40.05	ppb	0.47	40	100.1	90 - 110	
78 Se	72	1	40.20	ppb	7.43	40	100.5	90 - 110	
95 Mo	72	1	39.50	ppb	1.39	40	98.8	90 - 110	
107 Ag	115	1	40.28	ppb	1.09	40	100.7	90 - 110	
111 Cd	115	1	40.39	ppb	2.54	40	101.0	90 - 110	
118 Sn	115	1	39.95	ppb	2.27	40	99.9	90 - 110	
121 Sb	115	1	40.57	ppb	2.67	40	101.4	90 - 110	
137 Ba	115	1	40.04	ppb	2.19	40	100.1	90 - 110	
205 Tl	165	1	40.86	ppb	1.20	40	102.2	90 - 110	
208 Pb	165	1	40.91	ppb	0.95	40	102.3	90 - 110	
232 Th	165	1	41.04	ppb	0.97	40	102.6	90 - 110	
238 U	165	1	40.74	ppb	0.82	40	101.9	90 - 110	
ISTD Ele	ments								
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	320321		1.05	316659	101.2	30 - 120	
45 Sc		1	893394		1.16	888972	100.5	30 - 120	
72 Ge		1	421619		1.04	425816	99.0	30 - 120	
115 In		1	1339730		1.68	1335258	100.3	30 - 120	
165 Ho		1	2633489		0.36	2617754	100.6	30 - 120	
Tu	ne File#	1	c:\icpchem\1	7500	\he.u				
	ne File#	2	C:\ICPCHEM\1						
Tu	ne File#	3	C:\ICPCHEM\1						

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\006WASH.D\006WASH.D#

Date Acquired: Nov 9 2009 08:40 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: RLIV ISTD: Pass

Misc Info:

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: WASH Total Dil Factor: 1.00

QC	Elements	
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.977 ppb	23.08	1.30	
51 V	72	1	5.088 ppb	3.63	6.50	
52 Cr	72	1	2.010 ppb	2.80	2.60	
55 Mn	72	1	1.052 ppb	2.54	1.30	
59 Co	72	1	1.026 ppb	2.82	1.30	
60 Ni	72	1	2.053 ppb	3.73	2.60	
63 Cu	72	1	1.949 ppb	1.86	2.60	
66 Zn	72	1	10.200 ppb	0.76	13.00	
75 As	72	1	4.975 ppb	1.56	6.50	
78 Se	72	1	5.397 ppb	12.87	6.50	
95 Mo	72	1	2.077 ppb	3.08	2.60	
107 Ag	115	1	5.417 ppb	1.62	6.50	
111 Cd	115	1	0.994 ppb	8.21	1.30	
118 Sn	115	1	10.400 ppb	2.50	13.00	
121 Sb	115	1	2.182 ppb	1.55	2.60	
137 Ba	115	1	1.043 ppb	2.05	1.30	
205 Tl	165	1	1.340 ppb	3.63	1.30	
208 Pb	165	1	1.058 ppb	2.34	1.30	
232 Th	165	1	2.228 ppb	2.96	2.60	
238 U	165	1	1.119 ppb	1.48	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	327943	1.12	316659	103.6	30 - 120	
45 Sc	1	927967	1.66	888972	104.4	30 - 120	
72 Ge	1	437192	0.23	425816	102.7	30 - 120	
115 In	1	1360935	0.96	1335258	101.9	30 - 120	
165 Ho	1	2638135	1.11	2617754	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u 2 C:\ICPCHEM\1\7500\ Tune File# Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Initial Calibration Blank (ICB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\007 ICB.D\007 ICB.D#

Date Acquired: Nov 9 2009 08:43 pm QC Summary:

Operator: LRD Analytes: Pass Sample Name: ICB ISTD: Pass

Misc Info:

Vial Number: 2104

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: ICB
Total Dil Factor: 1.00

QC	El	emen	ts
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Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	-0.03	ppb	24.58	1.00	
52 Cr	72	1	0.01	ppb	375.24	1.00	
55 Mn	72	1	0.01	ppb	99.37	1.00	
59 Co	72	1	0.00	ppb	102.49	1.00	
60 Ni	72	1	0.06	ppb	11.55	1.00	
63 Cu	72	1	0.03	ppb	95.69	1.00	
66 Zn	72	1	0.75	ppb	6.06	1.00	
75 As	72	1	-0.01	ppb	401.95	1.00	
78 Se	72	1	0.14	ppb	223.63	1.00	
95 Mo	72	1	0.01	ppb	53.61	1.00	
107 Ag	115	1	0.01	ppb	41.41	1.00	
111 Cd	115	1	0.01	ppb	115.64	1.00	
118 Sn	115	1	0.25	ppb	23.38	1.00	
121 Sb	115	1	0.07	ppb	21.20	1.00	
137 Ba	115	1	0.06	ppb	14.45	1.00	
205 Tl	165	1	0.04	ppb	19.24	1.00	
208 Pb	165	1	0.01	ppb	22.30	1.00	
232 Th	165	1	0.02	ppb	1.72	1.00	
238 U	165	1	0.00	ppb	21.71	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331180	1.57	316659	104.6	30 - 120	
45 Sc	1	905311	1.15	888972	101.8	30 - 120	
72 Ge	1	441723	1.46	425816	103.7	30 - 120	
115 In	1	1364402	1.70	1335258	102.2	30 - 120	
165 Но	1	2652248	1.61	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

O :Element Failures 0 :Max. Number of Failures Allowed

0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#

RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#

Date Acquired: Nov 9 2009 08:46 pm

Operator: LRD QC Summary:

Sample Name: RL STD Analytes: Pass Misc Info: Pass

Vial Number: 2105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: RLSTD Total Dil Factor: 1.00

~~	727	ements	
J	E-1	ements	

Elemen	nt IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	e 6	1	0.99	ppb	9.34	1	99.0	50 - 150	
51 V	72	1	0.92	ppb	9.25	1	91.9	50 - 150	
52 C	r 72	1	1.00	ppb	9.84	1	99.9	50 - 150	
55 Mr	n 72	1	1.01	ppb	0.70	1	100.8	50 - 150	
59 Cd	o 72	1	0.98	ppb	2.45	1	97.7	50 - 150	
60 N	i 72	1	1.03	ppb	5.51	1	103.0	50 - 150	
63 Cı	u 72	1	1.05	ppb	5.54	1	104.6	50 - 150	
66 Zr	n 72	1	10.39	ppb	0.48	10	103.9	50 - 150	
75 As	s 72	1	1.05	ppb	4.38	1	105.1	50 - 150	
78 Se	e 72	1	1.23	ppb	32.18	1	123.2	50 - 150	
95 M	o 72	1	1.01	ppb	7.94	1	101.0	50 - 150	
107 A	g 115	1	1.01	ppb	4.94	1	101.1	50 - 150	
111 C	d 115	1	1.05	ppb	5.12	1	104.5	50 - 150	
118 Sr	n 115	1	10.46	ppb	2.14	10	104.6	50 - 150	
121 S	b 115	1	1.03	ppb	4.27	1	103.4	50 - 150	
137 Ba	a 115	1	1.04	ppb	2.63	1	104.3	50 - 150	
205 T	l 165	1	1.11	ppb	1.97	1	110.8	50 - 150	
208 P	b 165	1	1.05	ppb	1.92	1	105.4	50 - 150	
232 TI	h 165	1	1.04	ppb	1.88	1	103.6	50 - 150	
238 U	165	1	1.07	ppb	2.22	1	107.2	50 - 150	

ISTD Elements

Eler	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	332529	1.31	316659	105.0	30 - 120	
45	Sc	1	924723	1.34	888972	104.0	30 - 120	
72	Ge	1	440304	0.81	425816	103.4	30 - 120	
115	In	1	1361149	0.37	1335258	101.9	30 - 120	
165	Но	1	2647952	0.34	2617754	101.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\009AFCE.D\009AFCE.D#

Date Acquired: Nov 9 2009 08:48 pm

Operator: LRD QC Summary: Sample Name: AFCEE RL Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 2106

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: AFCEERL
Total Dil Factor: 1.00

QC Eleme	nts								
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.16	ppb	9.52	0	82.7	80 - 120	
51 V	72	1	0.15	ppb	12.92	0	84.2	80 - 120	
52 Cr	72	1	0.17	ppb	11.54	0	87.5	80 - 120	
55 Mn	72	1	0.19	ppb	4.01	0	92.3	80 - 120	
59 Co	72	1	0.20	ppb	10.00	0	101.6	80 - 120	
60 Ni	72	1	0.17	ppb	39.79	0	82.5	80 - 120	
63 · Cu	72	1	0.21	dqq	8.40	0	98.5	80 - 120	
66 Zn	72	1	1.88	ppb	3.20	2	90.5	80 - 120	
75 As	72	1	0.18	ppb	4.43	0	84.9	80 - 120	
78 Se	72	1	0.34	ppb	52.18	0	137.7	80 - 120	
95 Mo	72	1	0.20	ppb	20.48	0	97.8	80 - 120	
107 Ag	115	1	0.19	ppb	11.02	0	95.4	80 - 120	
111 Cd	115	1	0.18	ppb	8.60	0	87.8	80 - 120	
118 Sn	115	1	2.07	ppb	1.60	2	98.7	80 - 120	
121 Sb	115	1	0.24	ppb	8.81	0	117.2	80 - 120	
137 Ba	115	1	0.17	ppb	15.49	0	82.0	80 - 120	
205 Tl	165	1	0.21	ppb	3.14	0	95.1	80 - 120	
208 Pb	165	1	0.21	ppb	4.91	0	97.5	80 - 120	
232 Th	165	1	0.21	ppb	2.80	0	102.7	80 - 120	
238 U	165	1	0.21	ppb	1.79	0	97.4	80 - 120	
ISTD Ele	ments								_
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	334891		0.91	316659	105.8	30 - 120	
45 Sc		1	926450		1.15	888972	104.2	30 - 120	
72 Ge		1	444347		1.22	425816	104.4	30 - 120	
115 In		1	1347595		1.10	1335258	100.9	30 - 120	
165 Ho		1	2645674		1.06	2617754	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\010SMPL.D\010SMPL.D#

Date Acquired: Nov 9 2009 08:51 pm

Acq. Method: NormISIS.M QC Summary:
Operator: LRD Analytes: Pass
Sample Name: ALTSe ISTD: Pass

Sample Name: ALTSe

Misc Info: 2 ppb Vial Number: 2107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

OC Elements

£									
Ele	ment	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Ве	6	1	0.01	0.01	ppb	173.18	3600	
51	V	72	1	-0.05	-0.05	ppb	4.45	3600	
52	Cr	72	1	0.03	0.03	ppb	21.71	3600	
55	Mn	72	1	-0.01	-0.01	ppb	107.83	3600	
59	Со	72	1	0.00	0.00	ppb	91.53	3600	
60	Ni	72	1	-0.01	-0.01	ppb	120.90	3600	
63	Cu	72	1	0.00	0.00	ppb	249.88	3600	
66	Zn	72	1	0.21	0.21	ppb	4.91	3600	
75	As	72	1	-0.01	-0.01	ppb	276.53	3600	
78	Se	72	1	2.30	2.30	ppb	3.47	3600	
95	Mo	72	1	0.00	0.00	ppb	270.91	3600	
107	Ag	115	1	0.01	0.01	ppb	12.59	3600	
111	Cd	115	1	0.01	0.01	ppb	40.90	3600	
118	Sn	115	1	0.03	0.03	ppb	42.36	3600	
121	Sb	115	1	0.02	0.02	ppb	52.41	3600	
137	Ва	115	1	0.00	0.00	ppb	159.45	3600	
205	Tl	165	1	0.00	0.00	ppb	223.71	3600	
208	Pb	165	1	0.00	0.00	ppb	93.52	3600	
232	Th	165	1	0.01	0.01	ppb	41.10	1000	
238	U	165	1	0.00	0.00	ppb	39.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	336598	0.66	316659	106.3	30 - 120	
45 Sc	1	916084	0.54	888972	103.0	30 - 120	
72 Ge	1	444955	0.00	425816	104.5	30 - 120	
115 In	1	1367875	0.83	1335258	102.4	30 - 120	
165 Ho	1	2646991	0.40	2617754	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\011ICSA.D\011ICSA.D#

Date Acquired: Nov 9 2009 08:54 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: ISTD: Pass ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Current Method: C:\ICPCHEM\1\METHODS\NormISIS.C
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: ICSA Dilution Factor: 1.00

QC	El	emen	ts
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Elem	ent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	0.00 ppb	0.00	1.00	
51	V	72	1	2.09 ppb	3.15	1.00	
52	Cr	72	1	1.97 ppb	9.78	1.00	
55	Mn	72	1	2.81 ppb	1.66	1.00	
59	Co	72	1	0.10 ppb	6.63	1.00	
60	Ni	72	1	1.02 ppb	13.74	1.00	
63	Cu	72	1	0.53 ppb	7.97	1.00	
66	Zn	72	1	3.94 ppb	2.38	10.00	
75	As	72	1	0.28 ppb	11.27	1.00	
78	Se	72	1	0.38 ppb	63.23	1.00	
95	Мо	72	1	1936.00 ppb	0.91	2000.00	
107	Ag	115	1	0.03 ppb	12.20	1.00	
111	Cd	115	1	0.30 ppb	66.71	1.00	
118	Sn	115	1	0.12 ppb	33.50	10.00	
121	Sb	115	1	0.92 ppb	2.59	1.00	
137	Ва	115	1	0.03 ppb	33.26	1.00	
205	Tl	165	1	0.03 ppb	11.11	1.00	
208	Pb	165	1	1.00 ppb	2.07	1.00	
232	Th	165	1	0.02 ppb	12.13	1.00	
238	U	165	1	0.00 ppb	5.79	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	239339	0.28	316659	75.6	30 - 120	
45 Sc	1	700629	1.42	888972	78.8	30 - 120	
72 Ge	1	343237	0.37	425816	80.6	30 - 120	
115 In	1	1048448	1.55	1335258	78.5	30 - 120	
165 Ho	1	2104424	0.97	2617754	80.4	30 - 120	

Tune File# 1 c:\icpchem $\1\7500$ he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Nnumber of ISTD Failures Allowed 0 :ISTD Failures

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\012ICSB.D\012ICSB.D#

Date Acquired: Nov 9 2009 08:57 pm

QC Summary: Acq. Method: NormISIS.M **Analytes: Pass** Operator: LRD ISTD: Pass

Sample Name:

ICSAB

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: ICSAB Dilution Factor: 1.00

QC Elements

Element I	S Ref Tu	ne Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6 1	109.40	3.64	100	109.4	80 - 120	
51 V	72 1	99.64	0.20	100	99.6	80 - 120	
52 Cr	72 1	97.24	0.93	100	97.2	80 - 120	
55 Mn	72 1	98.22	0.64	100	98.2	80 - 120	
59 Co	72 1	92.77	2.10	100	92.8	80 - 120	
60 Ni	72 1	89.04	1.65	100	89.0	80 - 120	
63 Cu	72 1	86.53	0.30	100	86.5	80 - 120	
66 Zn	72 1	96.58	0.54	100	96.6	80 - 120	
75 As	72 1	101.00	1.32	100	101.0	80 - 120	
78 Se	72 1	100.00	0.62	100	100.0	80 - 120	
95 Mo	72 1	2093.00	0.96	2100	99.7	80 - 120	
107 Ag	115 1	89.66	3.28	100	89.7	80 - 120	
111 Cd	115 1	95.05	1.99	100	95.1	80 - 120	
118 Sn	115 1	100.40	1.69	100	100.4	80 - 120	
121 Sb	115 1	103.00	1.30	100	103.0	80 - 120	
137 Ba	115 1	. 101.30	1.03	100	101.3	80 - 120	
205 Tl	165 1	94.31	0.93	100	94.3	80 - 120	
208 Pb	165 1	93.76	0.89	100	93.8	80 - 120	
232 Th	165 1	101.30	1.54	100	101.3	80 - 120	
238 U	165 1	. 99.94	0.63	100	99.9	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	233202	3.01	316659	73.6	30 - 120	
45 Sc	1	711798	0.20	888972	80.1	30 - 120	
72 Ge	1	338298	0.97	425816	79.4	30 - 120	
115 In	1	1075320	0.68	1335258	80.5	30 - 120	
165 Ho	1	2161438	0.51	2617754	82.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#

Date Acquired: Nov 9 2009 08:59 pm

QC Summary: Operator: LRD

Analytes: Pass Sample Name: RINSE

ISTD: Pass Misc Info:

1101 Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 09 2009 08:35 pm

AFCEERL Sample Type: Total Dil Factor: 1.00

QC	Elements	

QC E	Temer	1100								
Elem	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 .	Ве	6	1	0.01	ppb	173.15	0	4.2	80 - 120	
51	V	72	1	0.02	ppb	35.98	0	10.9	80 - 120	
52	Cr	72	1	0.03	ppb	89.50	0	13.7	80 - 120	
55	Mn	72	1	-0.01	ppb	113.19	0	-3.4	80 - 120	
59	Co	72	1	0.00	ppb	1352.30	0	-0.1	80 - 120	
60	Ni	72	1	-0.02	ppb	102.45	0	-9.9	80 - 120	
63	Cu	72	1	0.00	ppb	649.06	0	0.6	80 - 120	
66	Zn	72	1	0.04	ppb	63.69	2	1.7	80 - 120	
75	As	72	1	-0.01	ppb	61.99	0	-3.9	80 - 120	
78	Se	72	1	0.39	ppb	99.84	0	156.3	80 - 120	
95	Mo	72	1	0.80	ppb	31.54	0	396.5	80 - 120	
107	Ag	115	1	0.01	ppb	53.68	0	3.6	80 - 120	
111	Cd	115	1	0.00	ppb	41.35	0	1.7	80 - 120	
118	Sn	115	1	0.00	ppb	######	2	0.0	80 - 120	
121	Sb	115	1	0.11	ppb	20.17	0	52.7	80 - 120	
137	Ва	115	1	0.00	ppb	105,76	0	-0.5	80 - 120	
205	Tl	165	1	-0.01	ppb	3.09	0	-2.6	80 - 120	
208	Pb	165	1	0.00	ppb	49.94	0	0.7	80 - 120	
232	Th	165	1	0.03	ppb	6.82	0	13.2	80 - 120	
238	U	165	1	0.01	ppb	15.94	0	6.9	80 - 120	

ISTD Elements

Ele	ment	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	331840	0.43	316659	104.8	30 - 120	
45	Sc	1	927075	1.00	888972	104.3	30 - 120	
72	Ge	1	454961	0.83	425816	106.8	30 - 120	
115	In	1	1407675	0.48	1335258	105.4	30 - 120	
165	Но	1	2715373	0.43	2617754	103.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\014 LR.D\014 LR.D#

Date Acquired: Nov 9 2009 09:02 pm

Acq. Method: QC Summary: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass

Sample Name: Misc Info: Vial Number:

LR1

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

2110

Sample Type: LR Prep Dil. Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	989.70 ppb	1.24	1000	99.0	90 - 110	
51 V	72	1	962.50 ppb	1.62	1000	96.3	90 - 110	
52 Cr	72	1	955.40 ppb	1.40	1000	95.5	90 - 110	
55 Mn	72	1	950.30 ppb	1.50	1000	95.0	90 - 110	
59 Co	72	1	955.50 ppb	1.19	1000	95.6	90 - 110	
60 Ni	72	1	979.40 ppb	1.79	1000	97.9	90 - 110	
63 Cu	72	1	966.20 ppb	0.98	1000	96.6	90 - 110	
66 Zn	72	1	974.60 ppb	0.75	1000	97.5	90 - 110	
75 As	72	1	1009.00 ppb	0.73	1000	100.9	90 - 110	
78 Se	72	1	988.90 ppb	0.77	1000	98.9	90 - 110	
95 Mo	72	1	987.40 ppb	1.52	1000	98.7	90 - 110	
107. Ag	115	1	932.40 ppb	1.41	1000	93.2	90 - 110	
111 Cd	115	1	967.10 ppb	0.44	1000	96.7	90 - 110	
118 Sn	115	1	933.80 ppb	0.50	1000	93.4	90 - 110	
121 Sb	115	1	927.90 ppb	0.18	1000	92.8	90 - 110	
137 Ba	115	1	972.50 ppb	0.87	1000	97.3	90 - 110	
205 Tl	165	1	947.60 ppb	0.99	1000	94.8	90 - 110	
208 Pb	165	1	915.00 ppb	0.94	1000	91.5	90 - 110	
232 Th	165	1	966.60 ppb	0.64	1000	96.7	90 - 110	
238 U	165	1	963.20 ppb	1.88	1000	96.3	90 - 110	

ISTD Elements

ISTD Ref File :

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	328068	1.06	316659	103.6	30 - 120	
45 Sc	1	922726	2.01	888972	103.8	30 - 120	
72 Ge	1	430093	1.37	425816	101.0	30 - 120	
115 In	1	1364755	0.41	1335258	102.2	30 - 120	
165 Ho	1	2644039	0.70	2617754	101.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\015SMPL.D\015SMPL.D#

Date Acquired: Nov 9 2009 09:05 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: RINSE ISTD: Pass

Sample Name: Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.02	ppb	173.25	3600	9
51 V	72	1	-0.02	-0.02	ppb	88.49	3600	
52 Cr	72	1	0.05	0.05	ppb	36.35	3600	
55 Mn	72	1	-0.01	-0.01	ppb	183.98	3600	
59 Co	72	1	0.01	0.01	ppb	88.77	3600	
60 Ni	72	1	0.02	0.02	ppb	167.72	3600	
63 Cu	72	1	0.03	0.03	ppb	35.08	3600	
66 Zn	72	1	0.05	0.05	ppb	19.57	3600	
75 As	72	1	0.02	0.02	ppb	85.94	3600	
78 Se	72	1	0.69	0.69	ppb	46.45	3600	
95 Mo	72	1	0.53	0.53	ppb	26.09	3600	
107 Ag	115	1	0.03	0.03	ppb	35.34	3600	
111 Cd	115	1	0.02	0.02	ppb	21.52	3600	
118 Sn	115	1	1.11	1.11	ppb	27.74	3600	
121 Sb	115	1 .	1.31	1.31	ppb	17.77	3600	
137 Ba	115	1	0.02	0.02	ppb	70.23	3600	
205 Tl	165	1	0.06	0.06	ppb	21.10	3600	
208 Pb	165	1	0.02	0.02	ppb	25.81	3600	
232 Th	165	1	0.13	0.13	ppb	10.54	1000	
238 U	165	1	0.13	0.13	ppb	15.65	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	341210	2.06	316659	107.8	30 - 120	
45 Sc	1	953002	0.82	888972	107.2	30 - 120	
72 Ge	1	451794	0.58	425816	106.1	30 - 120	
115 In	1	1384812	1.01	1335258	103.7	30 - 120	
165 Ho	1	2634408	0.76	2617754	100.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\016 CCV.D\016 CCV.D#

Date Acquired: Nov 9 2009 09:08 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCV ISTD: Pass

Misc Info:

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCV Total Dil Factor: 1.00

QC Eleme	ents								
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	49.36	ppb	2.54	50	98.7	90 - 110	
51 V	72	1	50.77	ppb	1.34	50	101.5	90 - 110	
52 Cr	72	1	50.82	ppb	0.60	50	101.6	90 - 110	
55 Mn	72	1	50.95	ppb	1.41	50	101.9	90 - 110	
59 Co	72	1	50.68	ppb	1.40	50	101.4	90 - 110	
60 Ni	72	1	49.56	ppb	1.57	50	99.1	90 - 110	
63 Cu	72	1	49.68	ppb	0.10	50	99.4	90 - 110	
66 Zn	72	1	49.76	ppb	0.33	50	99.5	90 - 110	
75 As	72	1	50.93	ppb	0.82	50	101.9	90 - 110	
78 Se	72	1	51.94	ppb	5.89	50	103.9	90 - 110	
95 Mo	72	1	48.88	ppb	1.24	50	97.8	90 - 110	
107 Ag	115	1	50.11	ppb	0.43	50	100.2	90 - 110	
111 Cd	115	1	50.35	ppb	0.26	50	100.7	90 - 110	
118 Sn	115	1	50.40	ppb	1.11	50	100.8	90 - 110	
121 Sb	115	1	50.58	ppb	0.97	50	101.2	90 - 110	
137 Ba	115	1	50.03	ppb	0.58	50	100.1	90 - 110	
205 Tl	165	1	50.31	ppb	0.12	50	100.6	90 - 110	
208 Pb	165	1	50.77	ppb	1.01	50	101.5	90 - 110	
232 Th	165	1	50.58	ppb	2.06	50	101.2	90 - 110	
238 U	165	1	50.76	ppb	2.06	50	101.5	90 - 110	
ISTD Ele	ements	_	ana		D G D (G)	D 6 44.3	D (0)	OG D/9)	T7
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	339265		1.56	316659	107.1	30 - 120	
45 Sc		1	947544		0.15	888972	106.6	30 - 120	
72 Ge		1	441263		0.72	425816	103.6	30 - 120	
115 In		1	1386188		0.72	1335258	103.8	30 - 120	
165 Ho		1	2649982		0.75	2617754	101.2	30 - 120	
φ,	une File#	1	c:\icpchem\1	7500	the 11				
			c. (repenent)						

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\017 CCB.D\017 CCB.D#

Date Acquired: Nov 9 2009 09:10 pm

QC Summary: Operator: LRD Analytes: Pass CCB

Sample Name: ISTD: Pass Misc Info:

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCB Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.008	ppb	173.22	1.00	
51 V	72	1	-0.046	ppb	29.01	1.00	
52 Cr	72	1	0.000	ppb	12322.00	1.00	
55 Mn	72	1	-0.007	ppb	43.73	1.00	
59 Co	72	1	0.001	ppb	393.70	1.00	
60 Ni	72	1	-0.005	ppb	329.15	1.00	
63 Cu	72	1	0.007	ppb	98.78	1.00	
66 Zn	72	1	0.040	ppb	14.37	1.00	
75 As	72	1	-0.008	ppb	123.42	1.00	
78 Se	72	1	0.405	ppb	68.29	1.00	
95 Mo	72	1	0.105	ppb	49.03	1.00	
107 Ag	115	1	0.009	ppb	76.77	1.00	
111 Cd	115	1	0.002	ppb	275.78	1.00	
118 Sn	115	1	0.252	ppb	28.94	1.00	
121 Sb	115	1	0.323	ppb	22.12	1.00	
137 Ba	115	1	0.000	ppb	357.00	1.00	
205 Tl	165	1	0.012	ppb	22.43	1.00	
208 Pb	165	1	0.003	ppb	36.91	1.00	
232 Th	165	1	0.060	ppb	22.01	1.00	
238 U	165	1	0.020	ppb	26.01	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	347509	1.01	316659	109.7	30 - 120	
45 Sc	1	955495	2.12	888972	107.5	30 - 120	
72 Ge	1	455532	0.79	425816	107.0	30 - 120	
115 In	1	1386791	1.63	1335258	103.9	30 - 120	
165 Ho	1	2651802	0.80	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\018WASH.D\018WASH.D#

Date Acquired: Nov 9 2009 09:13 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: RLCV ISTD: Pass Misc Info:

Vial Number: 1204

Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Nov 09 2009 08:35 pm

Last Cal Update:

Sample Type: WASH Total Dil Factor: 1.00

QC	El	ements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.024 ppb	7.78	1.30	
51 V	72	1	5.126 ppb	1.88	6.50	
52 Cr	72	1	2.083 ppb	6.13	2.60	
55 Mn	72	1	1.010 ppb	2.87	1.30	
59 Co	72	1	1.062 ppb	1.70	1.30	
60 Ni	72	1	2.095 ppb	2.27	2.60	
63 Cu	72	1	2.060 ppb	2.82	2.60	
66 Zn	72	1	10.130 ppb	1.17	13.00	
75 As	72	1	5.125 ppb	4.68	6.50	
78 Se	72	1	5.045 ppb	5.92	6.50	
95 Mo	72	1	1.951 ppb	3.60	2.60	
107 Ag	115	1	5.311 ppb	0.48	6.50	
111 Cd	115	1	1.030 ppb	11.33	1.30	
118 Sn	115	1	10.360 ppb	1.60	13.00	
121 Sb	115	1	2.190 ppb	4.18	2.60	
137 Ba	115	1	1.055 ppb	3.38	1.30	
205 Tl	165	1	1.095 ppb	1.41	1.30	
208 Pb	165	1	1.069 ppb	0.47	1.30	
232 Th	165	1	2.172 ppb	3.24	2.60	
238 U	165	1	1.103 ppb	1.52	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350643	0.28	316659	110.7	30 - 120	
45 Sc	1	970129	1.19	888972	109.1	30 - 120	
72 Ge	1	456907	0.32	425816	107.3	30 - 120	
115 In	1	1395760	1.56	1335258	104.5	30 - 120	
165 Ho	1	2660739	0.79	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

C:\ICPCHEM\1\DATA\AG110909A.B\019_BLK.D\019_BLK.D#

QC Summary:

ISTD: Pass

Analytes: Pass

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\019 BLK.D\019 BLK.D\#

Date Acquired: Nov 9 2009 09:16 pm

Operator: LRD
Sample Name: LNNP6B

Misc Info: BLANK 9306276 6020

Vial Number: 2201

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: BLK
Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.018 ppb	41.70	2.00	
52 Cr	72	1	0.292 ppb	16.50	2.00	
55 Mn	72	1	0.185 ppb	7.72	2.00	
59 Co	72	1	0.011 ppb	24.75	2.00	
60 Ni	72	1	0.036 ppb	53.39	2.00	
63 Cu	72	1	0.169 ppb	20.87	2.00	
66 Zn	72	1	0.849 ppb	7.65	2.00	
75 As	72	1	0.010 ppb	67.79	2.00	
78 Se	72	1	0.510 ppb	48.19	2.00	
95 Mo	72	1	0.057 ppb	19.51	2.00	
107 Ag	115	1	0.010 ppb	26.04	2.00	
111 Cd	115	1	0.003 ppb	113.49	2.00	
118 Sn	115	1	0.208 ppb	18.28	2.00	
121 Sb	115	1	0.174 ppb	15.89	2.00	
137 Ba	115	1	0.038 ppb	22.70	2.00	
205 Tl	165	1	0.040 ppb	22.91	2.00	
208 Pb	165	1	0.011 ppb	12.89	2.00	
232 Th	165	1	0.031 ppb	18.41	2.00	
238 U	165	1	0.007 ppb	24.76	2.00	

ISTD Elements

TOID DIGMONICS							
Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355955	0.99	316659	112.4	30 - 120	
45 Sc	1	972462	1.01	888972	109.4	30 - 120	
72 Ge	1	458206	0.62	425816	107.6	30 - 120	
115 In	1	1400110	0.71	1335258	104.9	30 - 120	
165 Ho	1	2668336	0.83	2617754	101.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\020 LCS.D\020 LCS.D#

Date Acquired: Nov 9 2009 09:19 pm

NormISIS.M QC Summary: Acq. Method:

Analytes: **Pass** Operator: LRD Sample Name: LNNP6C ISTD: Pass

Misc Info: LCS Vial Number: 2202

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: LCS Prep Dil. Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Ra	ange(%)	Flag
9 Be	6	1	40.76	2.19	40	101.9	80	- 120	
51 V	72	1	43.16	0.76	40	107.9	80	- 120	
52 Cr	72	1	43.22	1.05	40	108.1	80	- 120	
55 Mn	72	1	43.24	0.21	40	108.1	80	- 120	
59 Co	72	1	42.64	0.71	40	106.6	80	- 120	
60 Ni	72	1	42.34	0.56	40	105.9	80	- 120	
63 Cu	72	1	42.72	0.89	40	106.8	80	- 120	
66 Zn	72	1	45.64	0.61	40	114.1	80	- 120	
75 As	72.	1	40.76	0.70	40	101.9	80	- 120	
78 Se	72	1	38.19	2.28	40	95.5	80	- 120	
95 Mo	72	1	35.78	2.03	40	89.5	80	- 120	
107 Ag	115	1	41.49	2.15	40	103.7	80	- 120	
111 Cd	115	1	40.17	0.57	40	100.4	80	- 120	
118 Sn	115	1	0.12	28.26	40	0.3	80	- 120	
121 Sb	115	1	35.81	0.84	40	89.5	80	- 120	
137 Ba	115	1	41.49	1.53	40	103.7	80	- 120	
205 Tl	165	1	43.86	2.13	40	109.7	80	- 120	
208 Pb	165	1	41.85	1.84	40	104.6	80	- 120	
232 Th	165	1	41.91	2.25	40	104.8	80	- 120	
238 U	165	1	41.55	2.69	40	103.9	80	- 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350822	0.51	316659	110.8	30 - 120	
45 Sc	1	980963	1.16	888972	110.3	30 - 120	
72 Ge	1	444654	1.31	425816	104.4	30 - 120	
115 In	1	1399733	0.66	1335258	104.8	30 - 120	
165 Ho	1	2665542	1.69	2617754	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\021SMPL.D\021SMPL.D#

Date Acquired: Nov 9 2009 09:21 pm

Acq. Method: NormISIS.M QC Summary: Operator: LRD Analytes: Pass Sample Name: LNLN9 2X ISTD: Pass

Sample Name: LNLN9 2X
Misc Info: D9J300353
Vial Number: 2203

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

QC Elements

El	ement	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Ве	6	1	0.09	0.05	ppb	92.24	3600	
51	V	72	1	37.96	18.98	ppb	1.34	3600	
52	Cr	72	1	114.94	57.47	ppb	0.72	3600	
55	Mn	72	1	36.50	18.25	ppb	2.00	3600	
59	Co	72	1	0.69	0.34	ppb	2.76	3600	
60	Ni	72	1	3.14	1.57	ppb	8.45	3600	
63	Cu	72	1	1.64	0.82	ppb	6.02	3600	
66	Zn	72	1	11.13	5.57	ppb	1.82	3600	
75	As	72	1	202.00	101.00	ppb	0.43	3600	
78	Se	72	1	3.22	1.61	ppb	48.25	3600	
95	Mo	72	1	18.83	9.42	ppb	0.68	3600	
10	7 Ag	115	1	0.17	0.08	ppb	17.24	3600	
11	1 Cd	115	1	0.10	0.05	ppb	51.39	3600	
11	8 Sn	115	1	0.28	0.14	ppb	42.81	3600	
12	1 Sb	115	1	0.34	0.17	ppb	20.62	3600	
13	7 [.] Ba	115	1	37.72	18.86	ppb	0.70	3600	
20	5 Tl	165	1	0.13	0.06	ppb	19.45	3600	
20	8 Pb	165	1	0.71	0.35	ppb	3.38	3600	
23	2 Th	165	1	0.72	0.36	ppb	1.63	1000	
23	8 U	165	1	53.74	26.87	ppb	1.72	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298847	1.22	316659	94.4	30 - 120	
45 Sc	1	845797	1.37	888972	95.1	30 - 120	
72 Ge	1	386800	0.60	425816	90.8	30 - 120	
115 In	1	1191341	0.83	1335258	89.2	30 - 120	
165 Ho	1	2413317	1.23	2617754	92.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\022SMPL.D\022SMPL.D#

Date Acquired: Nov 9 2009 09:24 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: LNLR4 2X ISTD: Pass

Misc Info: D9J300356
Vial Number: 2204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

QC Elements

Ac nreme	:II C3							
Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.01	ppb	173.27	3600	
51 V	72	1	78.42	39.21	ppb	1.83	3600	
52 Cr	72	1	24.86	12.43	ppb	1.31	3600	
55 Mn	72	1	2,930.00	1465.00	ppb	2.13	3600	
59 Co	72	1	42.42	21.21	ppb	0.61	3600	
60 Ni	72	1	20.92	10.46	ppb	3.31	3600	
63 Cu	72	1	0.75	0.37	ppb	5.97	3600	
66 Zn	72	1	18.97	9.49	ppb	2.01	3600	
75 As	72	1	114.66	57.33	ppb	0.89	3600	
78 Se	72	1	6.57	3.28	ppb	20.64	3600	
95 Mo	72	1	26.74	13.37	ppb	0.88	3600	
107 Ag	115	1	0.11	0.05	ppb	25.16	3600	
111 Cd	115	1	0.42	0.21	ppb	16.72	3600	
118 Sn	115	1	0.13	0.06	ppb	44.87	3600	
121 Sb	115	1	0.27	0.13	ppb	7.83	3600	
137 Ba	115	1	27.28	13.64	ppb	2.04	3600	
205 Tl	165	1	0.19	0.10	ppb	3.70	3600	
208 Pb	165	1	0.11	0.06	ppb	1.85	3600	
232 Th	165	1	0.08	0.04	ppb	8.56	1000	
238 U	165	1	69.92	34.96	ppb	2.03	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	274893	1.24	316659	86.8	30 - 120	
45 Sc	1	779549	2.32	888972	87.7	30 - 120	
72 Ge	1	352268	1.67	425816	82.7	30 - 120	
115 In	1	1127758	1.03	1335258	84.5	30 - 120	
165 Ho	1	2240638	0.13	2617754	85.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

Date Acquired: Nov 9 2009 09:27 pm

Acq. Method: NormISIS.M

Operator: LRD Analytes: Pass Sample Name: LNME4 ISTD: Pass

Misc Info: D9J310138
Vial Number: 2205

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: AllRef
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.27	3600	
51 V	72	1	0.05	0.05	ppb	6.94	3600	
52 Cr	72	1	0.48	0.48	ppb	5.57	3600	
55 Mn	72	1	1.67	1.67	ppb	3.29	3600	
59 Co	72	1	0.03	0.03	ppb	17.85	3600	
60 Ni	72	1	0.16	0.16	ppb	28.53	3600	
63 Cu	72	1	0.43	0.43	ppb	6.97	3600	
66 Zn	72	1	8.86	8.86	ppb	0.90	3600	
75 As	72	1	0.01	0.01	ppb	328.51	3600	
78 Se	72	1	0.28	0.28	ppb	90.12	3600	
95 Mo	72	1	0.17	0.17	ppb	26.75	3600	
107 Ag	115	1	0.01	0.01	ppb	26.64	3600	
111 Cd	115	1	0.00	0.00	ppb	536.64	3600	
118 Sn	115	1	0.20	0.20	ppb	7.53	3600	
121 Sb	115	1	0.09	0.09	ppb	15.50	3600	
137 Ba	115	1	0.66	0.66	ppb	1.78	3600	
205 Tl	165	1	-0.01	-0.01	ppb	11.38	3600	
208 Pb	165	1	0.12	0.12	ppb	1.87	3600	
232 Th	165	1	0.01	0.01	ppb	21.46	1000	
238 U	165	1	0.01	0.01	ppb	24.76	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	· Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	373380	0.19	316659	117.9	30 - 120	
45 Sc	1	1006941	1.04	888972	113.3	30 - 120	
72 Ge	1	462649	0.57	425816	108.6	30 - 120	
115 In	1	1397361	0.27	1335258	104.7	30 - 120	
165 Ho	1	2660327	0.25	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

QC Summary:

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\024SDIL.D\024SDIL.D#

Date Acquired: Nov 9 2009 09:30 pm QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass

Sample Name: LNME4P5

Misc Info: SERIAL DILUTION

Vial Number: 2206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SDIL Dilution Factor: 1.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

QC elements

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc. Actual(%) QC Range(%) Flag
9 Be	6	1	0.00	ppb	0.00	0.00 0.0 90 - 110
51 V	72	1	-0.03	ppb	5.81	0.01 -342.2 90 - 110
52 Cr	72	1	0.20	ppb	10.88	0.10 213.8 90 - 110
55 Mn	72	. 1	0.34	ppb	10.16	0.33 103.1 90 - 110
59 Co	72	1	0.01	ppb	47.19	0.01 96.0 90 - 110
60 Ni	72	1	0.04	ppb	33.75	0.03 122.1 90 - 110
63 _, Cu	72	1	0.10	ppb	5.61	0.09 114.0 90 - 110
66 Zn	72	1	1.80	ppb	5.52	1.77 101.3 90 - 110
75 As	72	1	-0.02	ppb	9.36	0.00 -1343.0 90 - 110
78 Se	72	1	0.23	ppb	2.28	0.06 422.9 90 - 110
95 Mo	72	1	0.04	ppb	19.93	0.03 118.9 90 - 110
107 Ag	115	1	0.00	ppb	24.25	0.00 272.6 90 - 110
111 Cd	115	1	0.02	ppb	89.75	0.00 2944.9 90 - 110
118 Sn	115	1	0.12	ppb	5.20	0.04 296.9 90 - 110
121 Sb	115	1	0.03	ppb	17.47	0.02 168.6 90 - 110
137 Ba	115	1	0.14	ppb	19.11	0.13 109.3 90 - 110
205 Tl	165	1	-0.01	ppb	30.49	0.00 501.4 90 - 110
208 Pb	165	1	0.02	ppb	8.37	0.02 88.0 90 - 110
232 Th	165	1	0.00	ppb	50.10	0.00 202.3 90 - 110
238 U	165	1	0.00	ppb	87.66	0.00 61.5 90 - 110

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368778	0.88	316659	116.5	30 - 120	
45 Sc	1	979811	0.26	888972	110.2	30 - 120	
72 Ge	1	461996	0.57	425816	108.5	30 - 120	
115 In	1	1378236	0.67	1335258	103.2	30 - 120	
165 Ho	1	2636939	1.04	2617754	100.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

Denver

SERIAL DILUTION

Department: 090 (Metals)			Source:	Spreadshe
Sample: LNME4P5	Serial Dilution:	5.00	Sample Dilution:	1.00
Instrument: Agilent7500	Channel 272			
File: AG110909A # 24	Method 6020_			

Acquired: 11/09/2009 21:30:00 ICPMS_024 Calibrated: 11/09/2009 20:32:00 Matrix: AQUEOUS Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9		0	0.01470	100		*	
7440-62-2	Vanadium	51	380	-0.15675	0.04580	442		*	
7440-47-3	Chromium	52	2890	1.0235	0.47880	114		*	
7439-96-5	Manganese	55	2697	1.7180	1.6670	3.06		*	
7440-48-4	Cobalt	59	67	0.03211	0.03347	4.05		*	
7440-02-0	Nickel	60	130	0.19735	0.16160	22.1		*	
7440-50-8	Copper	63	490	0.48945	0.42930	14.0		*	
7440-66-6	Zinc	66	1801	8.9800	8.8630	1.32		*	
7440-38-2	Arsenic	75	27	-0.08160	0.00608	1440	0.21	NC	abla
7782-49-2	Selenium	78	140	1.1680	0.27620	323	0.70	NC	
7439-98-7	Molybdenum	95	110	0.20470	0.17210	18.9		*	
7440-22-4	Silver	107	27	0.01977	0.00725	173		*	
7440-43-9	Cadmium	111	17	0.08440	0.00287	2840		*	
7440-31-5	Tin	118	720	0.60300	0.20310	197		*	
7440-36-0	Antimony	121	164	0.15100	0.08954	68.6		*	
7440-39-3	Barium	137	248	0.71700	0.65610	9.28		*	
7440-28-0	Thallium	205	96	-0.04272	-0.00852			*	
7439-92-1	Lead	208	659	0.10510	0.11940	12.0		*	
7440-61-1	Uranium	238	111	0.00685	0.01113	38.5		*	
7440-29-1	Thorium	232	210	0.02068	0.01022	102		*	
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: U UOLOG

IDB Reports TestAmerica, Inc. Version: 6.02.068

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Post Digestion Spiked Sample (PDS) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110909A.B\025PDS.D\025PDS.D#

Date Acquired:

Nov 9 2009 09:32 pm

QC Summary:

Acq. Method:

NormISIS.M

Analytes: Pass ISTD: Pass

LRD

Operator: Sample Name:

LNME4Z

Misc Info:

POST DIGESTION SPIKE

Vial Number:

2207

Current Method:

C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: Prep Dil. Factor: PDS 1.00

Autodil Factor: Final Dil Factor: Undiluted

Spike Ref. File:

1.00

QC Elements

¥										
Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	185.00	0.01	ppb	1.86	200	92.5	75 - 125	
51 V	72	1	202.50	0.05	ppb	2.78	200	101.2	75 - 125	
52 Cr	72	1	203.90	0.48	ppb	2.06	200	101.7	75 - 125	
55 Mn	72	1	201.00	1.67	ppb	3.35	200	99.7	75 - 125	
59 Co	72	1	196.80	0.03	ppb	1.85	200	98.4	75 - 125	
60 Ni	72	1	194.90	0.16	ppb	1.47	200	97.4	75 - 125	
63 Cu	72	1	196.10	0.43	ppb	0.50	200	97.8	75 - 125	
66 Zn	72	1	196.80	8.86	ppb	0.36	200	94.2	75 - 125	
75 As	72	1	190.30	0.01	ppb	0.61	200	95.1	75 - 125	
78 Se	72	1	185.70	0.28	ppb	2.73	200	92.7	75 - 125	
95 Mo	72	1	192.00	0.17	ppb	0.97	200	95.9	75 - 125	
107 Ag	115	1	48.92	0.01	ppb	2.06	50	97.8	75 - 125	
111 Cd	115	1	188.70	0.00	ppb	1.65	200	94.3	75 - 125	
118 Sn	115	1	176.90	0.20	ppb	1.43	200	88.4	75 - 125	
121 Sb	115	1	184.30	0.09	ppb	1.52	200	92.1	75 - 125	
137 Ba	115	1	195.10	0.66	ppb	1.67	200	97.2	75 - 125	
205 Tl	165	1	191.80	-0.01	ppb	0.94	200	95.9	75 - 125	
208 Pb	165	1	186.80	0.12	ppb	0.48	200	93.3	75 ~ 125	
232 Th	165	1	0.03	0.01	ppb	13.35	200	0.0	75 - 125	
238 U	165	1	190.70	0.01	ppb	1.54	200	95.3	75 - 125	
ISTD Ele	ments									
Element		Tune	Counts	RSD(%)			Ref. Counts	Rec(%)	QC Range(%)	QC Flag

E.1	ement	

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) Q
6 Li	1	354551	1.15	316659	112.0	30 - 120
45 Sc	1	950915	0.92	888972	107.0	30 - 120
72 Ge	1	426378	1.56	425816	100.1	30 - 120
115 In	1	1327967	0.75	1335258	99.5	30 - 120
165 Ho	1	2548646	0.61	2617754	97.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Denver

SAMPLE SPIKE

Reported: 11/10/09 21:10:22 Method: 6020 (ICP/MS) ICPMS_024

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4Z

Spike Dilution:

1.00

Sample Dilution:

1.00

Instrument: Agilent7500 File: AG110909A # 25

Acquired: 11/09/2009 21:32:00

Method 6020 ICPMS_024

Channel 272

Matrix: AQUEOUS

Units: ug/L

Calibrated: 11/09/2009 20:32:00 Q %Rec. Spike Flag Sample M/S Amount CASN **Analyte Name** Area 92.5 200 79764 185.00 0.01470 7440-41-7 Beryllium 9 101 200 0.04580 7440-62-2 Vanadium 51 1055210 202.50 200 7440-47-3 Chromium 52 1091770 203.90 0.47880 102 55 1258890 201.00 1.6670 99.7 200 7439-96-5 Manganese 196.80 0.03347 98.4 200 1273250 7440-48-4 Cobalt 59 97.4 200 0.16160 7440-02-0 Nickel 60 279436 194.90 97.8 200 665031 196.10 0.42930 7440-50-8 Copper 63 8.8630 94.0 200 66 167299 196.80 7440-66-6 Zinc 200 \square 0.00608 95.1 190.30 75 125313 7440-38-2 Arsenic \square 200 92.7 0.27620 7782-49-2 Selenium 78 25838 185.70 95.9 200 192.00 0.17210 7439-98-7 Molybdenum 95 382233 97.8 50.0 107 48.920 0.00725 7440-22-4 Silver 276951 94.3 200 0.00287 7440-43-9 Cadmium 111 227986 188.70 88.3 200 7440-31-5 Tin 118 584583 176.90 0.20310 92.1 200 184.30 0.08954 121 730873 7440-36-0 Antimony 97.2 200 195.10 0.65610 7440-39-3 Barium 137 308452 200 95.9 205 2761530 191.80 -0.00852 7440-28-0 Thallium 186.80 0.11940 93.3 200 7439-92-1 Lead 208 3935420 95.3 200 190.70 0.01113 7440-61-1 Uranium 238 4535860 0.01022 7440-29-1 Thorium 232 747 0.02849 6 0 7439-93-2 Lithium 7440-20-2 Scandium 45 0 0 115 7440-74-6 Indium 0 7440-56-4 Germanium 72 165 7440-60-0 Holmium

Date: Reviewed by: Version: 6.02.068 IDB Reports TestAmerica, Inc

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ISTD: Pass

Spiked Sample (MS) QC Report

C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D# Data File:

Date Acquired: Nov 9 2009 09:35 pm QC Summary: Acq. Method: NormISIS.M Analytes: Pass

LRD Operator: LNME4S Sample Name: Misc Info: MATRIX SPIKE

Vial Number: 2208

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: MS Prep Dil. Factor: 1.00 Undiluted Autodil Factor: Final Dil Factor: 1.00

Spike Ref. File:

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	38.95	0.01	ppb	4.02	40	97.3	50 - 150
51 V	72	1	42.14	0.05	ppb	0.45	40	105.2	50 - 150
52 Cr	72	1	41.88	0.48	ppb	0.82	40	103.5	50 - 150
55 Mn	72	1	44.00	1.67	ppb	0.81	40	105.6	50 - 150
59 Co	. 72	1	41.74	0.03	ppb	0.31	40	104.3	50 - 150
60 Ni	72	1	41.29	0.16	ppb	1.68	40	102.8	50 - 150
63, Cu	72	1	41.14	0.43	ppb	0.55	40	101.8	50 - 150
66 Zn	72	1	40.89	8.86	ppb	1.02	40	83.7	50 - 150
75 As	72	1	39.70	0.01	ppb	1.91	40	99.2	50 - 150
78 Se	72	1	37.66	0.28	ppb	2.21	40	93.5	50 - 150
95 Mo	72	1	35.56	0.17	ppb	1.29	40	88.5	50 - 150
107 Ag	115	1	40.57	0.01	ppb	0.75	40	101.4	50 - 150
111 Cd	115	1	38.88	0.00	ppb	0.89	40	97.2	50 - 150
118 Sn	115	1	0.26	0.20	ppb	7.26	40	0.7	50 - 150
121 Sb	115	1	35.78	0.09	ppb	0.84	40	89.3	50 - 150
137 Ba	115	1	40.55	0.66	ppb	1.52	40	99.7	50 - 150
205 Tl	165	1	42.66	-0.01	ppb	1.13	40	106.7	50 - 150
208 _. Pb	165	1	40.84	0.12	ppb	0.87	40	101.8	50 - 150
232 Th	165	1	40.88	0.01	ppb	1.61	40	102.2	50 - 150
238 U	165	1	40.76	0.01	ppb	1.03	40	101.9	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	358353	0.80	316659	113.2	30 - 120
45 Sc	1	939200	0.60	888972	105.7	30 - 120
72 Ge	1	422553	0.76	425816	99.2	30 - 120
115 In	1	1328078	0.75	1335258	99.5	30 - 120
165 Ho	1	2539000	0.43	2617754	97.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\027 MSD.D\027 MSD.D#

Date Acquired: Nov 9 2009 09:38 pm QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass

Sample Name: LNME4D

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 2209

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: MSD Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	38.17	ppb	2.44	38.95	2.02	20	
51 V	72	1	42.54	ppb	0.57	42.14	0.94	20	
52 Cr	72	1	42.55	ppb	0.81	41.88	1.59	20	
55 Mn	72	1	43.44	ppb	1.18	44.00	1.28	20	
59 Co	72	1	41.86	ppb	0.99	41.74	0.29	20	
60 Ni	72	1	41.95	ppb	1.55	41.29	1.59	20	
63 Cu	72	1	41.52	ppb	0.70	41.14	0.92	20	
66 Zn	72	1	40.14	ppb	0.44	40.89	1.85	20	
75 As	72	1	39.63	ppb	0.29	39.70	0.18	20	
78 Se	72	1	37.06	ppb	3.10	37.66	1.61	20	
95 Mo	72	1	35.66	ppb	0.62	35.56	0.28	20	
107 Ag	115	1	40.93	ppb	2.04	40.57	0.88	20	
111 Cd	115	1	39.64	ppb	0.46	38.88	1.94	20	
118 Sn	115	1	0.12	ppb	27.87	0.26	76.84	20	
121 Sb	115	1	35.83	ppb	0.62	35.78	0.14	20	
137 Ba	115	1	41.37	ppb	0.68	40.55	2.00	20	
205 Tl	165	1	42.77	ppb	1.75	42.66	0.26	20	
208 Pb	165	1	40.90	ppb	1.73	40.84	0.15	20	
232 Th	165	1	41.06	ppb	0.63	40.88	0.44	20	
238 U	165	1	40.94	ppb	0.83	40.76	0.44	20	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355186	0.16	316659	112.2	30 - 120	
45 Sc	1	936988	0.78	888972	105.4	30 - 120	
72 Ge	1	422235	0.79	425816	99.2	30 - 120	
115 In	1	1312991	0.53	1335258	98.3	30 - 120	
165 Ho	1	2541733	0.77	2617754	97.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\028 CCV.D\028 CCV.D#

Date Acquired: Nov 9 2009 09:41 pm

Operator: LRD Sample Name: CCV

Analytes: Pass ISTD: Pass

QC Summary:

Misc Info: Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCV
Total Dil Factor: 1.00

OC Elements

QC E	Teme:	ncs								
Elem	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	48.28	ppb	1.89	50	96.6	90 - 110	
51	V	72	1	51.66	ppb	1.31	50	103.3	90 - 110	
52	Cr	72	1	51.41	ppb	0.42	50	102.8	90 - 110	
55	Mn	72	1	50.80	ppb	0.70	50	101.6	90 - 110	
59	Со	72	1	50.98	ppb	1.52	50	102.0	90 - 110	
60	Ni	72	1	50.44	ppb	1.14	50	100.9	90 - 110	
63	Cu	72	1	50.68	ppb	0.38	50	101.4	90 - 110	
66	Zn	72	1	49.73	ppb	0.43	50	99.5	90 - 110	
75	As	72	1	51.43	ppb	1.43	50	102.9	90 - 110	
78	Se	72	1	50.58	ppb	4.06	50	101.2	90 - 110	
95	Мо	72	1	49.14	ppb	0.63	50	98.3	90 - 110	
107	Ag	115	1	49.88	ppb	1.55	50	99.8	90 - 110	
111	Cd	115	1	49.46	ppb	0.97	50	98.9	90 - 110	
118	Sn	115	1	49.89	ppb	2.37	50	99.8	90 - 110	
121	Sb	115	1	49.59	ppb	1.76	50	99.2	90 - 110	
137	Ва	115	1	50.39	ppb	1.52	50	100.8	90 - 110	
205	Tl	165	1	49.99	ppb	0.81	50	100.0	90 - 110	
208	Pb	165	1	50.66	ppb	1.69	50	101.3	90 - 110	
232	Th	165	. 1	50.62	ppb	1.15	50	101.2	90 - 110	
238	U	165	1	50.54	ppb	0.29	50	101.1	90 - 110	
ISTI) Ele	ments								
Eler	nent		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 .	Li		1	351524		0.93	316659	111.0	30 - 120	
45	Sc		1	927694		1.28	888972	104.4	30 - 120	
72	Ge		1	421606		1.09	425816	99.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

1

1

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

1310979

2522093

0:Element Failures 0:Max. Number of Failures Allowed 0:ISTD Failures 0:Max. Number of ISTD Failures Allowed

0.71 1335258

2617754

0.90

98.2

96.3

30 - 120

30 - 120

115 In

165 Ho

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\029 CCB.D\029 CCB.D#

Date Acquired: Nov 9 2009 09:43 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB ISTD: Pass

Misc Info:

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCB Total Dil Factor: 1.00

QC Eleme	QC Elements													
Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag							
9 Be	6	1	0.000	ppb	0.00	1.00								
51 V	72	1	-0.036	ppb	44.55	1.00								
52 Cr	72	1	0.019	ppb	63.89	1.00								
55 Mn	72	1	0.000	ppb	2382.10	1.00								
59 Co	72	1	0.002	ppb	93.07	1.00								
60 Ni	72	1	-0.010	ppb	1.82	1.00								
63 Cu	72	1	-0.002	ppb	211.49	1.00								
66 Zn	72	1	0.038	ppb	50.08	1.00								
75 As	72	1	-0.017	ppb	26.71	1.00								
78 Se	72	1	0.225	ppb	111.94	1.00								
95 Mo	72	1	0.046	ppb	45.40	1.00								
107 Ag	115	1	0.012	ppb	29.52	1.00								
111 Cd	115	1	0.002	ppb	311.75	1.00								
118 Sn	115	1	0.080	ppb	40.12	1.00								
121 Sb	115	1	0.165	ppb	24.61	1.00								
137 Ba	115	1	0.004	ppb	88.07	1.00								
205 Tl	165	1	0.004	ppb	78.72	1.00								
208 Pb	165	1	0.002	ppb	56.03	1.00								
232 Th	165	1	0.061	ppb	14.74	1.00								
238 U	165	1	0.013	ppb	31.22	1.00								

ISTD Elements Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag Element 30 - 120 1 354787 1.32 316659 112.0 6 Li 45 Sc 1 923814 1.00 888972 103.9 30 - 120 432478 0.52 425816 101.6 30 - 120 1 72 Ge 30 - 120 0.63 1335258 98.0 1 1308981 115 In 96.3 30 - 120 165 Ho 1 2520572 0.23 2617754

Tune File# 1 c:\icpchem $\1\7500$ he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D# ISTD Ref File :

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\030WASH.D\030WASH.D\#

Date Acquired: Nov 9 2009 09:50 pm

Operator: LRD QC Summary: Sample Name: RLCV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.009 ppb	18.75	1.30	
51 V	72	1	5.177 ppb	1.19	6.50	
52 Cr	72	1	2.111 ppb	3.52	2.60	
55 Mn	72	1	1.107 ppb	2.74	1.30	
59 Co	72	1	1.028 ppb	3.93	1.30	
60 Ni	72	1	2.108 ppb	1.73	2.60	
63 Cu	72	1	2.068 ppb	1.44	2.60	
66 Zn	72	1	9.967 ppb	0.46	13.00	
75 As	72	1	5.161 ppb	1.92	6.50	
78 Se	72	1	5.825 ppb	10.45	6.50	
95 Mo	72	1	1.986 ppb	5.92	2.60	
107 Ag	115	1	5.462 ppb	1.89	6.50	
111 Cd	115	1	1.025 ppb	1.41	1.30	
118 Sn	115	1	10.590 ppb	0.75	13.00	
121 Sb	115	1	2.089 ppb	2.01	2.60	
137 Ba	115	1	1.011 ppb	0.65	1.30	
205 Tl	165	1	1.109 ppb	3.60	1.30	
208 Pb	165	1	1.060 ppb	1.36	1.30	
232 Th	165	1	2.209 ppb	0.66	2.60	
238 U	165	1	1.106 ppb	2.50	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358611	0.21	316659	113.2	30 - 120	
45 Sc	1	931630	1.00	888972	104.8	30 - 120	
72 Ge	1	428811	1.09	425816	100.7	30 - 120	
115 In	1	1287825	1.17	1335258	96.4	30 - 120	
165 Ho	1	2504436	0.55	2617754	95.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

Lot ID:_	D93310138
Client:_	Northgate env
Batch(es	s)#: <u>9306276</u>
Associated Sampl	les:
	hat, to the best of my knowledge, the attached package ts a complete and accurate copy of the original data.
Signature/Date:	LRD 11/10/2009

TestAmerica

Metals Raw Data RoadMap

LotID		Metal	WorkOrder	Anal Dat	e TestDesc	Batch	File Id	Instr
D9J310138	1 D	SE	LNME41AH	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1 S	SE	LNME41AG	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1 D	AS	LNME41AF	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1 S	AS	LNME41AE	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1	SE	LNME41AC	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1	AS	LNME41AA	20091109	6020TOTA	9306276	AG110909A	024

METALS PREPARATION LOGS ICP-MS



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 923

Batch Number: 9306276

TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:	
JRW	

Prep Date:

11/02/09 Jaw

Lot	Work Order		Due Date:	11/11/09	Initial Weight/Volume
D9K020000 Water	LNNP6	В	Due Date: SDG:		<u>50 mL</u>
D9K020000 Water	LNNP6	С	Due Date: SDG:		<u>50 mL</u>
D9J300353 Water	LNLN9 Total		Due Date: 11/11/09 SDG:		<u>50 mL</u>
D9J300356 Water	LNLR4 Total		Due Date: 11/11/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total		Due Date: 11/12/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total	S	Due Date: 11/12/09 SDG:		<u>50 mL</u>
D9J310138 Water	LNME4 Total	D	Due Date: 11/12/09 SDG:		<u>50 mL</u>

Comments:

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

PR/10/09

METALS PREP SHEET SOP: DEN-IP-0014



TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)

BATCH#	9306276	ALLIQ	UOTTED BY:	KS						
PREP DATE:	11/3/2009	DIGES	TED BY:	JRW						
CONSUMABLES	JSED		<u> </u>							
Digestion Cups:	Manufacturer:	Environmental Express	Lot #:	A901LS268						
One or more samples	were filtered prior to a	nalysis at the instrume	nt. Yes	☐ No						
If "yes", then the metho	d blank and the LCS wer	e also filtered in the sam	e manner using the sam	e type of filter.						
			Analyst(s) Initials:							
STANDARDS USE	D									
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID						
2008Cal-1	STD-6471-09	11/1/10	100uL	15						
2008Cal-2	STD-5356-09	1/10/10	100uL	15						
REAGENTS USED)									
Reagent	Manufacturer	Lot#	Volume Used (mL)							
HNO ₃	JT Baker	H14024	3							
TEMPERATURE C	CYCLES		ı							
Thermometer ID:	: 4110	Block &	& Cup # : 3/2							
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)						
HNO3	1400	95	1815	96						
HNO3	1830	96	1900	96						
HNO3										
Samples and QC re	evolumed to:	50mL	Analyst's Initials	1nw						
COMMENTS:										

I certify that all information above is correct and complete.

Signature: Anwih

Date: 11 3 04

1/10/02

TestAmerica 925

METALS SAMPLE DATA ICP-MS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica 926

G:\Metals\Hidden\Forms\MassSpec\ICP-MS Std and Spike True Values.doc

ICP-MS Standard and Spike True Values

Post Digestion Spike	200	200	200	200	200	200	200	200	200	200	200	200	200	200	20	200	200	200	200	200	
Matrix Spike Sample and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
Laboratory Control Sample and Duplicate	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
Interference Check Sample AB		100	100	100	100	100	100	100	100	100		100	100	100	100	100	100	100	100	100	
Interference Check Sample A	100,000 Aluminum	100,000 Calcium	100,000 Iron	100,000 Magnesium	100,000 Sodium	100,000 Phosphorus	100,000 Potassium	100,000 Sulfur	200,000 Carbon	1,000,000 Chloride	2000 Molybdenum	2000 Titanium									
Continuing Calibration Standard	50	20	50	50	50	50	20	50	20	20 2	20	50	20	50	50	50	20	50	20	50	
Initial Calibration Standard	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
Cal. Std. 100 ppb	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Element	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Uranium	Vanadium	Zinc	

Quality Control Standards

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.

All units are

CCB = Continuing Calibration Blank ICB = Initial Calibration Blank ICV = Initial Calibration Verification (Second Source) CCV = Continuing Calibration Verification

927

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

CIL	J. AG1103							
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	C
3	Cal Blank				1.0	11/09/09 20:32		
4	100 ppb	-			1.0	11/09/09 20:35		
5	ICV				1.0	11/09/09 20:37		
6	RLIV				1.0	11/09/09 20:40		
7	ICB				1.0	11/09/09 20:43	-	ם
8	RL STD				1.0	11/09/09 20:46		
9	AFCEE RL				1.0	11/09/09 20:48		[
10	ALTSe				1.0	11/09/09 20:51] I
11	ICSA				1.0	11/09/09 20:54		I
12	ICSAB				1.0	11/09/09 20:57		l
13	RINSE				1.0	11/09/09 20:59		
14	LR1				1.0	11/09/09 21:02]
15	RINSE				1.0	11/09/09 21:05		1
16	CCV				1.0	11/09/09 21:08		
17	ССВ				1.0	11/09/09 21:10		
18	RLCV				1.0	11/09/09 21:13		1
19	LNNP6B	D9K020000	9306276	мѕ	1.0	11/09/09 21:16	-	
20	LNNP6C	D9K020000	9306276	MS	1.0	11/09/09 21:19		
21	LNLN9 2X	D9J300353-1	9306276	мѕ	2.0	11/09/09 21:21		
22	LNLR4 2X	D9J300356-1	9306276	мѕ	2.0	11/09/09 21:24		
23	LNME4	D9J310138-1	9306276	MS	1.0	11/09/09 21:27		
24	LNME4P5	D9J310138	9306276		5.0	11/09/09 21:30		
25	LNME4Z	D9J310138-1	9306276		1.0	11/09/09 21:32		
26	LNME4S	D9J310138-1	9306276	мѕ	1.0	11/09/09 21:35		
27	LNME4D	D9J310138-1	9306276	мѕ	1.0	11/09/09 21:38		
28	CCV				1.0	11/09/09 21:41		
29	ССВ				1.0	11/09/09 21:43		
30	RLCV				1.0	11/09/09 21:50		
31	LM900B	D9J260000	9299244	мѕ	1.0	11/09/09 21:52		
32	LM900C	D9J260000	9299244	мѕ	1.0	11/09/09 21:55		
33	LM900L	D9J260000	9299244	MS	1.0	11/09/09 21:58		
34	LM9J9	D9J240206-1	9299244	мѕ	1.0	11/09/09 22:01		
	LM9KA 2X	D9J240206-2	9299244	мз	2.0	11/09/09 22:03		
	LM9KC 2X	D9J240206-3	9209244	MS	2.0	T1/09/09 22:08	- DUU -	
37	LM9KD	D9J240206-4	9299244	MS	1.0	11/09/09 22:09	120	
	LM9KE 2X	D9J240206-5	9299244	мз	2.0	11/09/09 22:12	- 1110-25	
	LM9KF 2X	D9J240206-6	9299244	MS	2.0	11/09/09-22:14		
40	LM9KG	D9J240206-7	9299244	MS	1.0	11/09/09 22:17		
41	CCV			1	1.0	11/09/09 22:20		
42	ССВ			1 -	1.0	11/09/09 22:23		
43	RLCV			1	1.0	11/09/09 22:26		
44	LM9KH	D9J240206-8	9299244	MS	1.0	11/09/09 22:28		
45	LM9KJ	D9J240206-9	9299244	MS	1.0	11/09/09 22:31		
46	LM9KK	D9J240206-10	9299244	MS	1.0	11/09/09 22:34		
47	LM9KL	D9J240206-11	9299244	MS	1.0	11/09/09 22:37		
48	LM9KP	D9J240206-13	9299244	MS	1.0	11/09/09 22:39		

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS_024 (024) Reported: 11/10/09 12:39:51

Analyst: LRD

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
49	LM9KPP5	D9J240206	9299244		5.0	11/09/09 22:42		
50	LM9KPZ	D9J240206-13	9299244		1.0	11/09/09 22:45		
51	LM9KPS	D9J240206-13	9299244	MS	1.0	11/09/09 22:48		
52	LM9KPD	D9J240206-13	9299244	MS	1.0	11/09/09 22:50		
53	CCV			1 1	1.0	11/09/09 22:53		
54	ССВ				1.0	11/09/09 22:56		
55	RLCV			1 1	1.0	11/09/09 22:59		
56	LM9KA	D9J240206-2	9299244	MS	1.0	11/09/09 23:01		
57	LM9KC	D9J240206-3	9299244	MS	1.0	11/09/09 23:04		
58	LM9KE	D9J240206-5	9299244	MS	1.0	11/09/09 23:07		
59	LM9KF	D9J240206-6	9299244	MS	1.0	11/09/09 23:10		
60	CCV				1.0	11/09/09 23:12		
61	ССВ				1.0	11/09/09 23:15		
62	RLCV				1.0	11/09/09 23:18		
64	Cal Blank				1.0	11/09/09 23:23		
65	100 ppb				1.0	11/09/09 23:26		
66	CCV				1.0	11/09/09 23:29		
67	ССВ				1.0	11/09/09 23:32		
68	RLCV				1.0	11/09/09 23:34		
69	ICSA				1.0	11/09/09 23:37		
70	ICSAB				1.0	11/09/09 23:40		
71	WASH				1.0	11/09/09 23:43		
72	CCV				1.0	11/09/09 23:45		
73	ССВ				1.0	11/09/09 23:48		
74	RLCV				1.0	11/09/09 23:51		
75	LN04NB	D9K060000	9310238	04	1.0	11/09/09 23:54		
76	LN04NC	D9K060000	9310238	04	1.0	11/09/09 23:57		🗆
77	LNEA7	D9J280172-1	9310238	04	1.0	11/10/09 00:00		
78	LNEA7P5	D9J280172	9310238		5.0	11/10/09 00:02		
79	LNEA7Z	D9J280172-1	9310238		1.0	11/10/09 00:05		
80	LNEA7S	D9J280172-1	9310238	04	1.0	11/10/09 00:08		
81	LNEA7D	D9J280172-1	9310238	04	1.0	11/10/09 00:11		ᆜㅁ
82	LNECN	D9J280172-2	9310238	04	1.0	11/10/09 00:13		
83	CCV				1.0	11/10/09 00:16		
84	ССВ				1.0	11/10/09 00:20		
85	RLCV				1.0	11/10/09 00:22		
86	LNECV	D9J280172-3	9310238	04	1.0	11/10/09 00:25		
87	LNECX	D9J280172-4	9310238	04	1.0	11/10/09 00:28		
88	LNEC0	D9J280172-5	9310238	04	1.0	11/10/09 00:31		
89	LNEC1	D9J280172-6	9310238	04	1.0	11/10/09 00:34		
90	LNEC3	D9J280172-7	9310238	04	1.0	11/10/09 00:36		
91	LNEC5	D9J280172-8	9310238	04	1.0	11/10/09 00:39		
92	j				1.0	11/10/09 00:42		
93	ССВ			-	1.0	11/10/09 00:45		
94	RLCV				1.0	11/10/09 00:48		
95	LNKFHB	D9J300000	9303368	04	1.0	11/10/09 00:51	<u> </u>	

) I	D: AG1109	09A				Anal	vst: LRD	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	
3	LNKFHC	D9J300000	9303368	04	1.0	11/10/09 00:53		
7	LNC5C	D9J270250-1	9303368	04	1.0	11/10/09 00:56		i
3	LNC5E	D9J270250-2	9303368	04	1.0	11/10/09 00:59		
)	LNC5F	D9J270250-3	9303368	04	1.0	11/10/09 01:02] [
)	LNEHJ	D9J280192-1	9303368	04	1.0	11/10/09 01:05		
	LNEHJP5	D9J280192	9303368		5.0	11/10/09 01:07		
2	LNEHJZ	D9J280192-1	9303368		1.0	11/10/09 01:10		
}	LNEHJS	D9J280192-1	9303368	04	1.0	11/10/09 01:13		
1	CCV				1.0	11/10/09 01:16		
5	CCB			1	1.0	11/10/09 01:18		
3	RLCV				1.0	11/10/09 01:21		
7	LNEHJD	D9J280192-1	9303368	04	1.0	11/10/09 01:24		
3	LNGXD 5X	D9J290182-1	9303368	04	5.0	11/10/09 01:27		
)	LNGXG 5X	D9J290182-2	9303368	04	5.0	11/10/09 01:29		
)	LNG17	D9J290192-1	9303368	04	1.0	11/10/09 01:32		
	LNG2D	D9J290192-2	9303368	04	1.0	11/10/09 01:35		
2	LNH27_2X	D9J290314-1	9303308	04	2.0	11/10/09 01:38	-DNU I also	
}	LNH20 2X	D9J290314-2	9303368	04	2.0	11/10/09 01:40	- LED 11/10/09	
1	LNH3A	D9J290314-3	9303368	04	1.0	11/10/09 01:43		
;	CCV				1.0	11/10/09 01:46		
i	ССВ				1.0	11/10/09 01:49		
,	RLCV			1	1.0	11/10/09 01:52		
3	RINSE			+-+	1.0	11/10/09 01:54		
)	RINSE			1 1	1.0	11/10/09 01:57		
1	Cal Blank				1.0	11/10/09 02:03		
2	100 ppb				1.0	11/10/09 02:05		
,	CCV				1.0	11/10/09 02:08		
ļ	ССВ			1	1.0	11/10/09 02:11		
5	RLCV				1.0	11/10/09 02:14		
3	LNNPLBF	D9K020000	9306272	MD	1.0	11/10/09 02:16		
7		D9K020000	9306272			11/10/09 02:19		
3	LNLPFF	D9J300353-2	9306272	MD	1.0	11/10/09 02:22		
9	LNLPFP5F	D9J300353	9306272	1	5.0	11/10/09 02:25		
)	LNLPFZF	D9J300353-2	9306272		1.0	11/10/09 02:27		$\overline{}$
1	LNLPFSF	D9J300353-2	9306272	MD	1.0	11/10/09 02:30		
2	LNLPFDF	D9J300353-2	9306272	MD	1.0	11/10/09 02:33		_
3	CCV	D00000000 E	0000272	15	1.0	11/10/09 02:36		
4	CCB				1.0	11/10/09 02:38		
5	RLCV			++	1.0	11/10/09 02:41		
6	LNNQ5BF	D9K020000	9306285	MD	1.0	11/10/09 02:44		
7	LNNQ5CF	D9K020000	9306285	MD	1.0	11/10/09 02:47		
, B	LNLGXF 2X	D9J300326-1	9306285	MD	2.0	11/10/09 02:50		_
9	LNLG3F	D9J300326-2	9306285	MD	1.0	11/10/09 02:52		
0	LNLG4F	D9J300326-3	9306285	MD	1.0	11/10/09 02:55		
1	LNLHHF	D9J300329-1	9306285	MD	1.0	11/10/09 02:58		
2	LNLHMF	D9J300329-2	9306285	MD	1.0	11/10/09 03:01		

File ID:	AG110909A	Analyst: LRD
i iic ib.	AG110300A	

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
143	CCV		1		1.0	11/10/09 03:03		
144	ССВ				1.0	11/10/09 03:06		
145	RLCV				1.0	11/10/09 03:09		
146	LNLHPF	D9J300329-3	9306285	MD	1.0	11/10/09 03:12		
147	LNLJJF	D9J300340-1	9306285	MD	1.0	11/10/09 03:15		
148	LNLJJP5F	D9J300340	9306285		5.0	11/10/09 03:17		
149	LNLJJZF	D9J300340-1	9306285	1 1	1.0	11/10/09 03:20		
150	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/10/09 03:23		
151	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/10/09 03:25		
152	LNLJMF	D9J300340-2	9306285	MD	1.0	11/10/09 03:28		
153	CCV				1.0	11/10/09 03:31		
154	ССВ				1.0	11/10/09 03:34		
155	RLCV			1	1.0	11/10/09 03:37		
156	LN0Q4BF	D9K060000	9310095	MD	1.0	11/10/09 03:39		
157	LN0Q4CF	D9K060000	9310095	MD	1.0	11/10/09 03:42		
158	LN0Q4LF	D9K060000	9310095	MD	1.0	11/10/09 03:45		
159	LNR5CF	D9K040450-3	9310095	MD	1.0	11/10/09 03:48		
160	LNR5CP5F	D9K040450	9310095	1	5.0	11/10/09 03:50		
161	LNR5CZF	D9K040450-3	9310095		1.0	11/10/09 03:53		
162	CCV	2010101000	100.0000		1.0	11/10/09 03:56		
163	CCB				1.0	11/10/09 03:59		
164	RLCV			+	1.0	11/10/09 04:01		
165	RINSE			++	1.0	11/10/09 04:04		\dashv
166	RINSE			-	1.0	11/10/09 04:07		
168	Cal Blank			+	1.0	11/10/09 04:12		
169	100 ppb			1	1.0	11/10/09 04:12		$\neg \bar{c}$
170	CCV			+-+	1.0	11/10/09 04:18		
171	CCB		<u> </u>	1	1.0	11/10/09 04:10		
	RLCV			+	1.0	11/10/09 04:21		\dashv
172 173	LN16EB	D9K060000	9310417	04	2.5	11/10/09 04:26		
		D9K060000	9310417	04	2.5	11/10/09 04:29		
174	LN16EC			04	2.5	11/10/09 04:29		
175	LN1FW	D9K060478-7 D9K060478-17	9310417 9310417	04		11/10/09 04:35		
	LN1LX			04	2.5	11/10/09 04:37		
177	LN1MD	D9K060478-19	9310417	+		11/10/09 04:40		
178	LN1MH	D9K060478-21	9310417	04	2.5	11/10/09 04:43		
179	LN1MHS	D9K060478-21	9310417	04		11/10/09 04:46		
180	LN1MHD	D9K060478-21	9310417	04	2.5	11/10/09 04:48		
181	CCV			+	1.0	11/10/09 04:48		
182	CCB			+	1.0	11/10/09 04:54		
183	RLCV	D9K060000	9310368	87	2.5	11/10/09 04:57		
184	LN1T6BF		9310368	87	2.5	11/10/09 04:57		
185	LN1T6CF	D9K040610-1	9310368	87	2.5	11/10/09 05:00		
186 187	LNVQWF	D9K040610-1 D9K040610-3	9310368	87	2.5	11/10/09 05:02		
		D9K040610-5	9310368	87	2.5	11/10/09 05:08		
188	LNVRLF	D9KV40010-0	9310368	87	2.0	11/10/09 05:08		

File II	D: AG1109	909A				Anal	lyst: LRD	
#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
190	LNVRLDF	D9K040610-5	9310368	87	2.5	11/10/09 05:14		
191	LNX48F	D9K050627-2	9310368	87	2.5	11/10/09 05:16		
192	LNX5JF	D9K050627-6	9310368	87	2.5	11/10/09 05:19		
193	CCV				1.0	11/10/09 05:22		
194	ССВ				1.0	11/10/09 05:25		
195	RLCV				1.0	11/10/09 05:27		
196	LN4QNB	D9K090000	9313106	04	2.5	11/10/09 05:30		
197	LN4QNC	D9K090000	9313106	04	2.5	11/10/09 05:33		
198	LN314	D9K070460-2	9313106	04	2.5	11/10/09 05:36		
199	LN3L7 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:39		
200	LN3L7S 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:41		
201	LN3L7D 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:44		╛
202	CCV				1.0	11/10/09 05:47		
203	ССВ				1.0	11/10/09 05:50		
204	RLCV				1.0	11/10/09 05:52		
205~	LNOPDBF	D9K060000	9310068	PD	2.5	11/10/09 05:55		
206	LN0PDCF	D9K060000	9310068	PD	2.5	11/10/09 05:58		
207	LNT1RF	D9K040539-2	9310068	PD	2.5	11/10/09 06:01		
208	LNT15F	D9K040539-3	9310068	PD	3,5	11/10/09 06:04	DNU	
209	LNT15SF	D9K040539-3	9310068	PD	2.5	11/10/09 06:06		
210	LNT15DF	D9K040539-3	9310068	PD	2.5	11/10/09 06:09	URD	
211	LNT2CF	D9K040539-4	9310068	PD	2.5	11/10/09 06:12	11-10-2009	
212	LNPC2F	D9K020476-1	9310068	PD	2.5	11/10/09 06:15		
213	LNPC4F	D9K020476-2	9310068	PD	2.5	11/10/09 06:18		
214	CCV				1.0	11/10/09 06:20		
215	ССВ				1.0	11/10/09 06:23		
216	RLCV				1.0	11/10/09 06:26		
217	RIN8E				1.0	11/10/09 06:29		
218_	RINSE				1.0	11/10/09 06:31		
220	Cal Blank				1.0	11/10/09 06:37		
221	100 ppb				1.0	11/10/09 06:40		
222	CCV				1.0	11/10/09 06:42		
223	ССВ				1.0	11/10/09 06:45		
224	RLCV				1.0	11/10/09 06:48		
225	LNW1QB	D9K050000	9309222	MS	1.0	11/10/09 06:51		
226	LNW1QC	D9K050000	9309222	MS	1.0	11/10/09 06:53		
227	LNR42	D9K040449-1	9309222	MS	1.0	11/10/09 06:56		
228	LNR42P5	D9K040449	9309222		5.0	11/10/09 06:59		
229	LNR42Z	D9K040449-1	9309222		1.0			
230	LNR42S	D9K040449-1	9309222	MS	1.0	11/10/09 07:04		
231	LNR42D	D9K040449-1	9309222	MS	1.0	11/10/09 07:07		
232	CCV			-	1.0	11/10/09 07:10		
233	CCB			-	1.0	11/10/09 07:13		
234	RLCV	Dal/a45 115 5	0000000	1.0	1.0	11/10/09 07:16		
235	LNR48	D9K040449-2	9309222	MS	1.0	11/10/09 07:18		
236	LNR5E	D9K040449-3	9309222	MS	1.0	11/10/09 07:21		

File II	D: AG1109	909A				Ana	lvst: LRD	
#	Sample ID	Lot No.	Batch	····	DF	Analyzed Date	Comment	Q
237	LNR5G	D9K040449-4	9309222	MS	1.0	11/10/09 07:24		
238	LNP8M	D9K030460-1	9309222	MS	1.0	11/10/09 07:27		
239	LNP8X	D9K030460-2	9309222	MS	1.0	11/10/09 07:30		
240	LNP81	D9K030460-3	9309222	MS	1.0	11/10/09 07:32		
241	CCV			+	1.0	11/10/09 07:35		
242	ССВ			+	1.0	11/10/09 07:38		
243	RLCV				1.0	11/10/09 07:41		
244	LNN6NB	D9K020000	9306426	MS	1.0	11/10/09 07:44		
245	LNN6NC	D9K020000	9306426	MS	1.0	11/10/09 07:46		
246	LNN6NL	D9K020000	9306426	мѕ	1.0	11/10/09 07:49		
247	LNM4D	D9J310189-1	9306426	мѕ	1.0	11/10/09 07:52		
248	LNM4DP5	D9J310189	9306426	1 1	5.0	11/10/09 07:55		
249	LNM4DZ	D9J310189-1	9306426	1	1.0	11/10/09 07:58		
250	LNM4E	D9J310189-2	9306426	MS	1.0	11/10/09 08:00		
251	LNM5E	D9J310191-14	9306426	MS	1.0	11/10/09 08:03		
252	CCV			+	1.0	11/10/09 08:06		
253	ССВ				1.0	11/10/09 08:09		
254	RLCV				1.0	11/10/09 08:11		
255	LNRQVB	D9K040000	9308149	MS	1.0	11/10/09 08:14		
256	LNRQVC	D9K040000	9308149	MS	1.0	11/10/09 08:17		
257	LNQ0L	D9K030552-1	9308149	MS	1.0	11/10/09 08:20		
258	LNQ0LP5	D9K030552	9308149	+**+	5.0	11/10/09 08:22		$\exists \overline{\Box}$
259	LNQ0LZ	D9K030552-1	9308149	+	1.0	11/10/09 08:25		
260	LNQ0LS	D9K030552-1	9308149	мѕ	1.0	11/10/09 08:28		
261	LNQ0LD	D9K030552-1	9308149	MS	1.0	11/10/09 08:30		
262	LNQ0R	D9K030554-1	9308149	MS	1.0	11/10/09 08:33		$\neg \neg$
263	LNQ0T	D9K030554-2	9308149	MS	1.0	11/10/09 08:36		
264	CCV			1	1.0	11/10/09 08:39		
265	ССВ				1.0	11/10/09 08:41		
266	RLCV				1.0	11/10/09 08:44		
267	LNWG5BF	D9K050000	9309184	87	2.5	11/10/09 08:47		$\neg \neg$
268	LNWG5CF	D9K050000	9309184	87	2.5	11/10/09 08:50		
269	LNT4AF	D9K040553-1	9309184	87	2.5	11/10/09 08:52		
270	LNT42F	D9K040553-2	9309184	87	2.5	11/10/09 08:55		
271	LNT42SF	D9K040553-2	9309184	87	2.5	11/10/09 08:58		
272	LNT42DF	D9K040553-2	9309184	87	2.5	11/10/09 09:01		
273	LNT5HF	D9K040553-3	9309184	87	2.5	11/10/09 09:03		
274	CCV				1.0	11/10/09 09:06		
275	ССВ				1.0	11/10/09 09:09		
276	RLCV				1.0	11/10/09 09:12		
277	LNT5LF	D9K040553-4	9309184	87	2.5	11/10/09 09:14		
278	LNT5VF	D9K040553-5	9309184	87	2.5	11/10/09 09:17		
279	LNT51F	D9K040553-6	9309184	87	2.5	11/10/09 09:20		
280	LNT55F	D9K040553-7	9309184	87	2.5	11/10/09 09:23		
281	LNT57F	D9K040553-8	9309184	87	2.5	11/10/09 09:26		
282	LNT58F	D9K040553-9	9309184	87	2.5	11/10/09 09:28		

Denver

RUN SUMMARY

Analyst: LRD

Method: 6020 (ICP/MS) ICPMS_024 (024)	Reported: 11/10/09 12:39:51
■ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CONTRACT CON

#	Sample ID	Lot No.	Batch		DF	Analyzed Date	Comment	Q
283	LNT59F	D9K040553-10	9309184	87	2.5	11/10/09 09:31		
284	CCV				1.0	11/10/09 09:34		
285	ССВ				1.0	11/10/09 09:37		
286	RLCV				1.0	11/10/09 09:39		
287	D9J270274-0				1.0	11/10/09 09:42		
288	CCV				1.0	11/10/09 09:45		
289	ССВ				1.0	11/10/09 09:48		
290	RLCV				1.0	11/10/09 09:50		

TestAmerica Denver

Standards Preparation Logbook Record

Nov-10-2009

Analyst: trudelll

Logbook: \Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

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

Vendor: Inorganic Ventures

Component

Se

Initial Conc (mg/L)

Final Conc (mg/L)

Analyst: trudelll

1,000.0

1,000.0

STD1198-09, 1000 mg/L Sn

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

Component

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

Final Conc (mg/L)

Se

1,000.0

Initial Conc (mg/L)

1.0000

Page 1 of 10

STD2483-09, 1000 Zn (Inorganic Ventures)

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)

Analyst: trudelll

1.000.0 1000 Zn

1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Solvent: 5% HNO3

Lot No.: H14024

Analyst: DIAZL 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 Initial Conc (mg/L)

Final Conc (ug/L)

Component 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

Initial Conc (mg/L)

Final Conc (ug/L)

Component

Lithium6

Parent Std No.: STD1973-09, Indium Stock

1,000.0

4,000.0

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

Initial Conc (mg/L)

Component

Final Conc (ug/L) 1,000.0

In

Parent Std No.: STD6531-09, Scandium stock

1.000.0

Parent Date Expires(1): 10-26-2010

Parent Date Expires(2): 11-01-2010

Aliquot Amount (ml): 0.5000

Aliquot Amount (ml): 0.2500

Component

Initial Conc (mg/L)

Final Conc (ug/L)

Sc

1.000.0 2,000.0 Aliquot Amount (ml): 0.2500

Parent Std No.: STD6532-09, Holmium stock

Parent Date Expires(1): 10-26-2010

Parent Date Expires(2): 11-01-2010

Final Conc (ug/L)

Component Но

Initial Conc (mg/L)

1,000.0

1,000.0

Page 2 of 10

STD6674-09, ICP-MS 1ppm Sn/Zn

Volume (ml): 50.000 Lot No.: H14024 Solvent: 5% HNO3

Analyst: DIAZL

Analyst: DIAZL

Date Prep./Opened: 10-31-2009 Date Expires(1): 03-01-2010 (1 Year) Date Expires(2): 03-01-2010 (None)

Aliquot Amount (ml): 0.0500 Parent Std No.: STD1198-09, 1000 mg/L Sn

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Initial Conc (mg/L) Final Conc (mg/L) Component 1,000.0 1.0000 Sn

Aliquot Amount (ml): 0.0500 Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures)

Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Final Conc (mg/L) Initial Conc (mg/L) Component 1,000.0 1.0000 1000 Zn

STD6795-09, ICP-MS ICSA

Solvent: 5% HNO3

Analyst: DIAZL Volume (ml): 50.000

Lot No.: H14024

Date Prep./Opened: 11-05-2009

Date Expires(1): 12-05-2009 (1 Month) Date Expires(2): 11-01-2010 (None)

pipettes: Met 8

Aliquot Amount (ml): 5.0000 Parent Std No.: STD6475-09, ICPMS Interferent Check Standard

Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD6858-09, ICP-MS BLANK

Volume (ml): 1,000.0 Solvent: Water

Date Prep./Opened: 11-09-2009

Date Expires(1): 05-09-2010 (6 Months) Date Expires(2): 05-09-2010 (6 Months)

Date Verified: 12-31--4714 by - (Verification ID: 0)

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Parent Std No.: STD6857-09, NITRIC ACID Aliquot Amount (ml): 50.000

Component	Initial Conc (%)	Final Conc (%)
HNO3	100.00	5.0000

STD6859-09, ICP-MS CAL STD Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

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

STD6860-09, ICP-MS CCV STD Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 100.00

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

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

Page 4 of 10

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
TI	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		t Amount (ml): 0.2500
		First Cons (mail)
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500
STD6861-09, ICP-MS RL STD		Analyst: DIAZL
Solvent: 5% HNO3 Lot No.: H14024		Volume (ml): 10.000
Date Prep./Opened: 11-09-2009		, 0.4
Date Expires(1): 11-10-2009 (1 Day)		
Date Expires(1). 11-10-2009 (1 Day)		
D 0 1 1 1 0 TD ((TA 00 1 CD 1 (0 1 0 1 T	A 11	4 A (1). 0 0000
Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn	•	t Amount (ml): 0.0900
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2)		
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090
Parent Std No.: STD6859-09, ICP-MS CAL STD	Alique	t 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		0.0010
	() (()()	0.0010
Ni	0.1000 0.1000	
Ni Ph	0.1000	0.0010
Pb	0.1000 0.1000	0.0010 0.0010
	0.1000	0.0010

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TI U V Zn Mo Sb Sn	0.1000 0.1000 0.1000 0.1000 0.1000 0.1000 0.1000	0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010
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STD6862-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

2 die 2...p. 22 22 20 (2 2 2),

Parent Std No.: STD6861-09, ICP-MS RL STD

Aliquot Amount (ml): 2.0000

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002

STD6863-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1 Aliquot Amount (ml): 0.0500

 $\begin{tabular}{ll} \hline Component & \underline{Initial\ Conc\ (mg/L)} \\ Ag & 20.000 & \hline \\ \hline \hline \hline \hline & 0.1000 \\ \hline \end{tabular}$

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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
	20.000	0.1000
Zn	20.000	0.1000
Parent Std No.: STD3110-09, ICP-MS CALSTD 2	Aliquot	t Amount (ml): 0.0500
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000
Parent Std No.: STD4542-09, ICPMS Interferent Check Star	•	t Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010 Parent Date Expires(2)	2): 08-01-2010	
Component	Initial Conc (ug/ml)	Final Conc (mg/L)
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
	1,000.0	100.00
P	1,000.0	100.00
S T:	20.000	2.0000
Ti	20.000	2.0000
STD6864-09, ICP-MS LR STD		Analyst: DIAZL
Solvent: 5% HNO3 Lot No.: H14024 Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)		Volume (ml): 10.000
Parent Std No.: STD3109-09, ICP-MS CALSTD 1	Aliquo	t Amount (ml): 0.5000
Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	1.0000
As	20.000	1.0000

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Darant Std No. STD2110 00 JCD MS CALSTD 2	Aliquot Amou	nt (ml): 0.5000
Zn	20.000	1.0000
V	20.000	1.0000
U	20.000	1.0000
Tl	20.000	1.0000
Th	20.000	1.0000
Se	20.000	1.0000
Pb	20.000	1.0000
Ni	20.000	1.0000
Mn	20.000	1.0000
Cu	20.000	1.0000
Cr	20.000	1.0000
Co	20.000	1.0000
Cd	20.000	1.0000
Be	20.000	1.0000
Ва	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

STD6865-09, ICP-MS ICV STD

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 50.000

Analyst: DIAZL

Date Prep./Opened: 11-09-2009 Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

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

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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

STD6866-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

STD6867-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 20

Parent Std No.: STD6469-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (mg/L)	Final Conc (ug/L)
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000

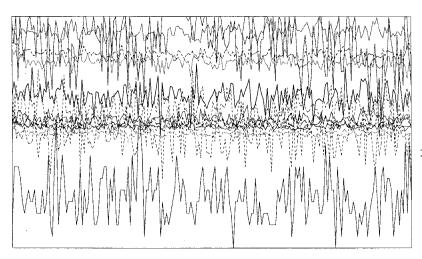
Tl	0.1000	1.0000		
U	0.1000	1.0000		
V	0.5000	5.0000		
Zn	1.0000	10.000		
Parent Std No.: STD6470-09, ICP-MS LLCCV 2	Aliquot	Aliquot Amount (ml): 1.0000		
Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010			
Component	Initial Conc (mg/L)	Final Conc (ug/L)		
Mo	0.2000	2.0000		
Sb	0.2000	2.0000		
Sn	1.0000	10.000		

File A6110909A

Reviewed By:	LRD	Ш	10/2009

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Tune File : NORM.U
Comment : AG110909

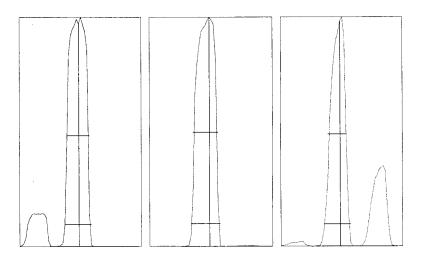


Integration Time: 0.1000 sec Sampling Period: 1.5300 sec

n: 200

Oxide: 156/140 1.475% Doubly Charged: 70/140 1.275%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2614.0	2789.3	3.67	0.80
7	20,000	18632.0	18633.8	3.00	0.50
59	20,000	15677.0	16033.1	2.87	1.00
63	50	35.0	45.6	15.88	0.70
70	500	313.0	327.1	7.08	0.40
75	20	4.0	4.4	46.88	0.60
. 78	200	109.0	120.3	9.42	0.60
89	50,000	26589.0	26185.6	2.22	1.00
115	50,000	24518.0	24639.8	1.99	1.10
118	100	33.0	48.4	15.31	0.80
137	5,000	2637.0	2712.3	2.91	1.20
205	20,000	16431.0	16723.1	2.17	1.70
238	50,000	25920.0	26106.3	1.87	2.50
156/140	2	1.499%	1.485%	7.38	
70/140	2	1.311%	1.332%	7.11	



m/z: 205 18,699 26,853 Height: 17,221 7.00 89.00 205.00 Axis: ₩-50%: 0.55 0.60 0.45 0.6500 W-10%: 0.6500 0.700

Integration Time: 0.1000 sec Acquisition Time: 22.7600 sec

Y axis : Linear

Page: 1

Generated : Nov 09, 2009 18:55:12 Printed : Nov 09, 2009 18:55:15

Tune Report

Tune File : NORM.U Comment : AG110909

Tuning Paramet	ers									
===Plasma Condi	tion	===		===Ion Lenses==	=		===Q-Pole Param	ete	ers===	
RF Power	:	1600	W	Extract 1	:	0 V	AMU Gain	:	134	
RF Matching	:	1.7	V	Extract 2	:	-170 V	AMU Offset	:	125	
Smpl Depth	:	8	mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007	
Torch-H	:	-0.8	mm	Omega Lens-ce	:	1.4 V	Axis Offset	:	-0.03	
Torch-V	:	-0.3	mm	Cell Entrance	:	-30 V	QP Bias	:	-3	V
Carrier Gas	:	0.81	L/min	QP Focus	:	7 V				
Makeup Gas	:	0.23	L/min	Cell Exit	:	-30 V	===Detector Par	ame	eters===	=
Optional Gas	:		8				Discriminator	:	8	mV
Nebulizer Pump	:	0.1	rps	===Octopole Par	ame	ters===	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 Cel	1===	;								
Reaction Mode	:	OFF								
H2 Gas	:	0	mL/min	He Gas	:	0 mL/mir	Optional Gas	:		%

Page: 2

Generated : Nov 09, 2009 18:55:12 Printed : Nov 09, 2009 18:55:18

P/A Factor Tuning Report

Acquired:Nov 9 2009 08:15 pm

Mass[amu]	Element	P/A Factor		
6	Li	Sensitivity	too	high
7	(Li)	0.055201		_
9	Ве	0.058738		
23	Na	0.063579		
24	Mg	0.064637		
27	Αĺ	0.065724		
39	K	0.065936		
43	Ca	Sensitivity	too	low
45	Sc	0.065581		
51	V	0.066938		
52	Cr	0.068029		
53	(Cr)	Sensitivity	too	low
55	Mn	0.069052		
57	Fe	Sensitivity	too	low
59	Co	0.070056		
60	Ni	Sensitivity	too	low
63	Cu	Sensitivity	too	low
66	Zn	Sensitivity	too	low
72	Ge	0.069902		
75	As	Sensitivity	too	low
77	(Se)	Sensitivity		
78	Se	Sensitivity	too	low
82	(Se)	Sensitivity	too	low
83	(Se)	Sensitivity	too	low
93	Nb	Sensitivity	too	low
95	Mo	Sensitivity	too	low
98	(Mo)	0.071630		
99	(Mo)	Sensitivity	too	low
105	Pd	Sensitivity	too	low
106	(Cd)	0.071534		
107	Aq	Sensitivity	too	low
108	(Cd)	0.071984		
111	Cd	Sensitivity	too	low
115	In	0.068812		
118	Sn	0.070115		
121	Sb	0.070721		
137	Ba	Sensitivity	too	low
165	Но	0.069269		
182	W	Sensitivity	too	low
195	Pt	Sensitivity	too	low
205	Tl	0.071349		
206	(Pb)	0.070737		
207	(Pb)	0.071002		
208	Pb	0.070189		
232	Th	0.070155		
238	U	0.070301		

---Detector Parameters--Discriminator: 8.0 mV
Analog HV: 1770 V
Pulse HV: 1480 V

- 1 -

P/A Factor Tuning Report

Acquired:Nov 9 2009 08:21 pm

Mass[amu] 6	Element Li	P/A Factor Sensitivity	too	hiah
7	(Li)	0.055259	000	111911
9	Ве	0.058421		
23	Na	0.062917		
24	Mg	0.063700		
27	Al	0.064930		
39	K	0.065662		
43	Ca	Sensitivity	too	low
45	Sc	0.065581		
51 52	V Cr	0.066016 0.066969		
53	(Cr)	Sensitivity	too	low
55 55	Mn	0.067116	100	TOW
57	Fe	Sensitivity	too	low
59	Co	0.068255		
60	Ni	0.068756		
63	Cu	0.069073		
66	Zn	0.068997		
72	Ge	0.068697		
75	As	0.069000		
77	(Se)	Sensitivity		
78	Se	Sensitivity		
82	(Se)	Sensitivity		
83 93	(Se) Nb	Sensitivity Sensitivity		low
95 95	Мо	0.071094	100	TOM
98	(Mo)	0.069583		
99	(Mo)	0.069992		
105	Pd	0.069782		
106	(Cd)	0.069206		
107	Ag	Sensitivity	too	low
108	(Cd)	0.069821		
111	Cd	0.069450		
115	In	0.068812		
118	Sn	0.068484		
121	Sb	0.068561		
137 165	Ba Ho	0.070024 0.068599		
182	W	Sensitivity	±00	low
195	Pt	Sensitivity		
205	Tl	0.068219	200	
206	(Pb)	0.067897		
207	(Pb)	0.068227		
208	Pb	0.070189		
232	Th	0.070155		
238	U	0.070301		

===Detector Parameters===
Discriminator: 8.0 mV
Analog HV: 1770 V
Pulse HV: 1480 V

- 1 -

200.8 QC Tune Report

Data File:

C:\ICPCHEM\1\DATA\AG110909A.B\001TUNE.D

Date Acquired:

Nov 9 2009 08:26 pm

Acq. Method:

tun_isis.M

Operator:

LRD

Sample Name:

200.8 TUNE

Misc Info:

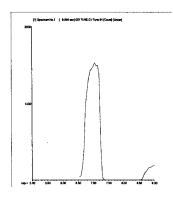
Vial Number:

1

Current Method:

C:\ICPCHEM\1\METHODS\tun isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	14906	14929	14975	14838	14916	14868	0.36	5.00	~
9 Be	1915	1908	1914	1983	1809	1957	3.47	5.00	RSDEATIL PUSS
24 Mg	8679	8669	8688	8662	8744	8633	0.48	5.00	(19)
59 Co	35756	36567	35777	35985	34517	35933	2.11	5.00	LLDONOK
115 In	692825	688204	694293	692146	693236	696245	0.43	5.00	• • •
208 Pb	51450	52572	50561	51250	51590	51275	1.42	5.00	
238 U	109376	111991	110522	109499	107788	107079	1.83	5.00	



7 Li

Mass Calib.

Actual: 7.05

Required: 6.90 - 7.10

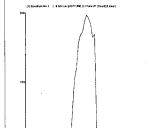
Flag:

Peak Width

Actual: 0.60

Required:0.90

Flag:



9 Be

Mass Calib.

Actual: 9.00

Required:8.90 - 9.10

Flag:

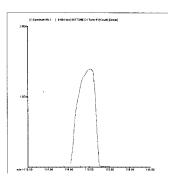
Peak Width

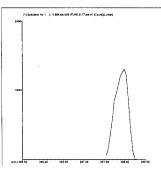
Actual: 0.55

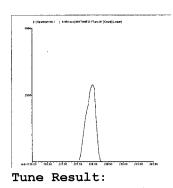
Required: 0.90

Flag:

[1]50-04	tran No.1 (1	954 sec)101T	LINE O / Ture #1	[Court](Linear)		
1020						
Sco						
mar > 23.50	24.60	14.50	25 00	25.50	25.00	25.50







24 Mg

Mass Calib.

Actual: 24.00 Required:23.90 24.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

59 Co

Mass Calib.

Actual: 59.00 Required: 58.90 59.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

115 In

Mass Calib.

Actual: 115.00 Required: 114.90 -115.10 Flag:

Peak Width

Actual: 0.60 Required: 0.90 Flag:

208 Pb Mass Calib.

Actual: 207.95

Required: 207.90 - 208.10 Flag:

Peak Width

Actual: 0.55 Required: 0.90 Flag:

238 U

Mass Calib.

Actual: 237.95 Required: 237.90 - 238.10 Flag:

Peak Width

Actual: 0.50 Required: 0.90 Flag:

FAIRUS UNIONION

C:\ICPCHEM\1\RPTTMP\2008tn.qct

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\002CALB.D\002CALB.D#

Date Acquired: Nov 9 2009 08:29 pm

Acq. Method: NormISIS.M

Operator: LRD

Sample Name: Cal Blank

Misc Info:

Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:30 pm

Sample Type: CalBlk

QC Elements

QC	Elements	3		1		
Ele	ement	IS Ref	Tune	CPS Mean	RSD(%)	
9	Ве	6	1	10	0.00	
51	V	72	1	5 7 .7	3.61	
52	Cr	72	1	1697	4.80	
55	Mn	72	1	263	10.96	
59	Co	72	1	17	34.64	
60	Ni	72	1	63	32.87	
63	Cu	72	1	100	43.59	
66	Zn	72	1	131	19.98	
75	As	72	1	31	32.13	
78	Se	72	1	153	20.97	
95	Mo	72	1	23	24.74	
107	7 Ag	115	1	7	86.60	* Andrews
111	L Cd	115	1	-4	15.03	i de la companya de la companya de la companya de la companya de la companya de la companya de la companya de
118	3 Sn	115	1	123	26.06	n ne ne ne ne ne ne ne ne ne ne ne ne ne
121	L Sb	115	1	43	42.83	**
137	7 Ba	115	1	10	33.33	
205	5 Tl	165	1	341	20.90	
208	B Pb	165	1	206	7.66	
232	2 Th	165	1	130	26.65	
238	3 U	165	1	97	23.89	

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	307725	0.62
45	Sc	1	863740	1.75
72	Ge	1	419764	0.40
115	In	1	1321877	2.10
165	Но	1	2596118	0.41

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Date Acquired: Nov 9 2009 08:32 pm

Acq. Method: NormISIS.M

Operator: LRD

Sample Name: Cal Blank

Misc Info:

Vial Number: 2101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal. Update: Nov 09 2009 08:30 pm

Sample Type: CalBlk

QC Elements

Eleme	nt	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	0	0.00
51	V	72	1	513	5.95
52	Cr	72	1	1570	2.30
55	Mn	72	1	337	11.25
59	Co	72	1	20	50.00
60 -	Ni	72	1	63	48.24
63	Cu	72	1	120	44.10
66	Zn	72	1	137	9.29
75	As	72	1	35	18.20
78	Se	72	1	97	23.89
95	Mo	72	1	20	50.00
107	Ag	115	1	3	173.21
111	Cd	115	1	-4	393.57
118	Sn	115	1	297	22.95
121	Sb	115	1	39	26.19
137	Ва	115	1	12	41.66
205	Tl	165	1	221	20.47
208	Pb	165	1	199	12.35
232	Th	165	1	113	22.21
238	U	165	1	77	26.09

Internal Standard Elements

Eleme	ent	Tune	CPS Mean	RSD(%)
6	Li	1	316659	2.14
45	Sc	1	888972	0.50
72	Ge	1	425816	0.47
115	In	1	1335258	0.87
165	Но	1	2617754	0.65

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\004ICAL.D\0004ICAL.D#

Date Acquired: Nov 9 2009 08:35 pm

Acq. Method: NormISIS.M

Operator: LRD Sample Name: 100 ppb

Misc Info:

Vial Number: 2102

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:33 pm

Sample Type: ICAL

QC Elements

~		-			
Eleme	nt	IS Ref	Tune	CPS Mean	RSD(%)
9	Ве	6	1	38609	1.25
51	V	72	1	510366	0.88
52	Cr	72	1	524956	1.26
55	Mn	72	1	613525	1.41
59	Co	72	1	633231	0.83
60	Ni	72	1	140397	0.74
63	Cu	72	1	332088	1.69
66	Zn	72	1	83275	0.84
75	As	72	1	64491	1.06
78	Se	72	1	13670	3.37
95	Mo	72	1	194872	1.16
107	Ag	115	1	568219	1.98
111	Cd	115	1	121298	1.44
118	Sn	115	1	331811	1.14
121	Sb	115	1	398020	0.91
137	Ba	115	1	158724	1.91
205	T1	165	1	1472389	1.01
208	Pb	165	1	2154560	0.36
232	Th	165	1	2284596	1.76
238	U	165	1	2432923	0.19

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	317523	0.04	316659	100.3	30 - 120	
45	Sc	1	902480	1.79	888972	101.5	30 - 120	
72	Ge	1	417361	1.39	425816	98.0	30 - 120	
115	In	1	1332995	0.81	1335258	99.8	30 - 120	
165	Но	1	2606293	0.43	2617754	99.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures
0 :ISTD Failures

0

0

Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\005 ICV.D\005 ICV.D#

Date Acquired: Nov 9 2009 08:37 pm

Operator: LRD QC Summary: Sample Name: ICV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 2103

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: ICV
Total Dil Factor: 1.00

							•		
QC Eleme									
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	39.82	ppb	0.59	40	99.6	90 - 110	
51 V	72	1	40.01	ppb	0.57	40	100.0	90 - 110	
52 Cr	72	1	40.10	ppb	1.04	40	100.3	90 - 110	
55 Mn	72	1	40.83	ppb	1.35	40	102.1	90 - 110	
59 Co	72	1	39.98	ppb	2.35	40	100.0	90 - 110	
60 Ni	72	1	39.48	ppb	1.75	40	98.7	90 - 110	
63 Cu	72	1	39.44	ppb	0.71	40	98.6	90 - 110	
66 Zn	72	1	40.87	ppb	1.27	40	102.2	90 - 110	
75 As	72	1	40.05	ppb	0.47	40	100.1	90 - 110	
78 Se	72	1	40.20	ppb	7.43	40	100.5	90 - 110	
95 Mo	72	1	39.50	ppb	1.39	40	98.8	90 - 110	
107 Ag	115	1	40.28	ppb	1.09	40	100.7	90 - 110	
111 Cd	115	1	40.39	ppb	2.54	40	101.0	90 - 110	
118 Sn	115	1	39.95	ppb	2.27	40	99.9	90 - 110	
121 Sb	115	1	40.57	ppb	2.67	40	101.4	90 - 110	
137 Ba	115	1	40.04	ppb	2.19	40	100.1	90 - 110	
205 Tl	165	1	40.86	ppb	1.20	40	102.2	90 - 110	
208 Pb	165	1	40.91	ppb	0.95	40	102.3	90 - 110	
232 Th	165	1	41.04	ppb	0.97	40	102.6	90 - 110	
238 U	165	1	40.74	ppb	0.82	40	101.9	90 - 110	
ISTD Ele	ments								
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	320321		1.05	316659	101.2	30 - 120	_
45 Sc		1	893394		1.16	888972	100.5	30 - 120	
72 Ge		1	421619		1.04	425816	99.0	30 - 120	
115 In		1	1339730		1.68	1335258	100.3	30 - 120	
165 Ho		1	2633489		0.36	2617754	100.6	30 - 120	
Tr.	ıne File#	1	c:\icpchem\1	7500	\he !!				
	ine File#	2	C:\ICPCHEM\1						
	ine File#	3	C:\ICPCHEM\1						
1 (THE LITER	5	C. (1CE CHERT (1	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	`				

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\006WASH.D\006WASH.D\

Date Acquired: Nov 9 2009 08:40 pm

Operator: LRD QC Summary: Sample Name: RLIV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: WASH
Total Dil Factor: 1.00

$^{\circ}$	Eleme	nte

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.977 ppb	23.08	1.30	
51 V	72	1	5.088 ppb	3.63	6.50	
52 Cr	72	1	2.010 ppb	2.80	2.60	
55 Mn	72	1	1.052 ppb	2.54	1.30	
59 Co	72	1	1.026 ppb	2.82	1.30	
60 Ni	72	1	2.053 ppb	3.73	2.60	
63 Cu	72	1	1.949 ppb	1.86	2.60	
66 Zn	72	1	10.200 ppb	0.76	13.00	
75 As	72	1	4.975 ppb	1.56	6.50	
78 Se	72	1	5.397 ppb	12.87	6.50	
95 Mo	72	1	2.077 ppb	3.08	2.60	
107 Ag	115	1	5.417 ppb	1.62	6.50	
111 Cd	115	1	0.994 ppb	8.21	1.30	
118 Sn	115	1	10.400 ppb	2.50	13.00	
121 Sb	115	1	2.182 ppb	1.55	2.60	
137 Ba	115	1	1.043 ppb	2.05	1.30	
205 Tl	165	1	1.340 ppb	3.63	1.30	
208 Pb	165	1	1.058 ppb	2.34	1.30	
232 Th	165	1	2.228 ppb	2.96	2.60	
238 U	165	1	1.119 ppb	1.48	1.30	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	327943	1.12	316659	103.6	30 - 120	
45 Sc	1	927967	1.66	888972	104.4	30 - 120	
72 Ge	1	437192	0.23	425816	102.7	30 - 120	
115 In	1	1360935	0.96	1335258	101.9	30 - 120	
165 Ho	1	2638135	1.11	2617754	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

0 :Element Failures 0 :Max. Number of Failures Allowed

Initial Calibration Blank (ICB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\007 ICB.D\007 ICB.D#

Date Acquired: Nov 9 2009 08:43 pm QC Summary:

Operator: LRD Analytes: Pass Sample Name: ICB ISTD: Pass

Misc Info:

Vial Number: 2104

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: ICB
Total Dil Factor: 1.00

OC.	$\mathbf{E}\mathbf{I}$	emen	ts

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	-0.03	ppb	24.58	1.00	
52 Cr	72	1	0.01	ppb	375.24	1.00	
55 Mn	72	1	0.01	ppb	99.37	1.00	
59 Co	72	1	0.00	ppb	102.49	1.00	
60 Ni	72	1	0.06	ppb	11.55	1.00	
63 Cu	72	1	0.03	ppb	95.69	1.00	
66 Zn	72	1	0.75	ppb	6.06	1.00	
75 As	72	1	-0.01	ppb	401.95	1.00	
78 Se	72	1	0.14	ppb	223.63	1.00	
95 Mo	72	1	0.01	ppb	53.61	1.00	
107 Ag	115	1	0.01	ppb	41.41	1.00	
111 Cd	115	1	0.01	ppb	115.64	1.00	
118 Sn	115	1	0.25	ppb	23.38	1.00	
121 Sb	115	1	0.07	ppb	21.20	1.00	
137 Ba	115	1	0.06	ppb	14.45	1.00	
205 Tl	165	1	0.04	ppb	19.24	1.00	
208 Pb	165	1	0.01	ppb	22.30	1.00	
232 Th	165	1	0.02	ppb	1.72	1.00	
238 U	165	1	0.00	ppb	21.71	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331180	1.57	316659	104.6	30 - 120	
45 Sc	1	905311	1.15	888972	101.8	30 - 120	
72 Ge	1	441723	1.46	425816	103.7	30 - 120	
115 In	1	1364402	1.70	1335258	102.2	30 - 120	
165 Ho	1	2652248	1.61	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

O :Element Failures 0 :Max. Number of Failures Allowed

C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#

RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#

Date Acquired: Nov 9 2009 08:46 pm

Operator: LRD QC Summary:

Sample Name: RL STD Analytes: Pass Misc Info: Pass

Vial Number: 2105

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: RLSTD Total Dil Factor: 1.00

QC Elements	

Elen	nent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Ве	6	1	0.99	ppb	9.34	1	99.0	50 - 150	
51	V	72	1	0.92	ppb	9.25	1	91.9	50 - 150	
52	Cr	72	1	1.00	ppb	9.84	1	99.9	50 - 150	
55	Mn	72	1	1.01	ppb	0.70	1	100.8	50 - 150	
59	Co	72	1	0.98	ppb	2.45	1	97.7	50 - 150	
60	Ni	72	1	1.03	ppb	5.51	1	103.0	50 - 150	
63	Cu	72	1	1.05	ppb	5.54	1	104.6	50 - 150	
66	Zn	72	1	10.39	ppb	0.48	10	103.9	50 - 150	
75	As	72	1	1.05	ppb	4.38	1	105.1	50 - 150	
78	Se	72	1	1.23	ppb	32.18	1	123.2	50 - 150	
95	Mo	72	1	1.01	ppb	7.94	1	101.0	50 - 150	
107	Ag	115	1	1.01	ppb	4.94	1	101.1	50 - 150	
111	Cd	115	1	1.05	ppb	5.12	1	104.5	50 - 150	
118	Sn	115	1	10.46	ppb	2.14	10	104.6	50 - 150	
121	Sb	115	1	1.03	ppb	4.27	1	103.4	50 - 150	
137	Ва	115	1	1.04	ppb	2.63	1	104.3	50 - 150	
205	Tl	165	1	1.11	ppb	1.97	1	110.8	50 - 150	
208	Pb	165	1	1.05	ppb	1.92	1	105.4	50 - 150	
232	Th	165	1	1.04	ppb	1.88	1	103.6	50 - 150	
238	U	165	1	1.07	ppb	2.22	1	107.2	50 - 150	

ISTD Elements

Eleme	ent	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 I	Li	1	332529	1.31	316659	105.0	30 - 120	
45 5	Sc	1	924723	1.34	888972	104.0	30 - 120	
72 0	Ge	1	440304	0.81	425816	103.4	30 - 120	
115 I	In	1	1361149	0.37	1335258	101.9	30 - 120	
165 H	Но	1	2647952	0.34	2617754	101.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\009AFCE.D\009AFCE.D#

Date Acquired: Nov 9 2009 08:48 pm

Operator: LRD QC Summary: Sample Name: AFCEE RL Analytes: Pass

Misc Info: ISTD: Pass

Vial Number: 2106

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: AFCEERL
Total Dil Factor: 1.00

QC Eleme	nts								
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.16	ppb	9.52	0	82.7	80 - 120	
51 V	72	1	0.15	ppb	12.92	0	84.2	80 - 120	
52 Cr	72	1	0.17	ppb	11.54	0	87.5	80 - 120	
55 Mn	72	1	0.19	ppb	4.01	0	92.3	80 - 120	
59 Co	72	1	0.20	ppb	10.00	0	101.6	80 - 120	
60 Ni	72	1	0.17	ppb	39.79	0	82.5	80 - 120	
63 Cu	72	1	0.21	ppb	8.40	0	98.5	80 - 120	
66 Zn	72	1	1.88	ppb	3.20	2	90.5	80 - 120	
75 As	72	1	0.18	ppb	4.43	0	84.9	80 - 120	
78 Se	72	1	0.34	ppb	52.18	0	137.7	80 - 120	
95 Mo	72	1	0.20	ppb	20.48	0	97.8	80 - 120	
107 Ag	115	1	0.19	ppb	11.02	0	95.4	80 - 120	
111 Cd	115	1	0.18	ppb	8.60	0	87.8	80 - 120	
118 Sn	115	1	2.07	ppb	1.60	2	98.7	80 - 120	
121 Sb	115	1	0.24	ppb	8.81	0	117.2	80 - 120	
137 Ba	115	1	0.17	ppb	15.49	0	82.0	80 - 120	
205 Tl	165	1	0.21	ppb	3.14	0	95.1	80 - 120	
208 Pb	165	1	0.21	ppb	4.91	0	97.5	80 - 120	
232 Th	165	1	0.21	ppb	2.80	0	102.7	80 - 120	
238 U	165	1	0.21	ppb	1.79	0	97.4	80 - 120	
ISTD Ele	ments		•						
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	334891		0.91	316659	105.8	30 - 120	
45 Sc		1	926450		1.15	888972	104.2	30 - 120	
72 Ge		1	444347		1.22	425816	104.4	30 - 120	
115 In		1	1347595		1.10	1335258	100.9	30 - 120	
165 Ho		1	2645674		1.06	2617754	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\010SMPL.D\010SMPL.D#

Date Acquired: Nov 9 2009 08:51 pm

Acq. Method: NormISIS.M QC Summary:
Operator: LRD Analytes: Pass
Sample Name: ALTSe ISTD: Pass

Sample Name: ALTSe
Misc Info: 2 ppb
Vial Number: 2107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

OC Elements

Z									
Elen	nent	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Ве	6	1	0.01	0.01	ppb	173.18	3600	
51	V	72	1	-0.05	-0.05	ppb	4.45	3600	
52	Cr	72	1	0.03	0.03	ppb	21.71	3600	
55	Mn	72	1	-0.01	-0.01	ppb	107.83	3600	
59	Со	72	1	0.00	0.00	ppb	91.53	3600	
60	Ni	72	1	-0.01	-0.01	ppb	120.90	3600	
63	Cu	72	1	0.00	0.00	ppb	249.88	3600	
66	Zn	72	1	0.21	0.21	ppb	4.91	3600	
75	As	72	1	-0.01	-0.01	ppb	276.53	3600	
78	Se	72	1	2.30	2.30	ppb	3.47	3600	
95	Mo	72	1	0.00	0.00	ppb	270.91	3600	
107	Ag	115	1	0.01	0.01	ppb	12.59	3600	
111	Cd	115	1	0.01	0.01	ppb	40.90	3600	
118	Sn	115	1	0.03	0.03	ppb	42.36	3600	
121	Sb	115	1	0.02	0.02	ppb	52.41	3600	
137	Ва	115	1	0.00	0.00	ppb	159.45	3600	
205	Tl	165	1	0.00	0.00	ppb	223.71	3600	
208	Pb	165	1	0.00	0.00	ppb	93.52	3600	
232	Th	165	1	0.01	0.01	ppb	41.10	1000	
238	U	165	1	0.00	0.00	ppb	39.39	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	· Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	336598	0.66	316659	106.3	30 - 120	
45 Sc	1	916084	0.54	888972	103.0	30 - 120	
72 Ge	1	444955	0.00	425816	104.5	30 - 120	
115 In	1	1367875	0.83	1335258	102.4	30 - 120	
165 Ho	1	2646991	0.40	2617754	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Interference Check Solution A (ICS-A) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\011ICSA.D\011ICSA.D#

Date Acquired: Nov 9 2009 08:54 pm

Acq. Method: NormISIS.M QC Summary: Operator: LRD Analytes: Pass

Sample Name: ISTD: Pass ICSA

Misc Info:

Vial Number: 2108

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.C Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Nov 09 2009 08:35 pm Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M

Sample Type: ICSA Dilution Factor: 1.00

QC Elements

Elem	nent	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Ве	6	1	0.00 ppb	0.00	1.00	
51	V	72	1	2.09 ppb	3.15	1.00	
52	Cr	72	1	1.97 ppb	9.78	1.00	
55	Mn	72	1	2.81 ppb	1.66	1.00	
59	Co	72	1	0.10 ppb	6.63	1.00	
60	Ni	72	1	1.02 ppb	13.74	1.00	
63	Cu	72	1	0.53 ppb	7.97	1.00	
66	Zn	72	1	3.94 ppb	2.38	10.00	
75	As	72	1	0.28 ppb	11.27	1.00	
78	Se	72	1	0.38 ppb	63.23	1.00	
95	Мо	72	1	1936.00 ppb	0.91	2000.00	
107	Ag	115	1	0.03 ppb	12.20	1.00	
111	Cd	115	1	0.30 ppb	66.71	1.00	
118	Sn	115	1	0.12 ppb	33.50	10.00	
121	Sb	115	1	0.92 ppb	2.59	1.00	
137	Ва	115	1	0.03 ppb	33.26	1.00	
205	Tl	165	1	0.03 ppb	11.11	1.00	
208	Pb	165	1	1.00 ppb	2.07	1.00	
232	Th	165	1	0.02 ppb	12.13	1.00	
238	U	165	1	0.00 ppb	5.79	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	239339	0.28	316659	75.6	30 - 120	
45 Sc	1	700629	1.42	888972	78.8	30 - 120	
72 Ge	1	343237	0.37	425816	80.6	30 - 120	
115 In	1	1048448	1.55	1335258	78.5	30 - 120	
165 Ho	1	2104424	0.97	2617754	80.4	30 - 120	

Tune File# 1 c:\icpchem $\1\7500\he.u$ Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Nnumber of ISTD Failures Allowed 0 :ISTD Failures

Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\012ICSB.D\012ICSB.D#

Date Acquired: Nov 9 2009 08:57 pm

Acq. Method: NormISIS.M QC Summary:
Operator: LRD Analytes: Pass
Sample Name: ICSAB ISTD: Pass

Misc Info:

Vial Number: 2109

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: ICSAB
Dilution Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	109.40	3.64	100	109.4	80 - 120	
51 V	72	1	99.64	0.20	100	99.6	80 - 120	
52 Cr	72	1	97.24	0.93	100	97.2	80 - 120	
55 Mn	72	1	98.22	0.64	100	98.2	80 - 120	
59 Co	72	1	92.77	2.10	100	92.8	80 - 120	
60 Ni	72	1	89.04	1.65	100	89.0	80 - 120	
63 Cu	72	1	86.53	0.30	100	86.5	80 - 120	
66 Zn	72	1	96.58	0.54	100	96.6	80 - 120	
75 As	72	1	101.00	1.32	100	101.0	80 - 120	
78 Se	72	1	100.00	0.62	100	100.0	80 - 120	
95 Mo	72	1	2093.00	0.96	2100	99.7	80 - 120	
107 Ag	115	1	89.66	3.28	100	89.7	80 - 120	
111 Cd	115	1	95.05	1.99	100	95.1	80 - 120	
118 Sn	115	1	100.40	1.69	100	100.4	80 - 120	
121 Sb	115	1	103.00	1.30	100	103.0	80 - 120	
137 Ba	115	1	101.30	1.03	100	101.3	80 - 120	
205 Tl	165	1	94.31	0.93	100	94.3	80 - 120	
208 Pb	165	1	93.76	0.89	100	93.8	80 - 120	
232 Th	165	1	101.30	1.54	100	101.3	80 - 120	
238 U	165	1	99.94	0.63	100	99.9	80 - 120	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	233202	3.01	316659	73.6	30 - 120	
45 Sc	1	711798	0.20	888972	80.1	30 - 120	
72 Ge	1	338298	0.97	425816	79.4	30 - 120	
115 In	1	1075320	0.68	1335258	80.5	30 - 120	
165 Ho	1	2161438	0.51	2617754	82.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#

AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#

Date Acquired: Nov 9 2009 08:59 pm

QC Summary: Operator: LRD

Analytes: Pass Sample Name: RINSE

ISTD: Pass Misc Info:

1101 Vial Number:

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type:

AFCEERL Sample Type: Total Dil Factor: 1.00

QC	Elements	

E										
Elem	ent	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 .	Ве	6	1	0.01	ppb	173.15	0	4.2	80 - 120	
51	V	72	1	0.02	ppb	35.98	0	10.9	80 - 120	
52	Cr	72	1	0.03	ppb	89.50	0	13.7	80 - 120	
55	Mn	72	1	-0.01	ppb	113.19	0	-3.4	80 - 120	
59	Co	72	1	0.00	ppb	1352.30	0	-0.1	80 - 120	
60	Ni	72	1	-0.02	ppb	102.45	0	-9.9	80 - 120	
63	Cu	72	1	0.00	ppb	649.06	0	0.6	80 - 120	
66	Zn	72	1	0.04	ppb	63.69	2	1.7	80 - 120	
75	As	72	1	-0.01	ppb	61.99	0	-3.9	80 - 120	
78	Se	72	1	0.39	ppb	99.84	0	156.3	80 - 120	
95	Мо	72	1	0.80	ppb	31.54	0	396.5	80 - 120	
107	Ag	115	1	0.01	ppb	53.68	0	3.6	80 - 120	
111	Cd	115	1	0.00	ppb	41.35	0	1.7	80 - 120	
118	Sn	115	1	0.00	ppb	######	2	0.0	80 - 120	
121	Sb	115	1	0.11	ppb	20.17	0	52.7	80 - 120	
137	Ва	115	1	0.00	ppb	105.76	0	-0.5	80 - 120	
205	Tl	165	1	-0.01	ppb	3.09	0	-2.6	80 - 120	
208	Pb	165	1	0.00	ppb	49.94	0	0.7	80 - 120	
232	Th	165	1	0.03	ppb	6.82	0	13.2	80 - 120	
238	U	165	1	0.01	ppb	15.94	0	6.9	80 - 120	

ISTD Elements

Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
1	331840	0.43	316659	104.8	30 - 120	
1	927075	1.00	888972	104.3	30 - 120	
1	454961	0.83	425816	106.8	30 - 120	
1	1407675	0.48	1335258	105.4	30 - 120	
1	2715373	0.43	2617754	103.7	30 - 120	
	Tune 1 1 1 1 1 1	1 331840 1 927075 1 454961 1 1407675	1 331840 0.43 1 927075 1.00 1 454961 0.83 1 1407675 0.48	1 331840 0.43 316659 1 927075 1.00 888972 1 454961 0.83 425816 1 1407675 0.48 1335258	1 331840 0.43 316659 104.8 1 927075 1.00 888972 104.3 1 454961 0.83 425816 106.8 1 1407675 0.48 1335258 105.4	1 331840 0.43 316659 104.8 30 - 120 1 927075 1.00 888972 104.3 30 - 120 1 454961 0.83 425816 106.8 30 - 120 1 1407675 0.48 1335258 105.4 30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\014 LR.D\014 LR.D#

Date Acquired: Nov 9 2009 09:02 pm

Acq. Method: QC Summary: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass

Sample Name: Misc Info:

LR1

Vial Number: 2110

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: LR Prep Dil. Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	989.70 ppb	1.24	1000	99.0	90 - 110	
51 V	72	1	962.50 ppb	1.62	1000	96.3	90 - 110	
52 Cr	72	1	955.40 ppb	1.40	1000	95.5	90 - 110	
55 Mn	72	1	950.30 ppb	1.50	1000	95.0	90 - 110	
59 Co	72	1	955.50 ppb	1.19	1000	95.6	90 - 110	
60 Ni	72	1	979.40 ppb	1.79	1000	97.9	90 - 110	
63 Cu	72	1	966.20 ppb	0.98	1000	96.6	90 - 110	
66 Zn	72	1	974.60 ppb	0.75	1000	97.5	90 - 110	
75 As	72	1	1009.00 ppb	0.73	1000	100.9	90 - 110	
78 Se	72	1	988.90 ppb	0.77	1000	98.9	90 - 110	
95 Mo	72	1	987.40 ppb	1.52	1000	98.7	90 - 110	
107. Ag	115	1	932.40 ppb	1.41	1000	93.2	90 - 110	
111 Cd	115	1	967.10 ppb	0.44	1000	96.7	90 - 110	
118 Sn	115	1	933.80 ppb	0.50	1000	93.4	90 - 110	
121 Sb	115	1	927.90 ppb	0.18	1000	92.8	90 - 110	
137 Ba	115	1	972.50 ppb	0.87	1000	97.3	90 - 110	
205 Tl	165	1	947.60 ppb	0.99	1000	94.8	90 - 110	
208 Pb	165	1	915.00 ppb	0.94	1000	91.5	90 - 110	
232 Th	165	1	966.60 ppb	0.64	1000	96.7	90 - 110	
238 U	165	1	963.20 ppb	1.88	1000	96.3	90 - 110	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	328068	1.06	316659	103.6	30 - 120	
45 Sc	1	922726	2.01	888972	103.8	30 - 120	
72 Ge	1	430093	1.37	425816	101.0	30 - 120	
115 In	1	1364755	0.41	1335258	102.2	30 - 120	
165 Ho	1	2644039	0.70	2617754	101.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures

0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\015SMPL.D\015SMPL.D#

Date Acquired: Nov 9 2009 09:05 pm

QC Summary: Acq. Method: NormISIS.M

Operator: Analytes: Pass LRD ISTD: Pass

Sample Name: RINSE

Misc Info: Vial Number: 1101

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA Dilution Factor: 1.00 Autodil Factor: Undiluted Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.02	ppb	173.25	3600	9
51 V	72	1	-0.02	-0.02	ppb	88.49	3600	
52 Cr	72	1	0.05	0.05	ppb	36.35	3600	
55 Mn	72	1	-0.01	-0.01	ppb	183.98	3600	
59 Co	72	1	0.01	0.01	ppb	88.77	3600	
60 Ni	72	1	0.02	0.02	ppb	167.72	3600	
63 Cu	72	1	0.03	0.03	ppb	35.08	3600	
66 Zn	72	1	0.05	0.05	ppb	19.57	3600	
75 As	72	1	0.02	0.02	ppb	85.94	3600	
78 Se	72	1	0.69	0.69	ppb	46.45	3600	
95 Mo	72	1	0.53	0.53	ppb	26.09	3600	
107 Ag	115	1	0.03	0.03	ppb	35.34	3600	
111 Cd	115	1	0.02	0.02	ppb	21.52	3600	
118 Sn	115	1	1.11	1.11	ppb	27.74	3600	
121 Sb	115	1 .	1.31	1.31	ppb	17.77	3600	
137 Ba	115	1	0.02	0.02	ppb	70.23	3600	
205 Tl	165	1	0.06	0.06	ppb	21.10	3600	
208 Pb	165	1	0.02	0.02	ppb	25.81	3600	
232 Th	165	1	0.13	0.13	ppb	10.54	1000	
238 U	165	1	0.13	0.13	ppb	15.65	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	341210	2.06	316659	107.8	30 - 120	
45 Sc	1	953002	0.82	888972	107.2	30 - 120	
72 Ge	1	451794	0.58	425816	106.1	30 - 120	
115 In	1	1384812	1.01	1335258	103.7	30 - 120	
165 Ho	1	2634408	0.76	2617754	100.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D# ISTD Ref File :

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\016 CCV.D\016 CCV.D#

Date Acquired: Nov 9 2009 09:08 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCV ISTD: Pass

Misc Info:

Vial Number: 1107

Calibration File: C:\ICPCHEM\1\METHODS\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M

Sample Type: CCV Total Dil Factor: 1.00

QC Eleme	nts								
Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	49.36	ppb	2.54	50	98.7	90 - 110	
51 V	72	1	50.77	ppb	1.34	50	101.5	90 - 110	
52 Cr	72	1	50.82	ppb	0.60	50	101.6	90 - 110	
55 Mn	72	1	50.95	ppb	1.41	50	101.9	90 - 110	
59 Co	72	1	50.68	ppb	1.40	50	101.4	90 - 110	
60 Ni	72	1	49.56	ppb	1.57	50	99.1	90 - 110	
63 Cu	72	1	49.68	ppb	0.10	50	99.4	90 - 110	
66 Zn	72	1	49.76	ppb	0.33	50	99.5	90 - 110	
75 As	72	1	50.93	ppb	0.82	50	101.9	90 - 110	
78 Se	72	1	51.94	ppb	5.89	50	103.9	90 - 110	
95 Mo	72	1	48.88	ppb	1.24	50	97.8	90 - 110	
107 Ag	115	1	50.11	ppb	0.43	50	100.2	90 - 110	
111 Cd	115	1	50.35	ppb	0.26	50	100.7	90 - 110	
118 Sn	115	1	50.40	ppb	1.11	50	100.8	90 - 110	
121 Sb	115	1	50.58	ppb	0.97	50	101.2	90 - 110	
137 Ba	115	1	50.03	ppb	0.58	50	100.1	90 - 110	
205 Tl	165	1	50.31	ppb	0.12	50	100.6	90 - 110	
208 Pb	165	1	50.77	ppb	1.01	50	101.5	90 - 110	
232 Th	165	1	50.58	ppb	2.06	50	101.2	90 - 110	
238 U	165	1	50.76	ppb	2.06	50	101.5	90 - 110	
ISTD Ele	ments								
Element		Tune	CPS Mean		RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li		1	339265		1.56	316659	107.1	30 - 120	
45 Sc		1	947544		0.15	888972	106.6	30 - 120	
72 Ge		1	441263		0.72	425816	103.6	30 - 120	
115 In		1	1386188		0.72	1335258	103.8	30 - 120	
165 Ho		1	2649982		0.75	2617754	101.2	30 - 120	

Tune File# 1 c:\icpchem $\1\7500$ he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\017 CCB.D\017 CCB.D#

Date Acquired: Nov 9 2009 09:10 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB

Misc Info:

Vial Number: 1307

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCB Total Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.008	ppb	173.22	1.00	
51 V	72	1	-0.046	ppb	29.01	1.00	
52 Cr	72	1	0.000	ppb	12322.00	1.00	
55 Mn	72	1	-0.007	ppb	43.73	1.00	
59 Co	72	1	0.001	ppb	393.70	1.00	
60 Ni	72	1	-0.005	ppb	329.15	1.00	
63 Cu	72	1	0.007	ppb	98.78	1.00	
66 Zn	72	1	0.040	ppb	14.37	1.00	
75 As	72	1	-0.008	ppb	123.42	1.00	
78 Se	72	1	0.405	ppb	68.29	1.00	
95 Mo	72	1	0.105	ppb	49.03	1.00	
107 Ag	115	1	0.009	ppb	76.77	1.00	
111 Cd	115	1	0.002	ppb	275.78	1.00	
118 Sn	115	1	0.252	ppb	28.94	1.00	
121 Sb	115	1	0.323	ppb	22.12	1.00	
137 Ba	115	1	0.000	ppb	357.00	1.00	
205 Tl	165	1	0.012	ppb	22.43	1.00	
208 Pb	165	1	0.003	ppb	36.91	1.00	
232 Th	165	1	0.060	ppb	22.01	1.00	
238 U	165	1	0.020	ppb	26.01	1.00	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	347509	1.01	316659	109.7	30 - 120	
45 Sc	1	955495	2.12	888972	107.5	30 - 120	
72 Ge	1	455532	0.79	425816	107.0	30 - 120	
115 In	1	1386791	1.63	1335258	103.9	30 - 120	
165 Ho	1	2651802	0.80	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

ISTD: Pass

0 :Element Failures 0 :Max. Number of Failures Allowed

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\018WASH.D\018WASH.D#

Date Acquired: Nov 9 2009 09:13 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: RLCV ISTD: Pass Misc Info:

Vial Number:

Vial Number: 1204
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: WASH Total Dil Factor: 1.00

QC	Elements
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.024 ppb	7.78	1.30	
51 V	72	1	5.126 ppb	1.88	6.50	
52 Cr	72	1	2.083 ppb	6.13	2.60	
55 Mn	72	1	1.010 ppb	2.87	1.30	
59 Co	72	1	1.062 ppb	1.70	1.30	
60 Ni	72	1	2.095 ppb	2.27	2.60	
63 Cu	72	1	2.060 ppb	2.82	2.60	
66 Zn	72	1	10.130 ppb	1.17	13.00	
75 As	72	1	5.125 ppb	4.68	6.50	
78 Se	72	1	5.045 ppb	5.92	6.50	
95 Mo	72	1	1.951 ppb	3.60	2.60	
107 Ag	115	1	5.311 ppb	0.48	6.50	
111 Cd	115	1	1.030 ppb	11.33	1.30	
118 Sn	115	1	10.360 ppb	1.60	13.00	
121 Sb	115	1	2.190 ppb	4.18	2.60	
137 Ba	115	1	1.055 ppb	3.38	1.30	
205 Tl	165	1	1.095 ppb	1.41	1.30	
208 Pb	165	1	1.069 ppb	0.47	1.30	
232 Th	165	1	2.172 ppb	3.24	2.60	
238 U	165	1	1.103 ppb	1.52	1.30	

ISTD Elements

ISTD Elements							
Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350643	0.28	316659	110.7	30 - 120	
45 Sc	1	970129	1.19	888972	109.1	30 - 120	
72 Ge	1	456907	0.32	425816	107.3	30 - 120	
115 In	1	1395760	1.56	1335258	104.5	30 - 120	
165 Ho	1	2660739	0.79	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

C:\ICPCHEM\1\DATA\AG110909A.B\019_BLK.D\019_BLK.D#

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\019 BLK.D\019 BLK.D#

Date Acquired: Nov 9 2009 09:16 pm

Operator: LRD QC Summary: Sample Name: LNNP6B Analytes: Pass Misc Info: BLANK 9306276 6020 ISTD: Pass

Vial Number: 2201

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: BLK
Total Dil Factor: 1.00

QC Elements

IS Ref	Tune		RSD(%)	High Limit	Flag
6	1	0.000 ppb	0.00	2.00	
72	1	-0.018 ppb	41.70	2.00	
72	1	0.292 ppb	16.50	2.00	
72	1	0.185 ppb	7.72	2.00	
72	1	0.011 ppb	24.75	2.00	
72	1	0.036 ppb	53.39	2.00	
72	1	0.169 ppb	20.87	2.00	
72	1	0.849 ppb	7.65	2.00	
72	1	0.010 ppb	67.79	2.00	
72	1	0.510 ppb	48.19	2.00	
72	1	0.057 ppb	19.51	2.00	
115	1	0.010 ppb	26.04	2.00	
115	1	0.003 ppb	113.49	2.00	
115	1	0.208 ppb	18.28	2.00	
115	1	0.174 ppb	15.89	2.00	
115	1	0.038 ppb	22.70	2.00	
165	1	0.040 ppb	22.91	2.00	
165	1	0.011 ppb	12.89	2.00	
165	1	0.031 ppb	18.41	2.00	
165	1	0.007 ppb	24.76	2.00	
	72 72 72 72 72 72 72 72 72 72 72 115 115 115 115 165 165	6 1 72 1 72 1 72 1 72 1 72 1 72 1 72 1 72	6 1 0.000 ppb 72 1 -0.018 ppb 72 1 0.292 ppb 72 1 0.185 ppb 72 1 0.011 ppb 72 1 0.036 ppb 72 1 0.169 ppb 72 1 0.169 ppb 72 1 0.849 ppb 72 1 0.010 ppb 72 1 0.057 ppb 72 1 0.057 ppb 115 1 0.010 ppb 115 1 0.003 ppb 115 1 0.208 ppb 115 1 0.208 ppb 115 1 0.038 ppb 115 1 0.038 ppb 115 1 0.038 ppb 115 1 0.038 ppb 115 1 0.040 ppb 115 1 0.040 ppb 115 1 0.031 ppb	6 1 0.000 ppb 0.00 72 1 -0.018 ppb 41.70 72 1 0.292 ppb 16.50 72 1 0.185 ppb 7.72 72 1 0.011 ppb 24.75 72 1 0.036 ppb 53.39 72 1 0.169 ppb 20.87 72 1 0.849 ppb 7.65 72 1 0.010 ppb 67.79 72 1 0.057 ppb 48.19 72 1 0.057 ppb 19.51 115 1 0.010 ppb 26.04 115 1 0.003 ppb 13.49 115 1 0.208 ppb 13.49 115 1 0.038 ppb 15.89 115 1 0.038 ppb 22.70 165 1 0.040 ppb 22.91 165 1 0.011 ppb 12.89 165 1 0.031 ppb 18.41	6 1 0.000 ppb 0.00 2.00 72 1 -0.018 ppb 41.70 2.00 72 1 0.292 ppb 16.50 2.00 72 1 0.185 ppb 7.72 2.00 72 1 0.011 ppb 24.75 2.00 72 1 0.036 ppb 53.39 2.00 72 1 0.169 ppb 20.87 2.00 72 1 0.849 ppb 7.65 2.00 72 1 0.010 ppb 67.79 2.00 72 1 0.0510 ppb 48.19 2.00 72 1 0.057 ppb 19.51 2.00 72 1 0.057 ppb 19.51 2.00 715 1 0.003 ppb 13.49 2.00 115 1 0.003 ppb 18.28 2.00 115 1 0.208 ppb 18.28 2.00 115 1 0.038 ppb 22.70 2.00 115 1 0.038 ppb 22.70 2.00 115 1 0.038 ppb 22.70 2.00 115 1 0.040 ppb 22.91 2.00 116 1 0.011 ppb 12.89 2.00 116 1 0.011 ppb 12.89 2.00

ISTD Elements

TOID HIGHER							
Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355955	0.99	316659	112.4	30 - 120	
45 Sc	1	972462	1.01	888972	109.4	30 - 120	
72 Ge	1	458206	0.62	425816	107.6	30 - 120	
115 In	1	1400110	0.71	1335258	104.9	30 - 120	
165 Ho	1	2668336	0.83	2617754	101.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\020 LCS.D\020 LCS.D#

Date Acquired: Nov 9 2009 09:19 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: LNNP6C ISTD: Pass

Misc Info: LCS Vial Number: 2202

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: LCS
Prep Dil. Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC R	ange (%) Flag
9 Be	6	1	40.76	2.19	40	101.9	80	- 12	0
51 V	72	1	43.16	0.76	40	107.9	80	- 12	0
52 Cr	72	1	43.22	1.05	40	108.1	80	- 12	0
55 Mn	72	1	43.24	0.21	40	108.1	80	- 12	0
59 Co	72	1	42.64	0.71	40	106.6	80	- 12	0
60 Ni	72	1	42.34	0.56	40	105.9	80	- 12	0
63 Cu	72	1	42.72	0.89	40	106.8	80	- 12	0
66 Zn	72	1	45.64	0.61	40	114.1	80	- 12	0
75 As	72.	1	40.76	0.70	40	101.9	80	- 12	0
78 Se	72	1	38.19	2.28	40	95.5	80	- 12	0
95 Mo	72	1	35.78	2.03	40	89.5	80	- 12	0
107 Ag	115	1	41.49	2.15	40	103.7	80	- 12	0
111 Cd	115	1	40.17	0.57	40	100.4	80	- 12	0
118 Sn	115	1	0.12	28.26	40	0.3	80	- 12	0
121 Sb	115	1	35.81	0.84	40	89.5	80	- 12	0 .
137 Ba	115	1	41.49	1.53	40	103.7	80	- 12	0
205 Tl	165	1	43.86	2.13	40	109.7	80	- 12	0
208 Pb	165	1	41.85	1.84	40	104.6	80	- 12	0
232 Th	165	1	41.91	2.25	40	104.8	80	- 12	0
238 U	165	1	41.55	2.69	40	103.9	80	- 12	:0

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350822	0.51	316659	110.8	30 - 120	
45 Sc	1	980963	1.16	888972	110.3	30 - 120	
72 Ge	1	444654	1.31	425816	104.4	30 - 120	
115 In	1	1399733	0.66	1335258	104.8	30 - 120	
165 Ho	1	2665542	1.69	2617754	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\021SMPL.D\021SMPL.D#

Date Acquired: Nov 9 2009 09:21 pm

Acq. Method: NormISIS.M QC Summary: Operator: LRD Analytes: Pass

Sample Name: LNLN9 2X
Misc Info: D9J300353

Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M

Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

QC Elements

El	ement	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Ве	6	1	0.09	0.05	ppb	92.24	3600	
51	V	72	1	37.96	18.98	ppb	1.34	3600	
52	Cr	72	1	114.94	57.47	ppb	0.72	3600	
55	Mn	72	1	36.50	18.25	ppb	2.00	3600	
59	Co	72	1	0.69	0.34	ppb	2.76	3600	
60	Ni	72	1	3.14	1.57	ppb	8.45	3600	
63	Cu	72	1	1.64	0.82	ppb	6.02	3600	
66	Zn	72	1	11.13	5.57	ppb	1.82	3600	
75	As	72	1	202.00	101.00	ppb	0.43	3600	
78	Se	72	1	3.22	1.61	ppb	48.25	3600	
95	Mo	72	1	18.83	9.42	ppb	0.68	3600	
10	7 Ag	115	1	0.17	0.08	ppb	17.24	3600	
11	1 Cd	115	1	0.10	0.05	ppb	51.39	3600	
11	8 Sn	115	1	0.28	0.14	ppb	42.81	3600	
12	1 Sb	115	1	0.34	0.17	ppb	20.62	3600	
13	7 [.] Ba	115	1	37.72	18.86	ppb	0.70	3600	
20	5 Tl	165	1	0.13	0.06	ppb	19.45	3600	
20	8 Pb	165	1	0.71	0.35	ppb	3.38	3600	
23	2 Th	165	1	0.72	0.36	ppb	1.63	1000	
23	8 U	165	1	53.74	26.87	ppb	1.72	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298847	1.22	316659	94.4	30 - 120	
45 Sc	1	845797	1.37	888972	95.1	30 - 120	
72 Ge	1	386800	0.60	425816	90.8	30 - 120	
115 In	1	1191341	0.83	1335258	89.2	30 - 120	
165 Ho	1	2413317	1.23	2617754	92.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

ISTD: Pass

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\022SMPL.D\022SMPL.D#

Date Acquired: Nov 9 2009 09:24 pm

Acq. Method: NormISIS.M QC Summary:

Operator: LRD Analytes: Pass Sample Name: LNLR4 2X ISTD: Pass

Misc Info: D9J300356
Vial Number: 2204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SA
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.01	ppb	173.27	3600	
51 V	72	1	78.42	39.21	ppb	1.83	3600	
52 Cr	72	1	24.86	12.43	ppb	1.31	3600	
55 Mn	72	1	2,930.00	1465.00	ppb	2.13	3600	
59 Co	72	1	42.42	21.21	ppb	0.61	3600	
60 Ni	72	1	20.92	10.46	ppb	3.31	3600	
63 Cu	72	1	0.75	0.37	ppb	5.97	3600	
66 Zn	72	1	18.97	9.49	ppb	2.01	3600	
75 As	72	1	114.66	57.33	ppb	0.89	3600	
78 Se	72	1	6.57	3.28	ppb	20.64	3600	
95 Mo	72	1	26.74	13.37	ppb	0.88	3600	
107 Ag	115	1	0.11	0.05	ppb	25.16	3600	
111 Cd	115	1	0.42	0.21	ppb	16.72	3600	
118 Sn	115	1	0.13	0.06	ppb	44.87	3600	
121 Sb	115	1	0.27	0.13	ppb	7.83	3600	
137 Ba	115	1	27.28	13.64	ppb	2.04	3600	
205 Tl	165	1	0.19	0.10	ppb	3.70	3600	
208 Pb	165	1	0.11	0.06	ppb	1.85	3600	
232 Th	165	1	0.08	0.04	ppb	8.56	1000	
238 U	165	1	69.92	34.96	ppb	2.03	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	' Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	274893	1.24	316659	86.8	30 - 120	
45 Sc	1	779549	2.32	888972	87.7	30 - 120	
72 Ge	1	352268	1.67	425816	82.7	30 - 120	
115 In	1	1127758	1.03	1335258	84.5	30 - 120	
165 Ho	1	2240638	0.13	2617754	85.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

QC Summary:

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

Date Acquired: Nov 9 2009 09:27 pm

Acq. Method: NormISIS.M

Operator: LRD Analytes: Pass Sample Name: LNME4 ISTD: Pass

Misc Info: D9J310138
Vial Number: 2205

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: AllRef
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.27	3600	
51 V	72	1	0.05	0.05	ppb	6.94	3600	
52 Cr	72	1	0.48	0.48	ppb	5.57	3600	
55 Mn	72	1	1.67	1.67	ppb	3.29	3600	
59 Co	72	1	0.03	0.03	ppb	17.85	3600	
60 Ni	72	1	0.16	0.16	ppb	28.53	3600	
63 Cu	72	1	0.43	0.43	ppb	6.97	3600	
66 Zn	72	1	8.86	8.86	ppb	0.90	3600	
75 As	72	1	0.01	0.01	ppb	328.51	3600	
78 Se	72	1	0.28	0.28	ppb	90.12	3600	
95 Mo	72	1	0.17	0.17	ppb	26.75	3600	
107 Ag	115	1	0.01	0.01	ppb	26.64	3600	
111 Cd	115	1	0.00	0.00	ppb	536.64	3600	
118 Sn	115	1	0.20	0.20	ppb	7.53	3600	
121 Sb	115	1	0.09	0.09	ppb	15.50	3600	
137 Ba	115	1	0.66	0.66	ppb	1.78	3600	
205 Tl	165	1	-0.01	-0.01	ppb	11.38	3600	
208 Pb	165	1	0.12	0.12	ppb	1.87	3600	
232 Th	165	1	0.01	0.01	ppb	21.46	1000	
238 U	165	1	0.01	0.01	ppb	24.76	3600	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	· Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	373380	0.19	316659	117.9	30 - 120	
45 Sc	1	1006941	1.04	888972	113.3	30 - 120	
72 Ge	1	462649	0.57	425816	108.6	30 - 120	
115 In	1	1397361	0.27	1335258	104.7	30 - 120	
165 Ho	1	2660327	0.25	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Dilution Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\024SDIL.D\024SDIL.D#

Date Acquired: Nov 9 2009 09:30 pm QC Summary:

Analytes: Acq. Method: NormISIS.M Pass ISTD: Pass Operator: LRD

Sample Name: LNME4P5

Misc Info: SERIAL DILUTION

Vial Number: 2206

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: SDIL Dilution Factor: 1.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

QC elements

Element	IS Ref	Tune	Conc.ppb		RSD(%)	Ref Conc.	Actual(%)	QC I	Range(%)	Flag
9 Be	6	1	0.00	ppb	0.00	0.00	0.0	90	- 110	
51 V	72	1	-0.03	ppb	5.81	0.01	-342.2	90	- 110	
52 Cr	72	1	0.20	ppb	10.88	0.10	213.8	90	- 110	
55 Mn	72	. 1	0.34	ppb	10.16	0.33	103.1	90	- 110	
59 Co	72	1	0.01	ppb	47.19	0.01	96.0	90	- 110	
60 Ni	72	1	0.04	ppb	33.75	0.03	122.1	90	- 110	
63 Cu	72	1	0.10	ppb	5.61	0.09	114.0	90	- 110	
66 Zn	72	1	1.80	ppb	5.52	1.77	101.3	90	- 110	
75 As	72	1	-0.02	ppb	9.36	0.00	-1343.0	90	- 110	
78 Se	72	1	0.23	ppb	2.28	0.06	422.9	90	- 110	
95 Mo	72	1	0.04	ppb	19.93	0.03	118.9	90	- 110	
107 Ag	115	1	0.00	ppb	24.25	0.00	272.6	90	- 110	
111 Cd	115	1	0.02	ppb	89.75	0.00	2944.9	90	- 110	
118 Sn	115	1	0.12	ppb	5.20	0.04	296.9	90	- 110	
121 Sb	115	1	0.03	ppb	17.47	0.02	168.6	90	- 110	
137 Ba	115	1	0.14	ppb	19.11	0.13	109.3	90	- 110	
205 Tl	165	1	-0.01	ppb	30.49	0.00	501.4	90	- 110	
208 Pb	165	1	0.02	ppb	8.37	0.02	88.0	90	- 110	
232 Th	165	1	0.00	ppb	50.10	0.00	202.3	90	- 110	
238 U	165	1	0.00	ppb	87.66	0.00	61.5	90	- 110	

ISTD elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368778	0.88	316659	116.5	30 - 120	
45 Sc	1	979811	0.26	888972	110.2	30 - 120	
72 Ge	1	461996	0.57	425816	108.5	30 - 120	
115 In	1	1378236	0.67	1335258	103.2	30 - 120	
165 Но	1	2636939	1.04	2617754	100.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed

Denver

SERIAL DILUTION

Department: 090 (Metals) Sample: LNME4P5	Serial Dilution:	5.00	Sample Dilution:	Spreadshee 1.00
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File: AG110909A # 24 Method 6020_ Matrix: AQUEOUS ICPMS_024 Acquired: 11/09/2009 21:30:00 Units: ug/L Calibrated: 11/09/2009 20:32:00

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7		9		0	0.01470	100		*	
	Vanadium	51	380	-0.15675	0.04580	442		*	
7440-47-3	Chromium	52	2890	1.0235	0.47880	114		*	
7439-96-5	Manganese	55	2697	1.7180	1.6670	3.06		*	
7440-48-4	-	59	67	0.03211	0.03347	4.05		*	
7440-02-0	Nickel	60	130	0.19735	0.16160	22.1		*	
7440-50-8	Copper	63	490	0.48945	0.42930	14.0		*	
7440-66-6	* *	66	1801	8.9800	8.8630	1.32		*	
7440-38-2	Arsenic	75	27	-0.08160	0.00608	1440	0.21	NC	abla
7782-49-2	Selenium	78	140	1.1680	0.27620	323	0.70	NC	
7439-98-7	Molybdenum	95	110	0.20470	0.17210	18.9		*	
7440-22-4	Silver	107	27	0.01977	0.00725	173		*	
7440-43-9	Cadmium	111	17	0.08440	0.00287	2840		*	
7440-31-5	Tin	118	720	0.60300	0.20310	197		*	
7440-36-0	Antimony	121	164	0.15100	0.08954	68.6		*	
7440-39-3	Barium	137	248	0.71700	0.65610	9.28		*	
7440-28-0	Thallium	205	96	-0.04272	-0.00852			*	
7439-92-1	Lead	208	659	0.10510	0.11940	12.0		*	
7440-61-1	Uranium	238	111	0.00685	0.01113	38.5		*	
7440-29-1	Thorium	232	210	0.02068	0.01022	102		*	
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%)

Date: 11 Reviewed by Version: 6.02.068 IDB Reports

TestAmerica, Inc.

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Post Digestion Spiked Sample (PDS) QC Report

Data File:

C:\ICPCHEM\1\DATA\AG110909A.B\025PDS.D\025PDS.D\

Date Acquired:

Nov 9 2009 09:32 pm

QC Summary:

Acq. Method:

NormISIS.M

Analytes: Pass ISTD: Pass

Operator:

LRD

Sample Name:

LNME4Z

Misc Info:

Vial Number:

POST DIGESTION SPIKE

2207

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type:

PDS 1.00

Prep Dil. Factor: Autodil Factor:

Undiluted

Final Dil Factor:

1.00

Spike Ref. File:

QC Elements

Oc Preme	nts									
Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	185.00	0.01	ppb	1.86	200	92.5	75 - 125	
51 V	72	1	202.50	0.05	ppb	2.78	200	101.2	75 - 125	
52 Cr	72	1	203.90	0.48	ppb	2.06	200	101.7	75 - 125	
55 Mn	72	1	201.00	1.67	ppb	3.35	200	99.7	75 - 125	
59 Co	72	1	196.80	0.03	ppb	1.85	200	98.4	75 - 125	
60 Ni	72	1	194.90	0.16	ppb	1.47	200	97.4	75 - 125	
63 Cu	72	1	196.10	0.43	ppb	0.50	200	97.8	75 - 125	
66 Zn	72	1	196.80	8.86	ppb	0.36	200	94.2	75 - 125	
75 As	72	1	190.30	0.01	ppb	0.61	200	95.1	75 - 125	
78 Se	72	1	185.70	0.28	ppb	2.73	200	92.7	75 - 125	
95 Mo	72	1	192.00	0.17	ppb	0.97	200	95.9	75 - 125	
107 Ag	115	1	48.92	0.01	ppb	2.06	50	97.8	75 - 125	
111 Cd	115	1	188.70	0.00	ppb	1.65	200	94.3	75 - 125	
118 Sn	115	1	176.90	0.20	ppb	1.43	200	88.4	75 - 125	
121 Sb	115	1	184.30	0.09	ppb	1.52	200	92.1	75 - 125	
137 Ba	115	1	195.10	0.66	ppb	1.67	200	97.2	75 - 125	
205 Tl	165	1	191.80	-0.01	ppb	0.94	200	95.9	75 - 125	
208 Pb	165	1	186.80	0.12	ppb	0.48	200	93.3	75 ~ 125	
232 Th	165	1	0.03	0.01	ppb	13.35	200	0.0	75 - 125	
238 U	165	1	190.70	0.01	ppb	1.54	200	95.3	75 - 125	
ISTD Ele	ments									
Element		Tune	Counts	RSD(%)			Ref. Counts	Rec(%)	QC Range(%)	QC Flag

E.1	ement	

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC F
6 Li	1	354551	1.15	316659	112.0	30 - 120	
45 Sc	1	950915	0.92	888972	107.0	30 - 120	
72 Ge	1	426378	1.56	425816	100.1	30 - 120	
115 In	1	1327967	0.75	1335258	99.5	30 - 120	
165 Ho	1	2548646	0.61	2617754	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :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: 11/10/09 21:10:22

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4Z

Spike Dilution:

1.00 Sample Dilution: 1.00

00

Instrument: **Agilent7500** File: AG110909A # 25

Channel 272 Method 6020_

ICPMS 024

Matrix: AQUEOUS

Acquired:	11/09/2009 21:32:00		ICPMS	5_024			c: AQUEC		
Calibrated	d: 11/09/2009 20:32:00					U	nits: ug/L	· ·	
CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	79764	185.00	0.01470	92.5	200		
7440-62-2	Vanadium	51	1055210	202.50	0.04580	101	200		
7440-47-3	Chromium	52	1091770	203.90	0.47880	102	200		
7439-96-5	Manganese	55	1258890	201.00	1.6670	99.7	200		
7440-48-4	Cobalt	59	1273250	196.80	0.03347	98.4	200		
7440-02-0	Nickel	60	279436	194.90	0.16160	97.4	200		
7440-50-8	Copper	63	665031	196.10	0.42930	97.8	200		
7440-66-6	Zinc	66	167299	196.80	8.8630	94.0	200		
7440-38-2	Arsenic	75	125313	190.30	0.00608	95.1	200		
7782-49-2	Selenium	78	25838	185.70	0.27620	92.7	200		
7439-98-7	Molybdenum	95	382233	192.00	0.17210	95.9	200		
7440-22-4	Silver	107	276951	48.920	0.00725	97.8	50.0		
7440-43-9	Cadmium	111	227986	188.70	0.00287	94.3	200		
7440-31-5	Tin	118	584583	176.90	0.20310	88.3	200		
7440-36-0	Antimony	121	730873	184.30	0.08954	92.1	200		
7440-39-3	Barium	137	308452	195.10	0.65610	97.2	200		
7440-28-0	Thallium	205	2761530	191.80	-0.00852	95.9	200		
7439-92-1	Lead	208	3935420	186.80	0.11940	93.3	200		
7440-61-1	Uranium	238	4535860	190.70	0.01113	95.3	200		
7440-29-1	Thorium	232	747	0.02849	0.01022				
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: 1 1009

IDB Reports TestAmerica, Inc. Version: 6.02.068

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ISTD: Pass

Spiked Sample (MS) QC Report

C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D\# Data File:

Date Acquired: Nov 9 2009 09:35 pm QC Summary: Acq. Method: NormISIS.M Analytes: Pass

LRD Operator: LNME4S Sample Name: Misc Info: MATRIX SPIKE

Vial Number: 2208

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: MS Prep Dil. Factor: 1.00 Undiluted Autodil Factor: 1.00 Final Dil Factor:

Spike Ref. File:

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%) QC Flag
9 Be	6	1	38.95	0.01	ppb	4.02	40	97.3	50 - 150
51 V	72	1	42.14	0.05	ppb	0.45	40	105.2	50 - 150
52 Cr	72	1	41.88	0.48	ppb	0.82	40	103.5	50 - 150
55 Mn	72	1	44.00	1.67	ppb	0.81	40	105.6	50 - 150
59 Co	. 72	1	41.74	0.03	ppb	0.31	40	104.3	50 - 150
60 Ni	72	1	41.29	0.16	ppb	1.68	40	102.8	50 - 150
63, Cu	72	1	41.14	0.43	ppb	0.55	40	101.8	50 - 150
66 Zn	72	1	40.89	8.86	ppb	1.02	40	83.7	50 - 150
75 As	72	1	39.70	0.01	ppb	1.91	40	99.2	50 - 150
78 Se	72	1	37.66	0.28	ppb	2.21	40	93.5	50 - 150
95 Mo	72	1	35.56	0.17	ppb	1.29	40	88.5	50 - 150
107 Ag	115	1	40.57	0.01	ppb	0.75	40	101.4	50 - 150
111 Cd	115	1	38.88	0.00	ppb	0.89	40	97.2	50 - 150
118 Sn	115	1	0.26	0.20	ppb	7.26	40	0.7	50 - 150
121 Sb	115	1	35.78	0.09	ppb	0.84	40	89.3	50 - 150
137 Ba	115	1	40.55	0.66	ppb	1.52	40	99.7	50 - 150
205 Tl	165	1	42.66	-0.01	ppb	1.13	40	106.7	50 - 150
208 _. Pb	165	1	40.84	0.12	ppb	0.87	40	101.8	50 - 150
232 Th	165	1	40.88	0.01	ppb	1.61	40	102.2	50 - 150
238 U	165	1	40.76	0.01	ppb	1.03	40	101.9	50 - 150

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%) QC Flag
6 Li	1	358353	0.80	316659	113.2	30 - 120
45 Sc	1	939200	0.60	888972	105.7	30 - 120
72 Ge	1	422553	0.76	425816	99.2	30 - 120
115 In	1	1328078	0.75	1335258	99.5	30 - 120
165 Ho	1	2539000	0.43	2617754	97.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Duplicate Spike (MSD) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\027 MSD.D\027 MSD.D#

Date Acquired: Nov 9 2009 09:38 pm QC Summary:

Acq. Method: NormISIS.M Analytes: Pass Operator: LRD ISTD: Pass

Sample Name: LNME4D

Misc Info: MATRIX SPIKE DUPLICATE

Vial Number: 2209

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal. Update: Nov 09 2009 08:35 pm

Sample Type: MSD Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D#

QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	38.17	ppb	2.44	38.95	2.02	20	
51 V	72	1	42.54	ppb	0.57	42.14	0.94	20	
52 Cr	72	1	42.55	ppb	0.81	41.88	1.59	20	
55 Mn	72	1	43.44	ppb	1.18	44.00	1.28	20	
59 Co	72	1	41.86	ppb	0.99	41.74	0.29	20	
60 Ni	72	1	41.95	ppb	1.55	41.29	1.59	20	
63 Cu	72	1	41.52	ppb	0.70	41.14	0.92	20	
66 Zn	72	1	40.14	ppb	0.44	40.89	1.85	20	
75 As	72	1	39.63	ppb	0.29	39.70	0.18	20	
78 Se	72	1	37.06	ppb	3.10	37.66	1.61	20	
95 Mo	72	1	35.66	ppb	0.62	35.56	0.28	20	
107 Ag	115	1	40.93	ppb	2.04	40.57	0.88	20	
111 Cd	115	1	39.64	ppb	0.46	38.88	1.94	20	
118 Sn	115	1	0.12	ppb	27.87	0.26	76.84	20	
121 Sb	115	1	35.83	ppb	0.62	35.78	0.14	20	
137 Ba	115	1	41.37	ppb	0.68	40.55	2.00	20	
205 Tl	165	1	42.77	ppb	1.75	42.66	0.26	20	
208 Pb	165	1	40.90	ppb	1.73	40.84	0.15	20	
232 Th	165	1	41.06	ppb	0.63	40.88	0.44	20	
238 U	165	1	40.94	ppb	0.83	40.76	0.44	20	

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355186	0.16	316659	112.2	30 - 120	
45 Sc	1	936988	0.78	888972	105.4	30 - 120	
72 Ge	1	422235	0.79	425816	99.2	30 - 120	
115 In	1	1312991	0.53	1335258	98.3	30 - 120	
165 Ho	1	2541733	0.77	2617754	97.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\028 CCV.D\028 CCV.D#

Date Acquired: Nov 9 2009 09:41 pm

Operator: LRD Sample Name: CCV

Analytes: Pass ISTD: Pass

QC Summary:

Misc Info:

QC Elements

Vial Number: 1107

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: CCV
Total Dil Factor: 1.00

t IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
6	1	48.28	ppb	1.89	50	96.6	90 - 110	
72	1	51.66	ppb	1.31	50	103.3	90 - 110	
72	1	51.41	ppb	0.42	50	102.8	90 - 110	
. 72	1	50.80	ppb	0.70	50	101.6	90 - 110	
72	1	50.98	ppb	1.52	50	102.0	90 - 110	
. 72	1	50.44	ppb	1.14	50	100.9	90 - 110	
. 72	1	50.68	ppb	0.38	50	101.4	90 - 110	
. 72	1	49.73	ppb	0.43	50	99.5	90 - 110	
72	1	51.43	ppb	1.43	50	102.9	90 - 110	
. 72	1	50.58	ppb	4.06	50	101.2	90 - 110	
72	1	49.14	ppb	0.63	50	98.3	90 - 110	
115	1	49.88	ppb	1.55	50	99.8	90 - 110	
115	1	49.46	ppb	0.97	50	98.9	90 - 110	
115	1	49.89	ppb	2.37	50	99.8	90 - 110	
115	1	49.59	ppb	1.76	50	99.2	90 - 110	
115	1	50.39	ppb	1.52	50	100.8	90 - 110	
	1	49.99	ppb	0.81	50	100.0	90 - 110	
165	1	50.66	ppb	1.69	50	101.3	90 - 110	
165	. 1	50.62	ppb	1.15	50	101.2	90 - 110	
165	1	50.54	ppb	0.29	50	101.1	90 - 110	
lomonte								
	Tuno	CDS Maan		PSD (%)	Ref Value	Rec (%)	OC Range(%)	Flag
							-	9
	72 72 72 72 72 72 72 72 72 72 72 72 72 7	72 1 72 1 72 1 72 1 72 1 72 1 72 1 72 1	1 48.28 72 1 51.66 72 1 51.41 72 1 50.80 72 1 50.98 72 1 50.44 72 1 50.68 72 1 50.68 72 1 50.68 72 1 49.73 72 1 49.73 72 1 49.73 72 1 50.58 72 1 50.58 72 1 50.58 72 1 50.58 72 1 49.14 72 1 49.88 72 1 50.58 72 1 49.14 73 115 1 49.89 74 115 1 49.89 75 115 1 49.89 76 115 1 49.89 77 115 1 49.89 78 115 1 50.39 78 115 1 50.39 78 115 1 50.66 79 165 1 50.66 79 165 1 50.66	1 48.28 ppb 72 1 51.66 ppb 72 1 51.41 ppb 72 1 50.80 ppb 72 1 50.98 ppb 72 1 50.44 ppb 72 1 50.68 ppb 72 1 50.68 ppb 72 1 50.68 ppb 72 1 50.58 ppb 72 1 49.73 ppb 72 1 50.58 ppb 72 1 50.58 ppb 72 1 49.14 ppb 73 115 1 49.88 ppb 74 115 1 49.89 ppb 75 115 1 49.89 ppb 76 115 1 49.89 ppb 77 115 1 49.89 ppb 78 115 1 49.89 ppb 78 115 1 50.39 ppb 78 115 1 50.39 ppb 78 115 1 50.62 ppb 78 165 1 50.62 ppb 78 165 1 50.62 ppb	1	## 6	## 6	8 6 1 48.28 ppb 1.89 50 96.6 90 - 110 72 1 51.66 ppb 1.31 50 103.3 90 - 110 72 1 551.41 ppb 0.42 50 102.8 90 - 110 72 1 50.80 ppb 0.70 50 101.6 90 - 110 72 1 50.98 ppb 1.52 50 102.0 90 - 110 72 1 50.44 ppb 1.14 50 100.9 90 - 110 72 1 50.68 ppb 0.38 50 101.4 90 - 110 72 1 49.73 ppb 0.43 50 99.5 90 - 110 72 1 551.43 ppb 1.43 50 102.9 90 - 110 72 1 551.43 ppb 1.43 50 102.9 90 - 110 72 1 50.58 ppb 4.06 50 101.2 90 - 110 72 1 49.14 ppb 0.63 50 98.3 90 - 110 73 115 1 49.88 ppb 1.55 50 99.8 90 - 110 74 115 1 49.88 ppb 1.55 50 99.8 90 - 110 75 115 1 49.99 ppb 2.37 50 99.8 90 - 110 76 115 1 49.99 ppb 1.76 50 99.2 90 - 110 77 115 1 49.99 ppb 1.76 50 99.2 90 - 110 78 115 1 49.99 ppb 1.52 50 100.8 90 - 110 79 115 1 50.39 ppb 1.52 50 100.8 90 - 110 79 115 1 50.66 ppb 1.69 50 101.2 90 - 110 70 115 1 50.66 ppb 1.55 50 100.8 90 - 110 71 115 1 50.39 ppb 1.52 50 100.8 90 - 110 71 165 1 50.66 ppb 1.15 50 101.2 90 - 110 71 165 1 50.66 ppb 1.15 50 101.2 90 - 110 71 165 1 50.66 ppb 1.15 50 101.2 90 - 110 71 165 1 50.66 ppb 1.15 50 101.2 90 - 110 71 165 1 50.66 ppb 1.15 50 101.2 90 - 110 71 165 1 50.54 ppb 0.29 50 101.1 90 - 110

6 .	Li	1	351524	0.93	316659	111.0	30 - 120
45	Sc	1	927694	1.28	888972	104.4	30 - 120
72	Ge	1	421606	1.09	425816	99.0	30 - 120
115	In	1	1310979	0.71	1335258	98.2	30 - 120
165	Но	1	2522093	0.90	2617754	96.3	30 - 120

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\029 CCB.D\029 CCB.D#

Date Acquired: Nov 9 2009 09:43 pm

QC Summary: Operator: LRD Analytes: Pass Sample Name: CCB ISTD:

Misc Info:

Vial Number: 1307

Current Method: Current mechod.

Calibration File: C:\ICPCHEM\1\0...

Nov 09 2009 08:35 pm C:\ICPCHEM\1\METHODS\NormISIS.M C:\ICPCHEM\1\CALIB\NormISIS.C

Total Dil Factor: 1.00

QC Eleme	nts						
Element	IS Ref	Tune	Conc.		RSD(%)	High Limit l	Flag
9 Be	6	1	0.000	ppb	0.00	1.00	
51 V	72	1	-0.036	ppb	44.55	1.00	
52 Cr	72	1	0.019	ppb	63.89	1.00	
55 Mn	72	1	0.000	ppb	2382.10	1.00	
59 Co	72	1	0.002	ppb	93.07	1.00	
60 Ni	72	1	-0.010	ppb	1.82	1.00	
63 Cu	72	1	-0.002	ppb	211.49	1.00	
66 Zn	72	1	0.038	ppb	50.08	1.00	
75 As	72	1	-0.017	ppb	26.71	1.00	
78 Se	72	1	0.225	ppb	111.94	1.00	
95 Mo	72	1	0.046	ppb	45.40	1.00	
107 Ag	115	1	0.012	ppb	29.52	1.00	
111 Cd	115	1	0.002	ppb	311.75	1.00	
118 Sn	115	1	0.080	ppb	40.12	1.00	
121 Sb	115	1	0.165	ppb	24.61	1.00	
137 Ba	115	1	0.004	ppb	88.07	1.00	
205 Tl	165	1	0.004	ppb	78.72	1.00	
208 Pb	165	1	0.002	ppb	56.03	1.00	
232 Th	165	1	0.061	ppb	14.74	1.00	
238 U	165	1	0.013	ppb	31.22	1.00	

ISTD Elements Tune CPS Mean RSD(%) Ref Value Rec(%) QC Range(%) Flag Element 30 - 120 1 354787 1.32 316659 112.0 6 Li 45 Sc 1 923814 1.00 888972 103.9 30 - 120 432478 0.52 101.6 30 - 120 425816 72 Ge 1 30 - 120 0.63 1335258 98.0 1308981 115 In 1 96.3 30 - 120 165 Ho 1 2520572 0.23 2617754

Tune File# 1 c:\icpchem\1\7500\he.u Tune File# 2 C:\ICPCHEM\1\7500\ Tune File# 3 C:\ICPCHEM\1\7500\

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D# ISTD Ref File :

0 :Max. Number of Failures Allowed 0 :Element Failures 0 :Max. Number of ISTD Failures Allowed 0 :ISTD Failures

Pass

Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\030WASH.D\030WASH.D\

Date Acquired: Nov 9 2009 09:50 pm

Operator: LRD QC Summary: Sample Name: RLCV Analytes: Pass Misc Info: ISTD: Pass

Vial Number: 1204

Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C

Last Cal Update: Nov 09 2009 08:35 pm

Sample Type: WASH
Total Dil Factor: 1.00

QC	El	emen	ts
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Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.009 ppb	18.75	1.30	
51 V	72	1	5.177 ppb	1.19	6.50	
52 Cr	72	1	2.111 ppb	3.52	2.60	
55 Mn	72	1	1.107 ppb	2.74	1.30	
59 Co	72	1	1.028 ppb	3.93	1.30	
60 Ni	72	1	2.108 ppb	1.73	2.60	
63 Cu	72	1	2.068 ppb	1.44	2.60	
66 Zn	72	1	9.967 ppb	0.46	13.00	
75 As	72	1	5.161 ppb	1.92	6.50	
78 Se	72	1	5.825 ppb	10.45	6.50	
95 Mo	72	1	1.986 ppb	5.92	2.60	
107 Ag	115	1	5.462 ppb	1.89	6.50	
111 Cd	115	1	1.025 ppb	1.41	1.30	
118 Sn	115	1	10.590 ppb	0.75	13.00	
121 Sb	115	1	2.089 ppb	2.01	2.60	
137 Ba	115	1	1.011 ppb	0.65	1.30	
205 Tl	165	1	1.109 ppb	3.60	1.30	
208 Pb	165	1	1.060 ppb	1.36	1.30	
232 Th	165	1	2.209 ppb	0.66	2.60	
238 U	165	1	1.106 ppb	2.50	1.30	
		-		=		

ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358611	0.21	316659	113.2	30 - 120	
45 Sc	1	931630	1.00	888972	104.8	30 - 120	
72 Ge	1	428811	1.09	425816	100.7	30 - 120	
115 In	1	1287825	1.17	1335258	96.4	30 - 120	
165 Ho	1	2504436	0.55	2617754	95.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D\#

0 :Element Failures 0 :Max. Number of Failures Allowed