Microbac

Laboratory Report Number: L13101868

Mark Lyon
Environmental Waste Solutions
2440 Louisiana Blvd
Albuquerque, NM 87110

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on November 14 2013

David Vandenberg – Managing Director

State of Origin: NM
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1 without flagging

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
MPL 13-1013-1 on the chain of custody, but, labels say "HTA" 13-1013-1 MPL 13-1013-2 on the chain of custody, but, labels say "HTA" 13-1013-2. Logged per the chain of custody per SLM. CLS	Please proceed.

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
0015121	I	4.0		1002239514510004575000804334337650	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	NA

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Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
MPL 13-1013-1	L13101868-01	10/30/2013 09:45	10/31/2013 10:44
MPL 13-1013-2	L13101868-02	10/30/2013 09:45	10/31/2013 10:44
MPL 1-1013-1	L13101868-03	10/30/2013 13:00	10/31/2013 10:44
MPL 18-1013-1	L13101868-04	10/30/2013 14:20	10/31/2013 10:44
MPL 6-1013-1	L13101868-05	10/30/2013 15:35	10/31/2013 10:44

Microbac REPORT L13101868
PREPARED FOR Environmental Waste Solutions
WORK ID:

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2.2.6.1 Summary Data 1227
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1.0 Summary Data

1.1 Narratives

Login Number: L13101868
Department: Conventionals
Analyst: Tammy Morris

METHOD

Analysis SW846 9040C,9045D/EPA 150.1/SM4500-H B (pH)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74309
Approved By: Deanna Hesson

Login Number: L13101868
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: WG451450 - The method blank associated with this analytical batch yielded a noncompliant result for vanadium. All batch QA/QC and client samples were reanalyzed on a later calibration for vanadium.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG451450 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG451450 - Client samples 01 through 05 required dilution analyses in order to obtain results for calcium within the calibration range.

Narrative ID: 73999
Approved By: Sheri Pfalzgraf

Login Number: L13101868
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG451378 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 74015
Approved By: Sheri Pfalzgraf

Login Number: L13101868
Department: General Chromatography
Analyst: Jeremy Kinney

METHOD

Analysis EPA300.0/SW846 9056

HOLDING TIMES

Sample Analysis: Hold times for NO2 and NO3 are 48 hours and the hold times for F, Cl, Br, and SO4 are 28 days. The hold time forms calculate the hold time based on 48 hours. All samples were analyzed in hold.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group.

SAMPLES

Samples: Fractions -01 and -02 were analyzed at dilution only due to the concentrations of one or more of the target analytes being near or greater than the ICAL.

MANUAL INTEGRATION: No manual integration was required.

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Narrative ID: 74235
Approved By: Mike Cochran

Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 310.2 (Alkalinity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74307
Approved By: Deanna Hesson

Login Number: L13101868
Department: Conventionals
Analyst: Dorothy Payne

METHOD

Analysis SW846 9014/9010C/SM4500-CN-C,E-20th (Cyanide)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Cyanide-Ammenable is the difference between the total cyanide and the treated cyanide. The LCS is analyzed to show that all of the cyanide is ammenable (the treated portion is ND). The LCS forms cannot calculate cyanide ammenable. The LCS is acceptable.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG451865-02	Cyanide	2013-11-08 15:30:04	8.00	90	110	Recovery

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74313

Approved By: Deanna Hesson

Deanna Hesson

Login Number: L13101868
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 120.1/SM2510 B (Conductivity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74308
Approved By: Deanna Hesson

Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 350.1/SM4500-NH3 B(NH3)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74310
Approved By: Deanna Hesson

Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 353.2/SM4500-NO3 F (Nitrate)

HOLDING TIMES

Sample Analysis: The instrument used for the analysis of nitrate only analyzes for nitrate-nitrite (NO3NO2) which is the amount of total nitrate (NO3) and nitrite (NO2) combined. The NO3 concentration is determined by analyzing for NO3NO2 and NO2 and calculating NO3 by the difference. An unpreserved bottle only has a 48 hour hold time for NO3 and NO2 separately. However if the bottle is preserved with sulfuric acid, the hold time for NO3NO2 is 28 days. The NO2 was analyzed within 48 hours. The NO3NO2 was analyzed from a preserved container within 28 days..

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74311
Approved By: Deanna Hesson

Dannadsson

Login Number: L13101868
Department: Conventionals
Analyst: Dorothy Payne

METHOD

Analysis EPA 365.2/SM4500-P E (Orthophosphate)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74312
Approved By: Deanna Hesson

Login Number: L13101868
Department: Conventionals
Analyst: April Greene

METHOD

Analysis EPA 160.1/SM2540 C(Total Dissolved Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Total Dissolved Solids. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG450990-03	Total Dissolved Solids	2013-11-01 07:28:03	10.0		10	RPD

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74315
Approved By: Deanna Hesson

Dannadesson

Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis Water: EPA 415.1/SM5310C/SW846 9060 (Total Organic Carbon)
Soil: Lloyd-Khan Methodology

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74314
Approved By: Deanna Hesson

Login Number: L13101868
Department: Conventionals
Analyst: April Greene

METHOD

Analysis EPA 160.2/SM2540 D (Total Suspended Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: The RPD for the LCS/LCS duplicate exceeded the advisory limits. Each LCS had an acceptable recovery.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG451099-03	Total Suspended Solids	2013-11-01 14:55:03	11.0		10	RPD

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 73921
Approved By: Deanna Hesson

Dannadsson

1.2 Certificate of Analysis

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:03
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	P2.110613.110315
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0106		0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:31
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	P2.110513.113113
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	7.43		0.500	0.250
Potassium, Total	7440-09-7	2.43		1.00	0.500
Sodium, Total	7440-23-5	22.7		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:18
Collect Date:	10/30/2013 09:45	**Dilution:**	10	**File ID:**	P2.110513.121843
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	46.5		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 13-1013-1	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:20
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	NI.110513.172010
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00117		0.00100	0.000500
Barium, Total	7440-39-3	0.0904		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00207		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00130	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00220	J	0.00400	0.00200
Selenium, Total	7782-49-2	0.00337		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 13-1013-1	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:19
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	M7.110413.111901
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 13-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/07/2013 12:03
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG451877	**Analyst:**	JBK	**Run Date:**	11/07/2013 14:54
Collect Date:	10/30/2013 09:45	**Dilution:**	3	**File ID:**	I1_110713-13
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	32.0		0.600	0.300
Fluoride	16984-48-8	0.336	J	0.600	0.300
Sulfate	14808-79-8	51.5		3.00	1.50

J	Estimated value ; the analyte concentration was less than the LOQ.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL 13-1013-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG451074	**Analyst:**	TMM	**Run Date:**	11/01/2013 07:55
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	OS13110415415901
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.74		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:13
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.027
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	82.8		20.0	10.0

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:13
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.027
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	82.8		20.0	10.0

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:13
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.027
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311061610-06
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0165		0.0100	0.00500

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311081530-05
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.148		0.0100	0.00500

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 11:30
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311061215-07
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.150		0.0100	0.00500

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	MPL 13-1013-1	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG451008	**Analyst:**	DIH	**Run Date:**	10/31/2013 16:45
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	TI.103113.1645CO
Sample Tag:	01	**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		389		50.0	10.0

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 13-1013-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:41
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	SC131105002.027
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 13-1013-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451544	**Analyst:**	BAF	**Run Date:**	11/06/2013 09:30
Collect Date:	10/30/2013 09:45	**Dilution:**	4	**File ID:**	SC13110811351601
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		4.82		0.200	0.100

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1310310830-13
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2	0.146		0.0500	0.0250

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 13-1013-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG450990	**Analyst:**	ADG	**Run Date:**	11/01/2013 07:28
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	EN.1311010728-19
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		218		20.0	10.0

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL 13-1013-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	07/09/2013 14:51
Workgroup #:	WG451144	**Analyst:**	BAF	**Run Date:**	11/01/2013 19:21
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	TC11012013.018
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.32		1.00	0.500

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 13-1013-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451099	**Analyst:**	ADG	**Run Date:**	11/01/2013 14:55
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	EN.1311011455-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-2	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:06
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	P2.110613.110615
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.00793	J	0.0100	0.00500

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-2	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:34
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	P2.110513.113413
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.96		0.500	0.250
Potassium, Total	7440-09-7	2.34		1.00	0.500
Sodium, Total	7440-23-5	21.5		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-2	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:21
Collect Date:	10/30/2013 09:45	**Dilution:**	10	**File ID:**	P2.110513.122143
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	44.4		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 13-1013-2	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:29
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	NI.110513.172927
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00141		0.00100	0.000500
Barium, Total	7440-39-3	0.0935		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00219		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00127	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00452		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 13-1013-2	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:26
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	M7.110413.112633
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 13-1013-2	**Prep Method:**	300.0	**Prep Date:**	11/08/2013 09:47
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG452040	**Analyst:**	JBK	**Run Date:**	11/08/2013 10:54
Collect Date:	10/30/2013 09:45	**Dilution:**	2	**File ID:**	I1_110813-07
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	34.8		0.400	0.200
Fluoride	16984-48-8	0.332	J	0.400	0.200
Sulfate	14808-79-8	53.8		2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL 13-1013-2	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG451074	**Analyst:**	TMM	**Run Date:**	11/01/2013 07:56
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	OS13110415420201
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.81		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.028
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.028
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	91.0		20.0	10.0

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.028
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	91.0		20.0	10.0

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-2	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311061610-07
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0124		0.0100	0.00500

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-2	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 11:30
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311061215-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.166		0.0100	0.00500

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-2	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311081530-06
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.165		0.0100	0.00500

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	MPL 13-1013-2	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG451008	**Analyst:**	DIH	**Run Date:**	10/31/2013 16:47
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	TI.103113.1647CO
Sample Tag:	01	**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		389		50.0	10.0

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 13-1013-2	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:43
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	SC131105002.028
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 13-1013-2	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451544	**Analyst:**	BAF	**Run Date:**	11/06/2013 09:30
Collect Date:	10/30/2013 09:45	**Dilution:**	4	**File ID:**	SC13110811352501
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		4.61		0.200	0.100

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-2	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1310310830-14
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 13-1013-2	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG450990	**Analyst:**	ADG	**Run Date:**	11/01/2013 07:28
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	EN.1311010728-20
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		228		20.0	10.0

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL 13-1013-2	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	07/09/2013 14:51
Workgroup #:	WG451144	**Analyst:**	BAF	**Run Date:**	11/01/2013 19:33
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	TC11012013.019
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.18		1.00	0.500

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 13-1013-2	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451099	**Analyst:**	ADG	**Run Date:**	11/01/2013 14:55
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	EN.1311011455-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 1-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:09
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	P2.110613.110915
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0153		0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 1-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:37
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	P2.110513.113713
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	10.0		0.500	0.250
Potassium, Total	7440-09-7	4.10		1.00	0.500
Sodium, Total	7440-23-5	24.4		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6	0.0862		0.0200	0.0100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 1-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:24
Collect Date:	10/30/2013 13:00	**Dilution:**	10	**File ID:**	P2.110513.122443
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	47.7		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 1-1013-1	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:32
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	NI.110513.173231
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00256		0.00100	0.000500
Barium, Total	7440-39-3	0.138		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00821		0.00200	0.00100
Cobalt, Total	7440-48-4	0.00173		0.00100	0.000500
Copper, Total	7440-50-8	0.00602		0.00200	0.00100
Lead, Total	7439-92-1	0.00473		0.00100	0.000500
Manganese, Total	7439-96-5	0.0737		0.00200	0.00100
Nickel, Total	7440-02-0	0.00497		0.00400	0.00200
Selenium, Total	7782-49-2	0.00751		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0	0.000112	J	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 1-1013-1	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:31
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	M7.110413.113136
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 1-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/08/2013 09:47
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG452040	**Analyst:**	JBK	**Run Date:**	11/08/2013 11:11
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	I1_110813-08
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	40.5	J	0.200	0.100
Fluoride	16984-48-8	0.221		0.200	0.100
Sulfate	14808-79-8	45.7		1.00	0.500

J	Estimated value ; the analyte concentration was greater than the highest standard

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 1-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/07/2013 12:03
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG451877	**Analyst:**	JBK	**Run Date:**	11/07/2013 16:03
Collect Date:	10/30/2013 13:00	**Dilution:**	5	**File ID:**	I1_110713-17
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	32.7		1.00	0.500
Fluoride	16984-48-8		U	1.00	0.500
Sulfate	14808-79-8	41.4		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL 1-1013-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG451074	**Analyst:**	TMM	**Run Date:**	11/01/2013 07:57
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	OS13110415420601
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	8.95		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 1-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	S2131101002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	91.1		20.0	10.0

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 1-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	S2131101002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 1-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	S2131101002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	91.1		20.0	10.0

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 1-1013-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	1V.1311061610-08
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0183		0.0100	0.00500

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 1-1013-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 11:30
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	1V.1311061215-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.257		0.0100	0.00500

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 1-1013-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	1V.1311081530-07
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.257		0.0100	0.00500

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	MPL 1-1013-1	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG451012	**Analyst:**	DIH	**Run Date:**	10/31/2013 16:57
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	TI.103113.1657CO
Sample Tag:	01	**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		410		50.0	10.0

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 1-1013-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:43
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	SC131105002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 1-1013-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451544	**Analyst:**	BAF	**Run Date:**	11/06/2013 09:30
Collect Date:	10/30/2013 13:00	**Dilution:**	4	**File ID:**	SC13110811353401
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		5.84		0.200	0.100

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 1-1013-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	1V.1310310830-15
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 1-1013-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG450990	**Analyst:**	ADG	**Run Date:**	11/01/2013 07:28
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	EN.1311010728-21
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		256		20.0	10.0

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL 1-1013-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	07/09/2013 14:51
Workgroup #:	WG451144	**Analyst:**	BAF	**Run Date:**	11/01/2013 19:45
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	TC11012013.020
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.10		1.00	0.500

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 1-1013-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451099	**Analyst:**	ADG	**Run Date:**	11/01/2013 14:55
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	EN.1311011455-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		132		5.00	2.50

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 18-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:39
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	P2.110513.113916
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.25		0.500	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Potassium, Total	7440-09-7	2.23		1.00	0.500
Sodium, Total	7440-23-5	19.6		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 18-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:11
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	P2.110613.111118
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0113		0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 18-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:27
Collect Date:	10/30/2013 14:20	**Dilution:**	10	**File ID:**	P2.110513.122743
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	35.9		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 18-1013-1	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:35
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	NI.110513.173536
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00203		0.00100	0.000500
Barium, Total	7440-39-3	0.132		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00350		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00288		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00198		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 18-1013-1	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:34
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	M7.110413.113407
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 18-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/08/2013 09:47
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG452040	**Analyst:**	JBK	**Run Date:**	11/08/2013 11:29
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	I1_110813-09
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	13.7		0.200	0.100
Fluoride	16984-48-8	0.305		0.200	0.100
Sulfate	14808-79-8	37.2		1.00	0.500

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL 18-1013-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG451074	**Analyst:**	TMM	**Run Date:**	11/01/2013 07:59
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	OS13110415420901
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.88		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 18-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:15
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	S2131101002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 18-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:15
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	S2131101002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	111		20.0	10.0

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 18-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:15
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	S2131101002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	111		20.0	10.0

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 18-1013-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	1V.1311061215-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 18-1013-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	1V.1311061610-09
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 18-1013-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	1V.1311081530-08
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	MPL 18-1013-1	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG451012	**Analyst:**	DIH	**Run Date:**	10/31/2013 16:59
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	TI.103113.1659CO
Sample Tag:	01	**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		310		50.0	10.0

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 18-1013-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:45
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	SC131105002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 18-1013-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451544	**Analyst:**	BAF	**Run Date:**	11/06/2013 09:30
Collect Date:	10/30/2013 14:20	**Dilution:**	4	**File ID:**	SC13110811354601
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		2.00		0.200	0.100

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 18-1013-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	1V.1310310830-16
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 18-1013-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG450990	**Analyst:**	ADG	**Run Date:**	11/01/2013 07:28
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	EN.1311010728-22
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		180		20.0	10.0

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL 18-1013-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	07/09/2013 14:51
Workgroup #:	WG451144	**Analyst:**	BAF	**Run Date:**	11/01/2013 19:58
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	TC11012013.021
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.41		1.00	0.500

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 18-1013-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451320	**Analyst:**	ADG	**Run Date:**	11/04/2013 13:28
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	EN.1311041328-04
Sample Tag:	1	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 6-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:14
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	P2.110613.111419
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.00994	J	0.0100	0.00500

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 6-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:42
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	P2.110513.114217
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.62		0.500	0.250
Potassium, Total	7440-09-7	1.91		1.00	0.500
Sodium, Total	7440-23-5	19.5		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 6-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:30
Collect Date:	10/30/2013 15:35	**Dilution:**	10	**File ID:**	P2.110513.123043
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	35.7		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 6-1013-1	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:38
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	NI.110513.173840
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00174		0.00100	0.000500
Barium, Total	7440-39-3	0.118		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00376		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00463		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00224		0.00100	0.000500
Silver, Total	7440-22-4	0.000712	J	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 6-1013-1	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:41
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	M7.110413.114143
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 6-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/08/2013 09:47
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG452040	**Analyst:**	JBK	**Run Date:**	11/08/2013 11:46
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	I1_110813-10
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	21.3		0.200	0.100
Fluoride	16984-48-8	0.302		0.200	0.100
Sulfate	14808-79-8	39.9		1.00	0.500

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL 6-1013-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG451074	**Analyst:**	TMM	**Run Date:**	11/01/2013 08:00
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	OS13110415421201
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.95		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 6-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:16
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	S2131101002.031
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	101		20.0	10.0

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 6-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:16
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	S2131101002.031
Sample Tag:	01	**Units:**	mg/L		

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	101		20.0	10.0

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 6-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:16
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	S2131101002.031
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 6-1013-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	1V.1311061215-11
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 6-1013-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	1V.1311081530-09
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 6-1013-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	1V.1311061610-10
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	TIAMO1
Client ID:	MPL 6-1013-1	**Prep Method:**	120.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	120.1	**Cal Date:**	
Workgroup #:	WG451012	**Analyst:**	DIH	**Run Date:**	10/31/2013 17:01
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	TI.103113.1701CO
Sample Tag:	01	**Units:**	umhos/cm		

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		326		50.0	10.0

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 6-1013-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:45
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	SC131105002.031
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 6-1013-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451544	**Analyst:**	BAF	**Run Date:**	11/06/2013 09:30
Collect Date:	10/30/2013 15:35	**Dilution:**	4	**File ID:**	SC13110811355501
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		2.47		0.200	0.100

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 6-1013-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	1V.1310310830-17
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 6-1013-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG450990	**Analyst:**	ADG	**Run Date:**	11/01/2013 07:28
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	EN.1311010728-23
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		196		20.0	10.0

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL 6-1013-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	07/09/2013 14:51
Workgroup #:	WG451144	**Analyst:**	BAF	**Run Date:**	11/01/2013 20:10
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	TC11012013.022
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.27		1.00	0.500

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 6-1013-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451099	**Analyst:**	ADG	**Run Date:**	11/01/2013 14:55
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	EN.1311011455-11
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

2.0 Full Sample Data Package

2.1 Metals Data

2.1.1 Metals I C P Data

2.1.1.1 Summary Data

Login Number: L13101868
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: WG451450 - The method blank associated with this analytical batch yielded a noncompliant result for vanadium. All batch QA/QC and client samples were reanalyzed on a later calibration for vanadium.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG451450 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG451450 - Client samples 01 through 05 required dilution analyses in order to obtain results for calcium within the calibration range.

Narrative ID: 73999
Approved By: Sheri Pfalzgraf

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:31
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	P2.110513.113113
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	7.43		0.500	0.250
Potassium, Total	7440-09-7	2.43		1.00	0.500
Sodium, Total	7440-23-5	22.7		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:03
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	P2.110613.110315
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0106		0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:18
Collect Date:	10/30/2013 09:45	**Dilution:**	10	**File ID:**	P2.110513.121843
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	46.5		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-2	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:06
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	P2.110613.110615
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.00793	J	0.0100	0.00500

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-2	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:34
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	P2.110513.113413
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.96		0.500	0.250
Potassium, Total	7440-09-7	2.34		1.00	0.500
Sodium, Total	7440-23-5	21.5		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 13-1013-2	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:21
Collect Date:	10/30/2013 09:45	**Dilution:**	10	**File ID:**	P2.110513.122143
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	44.4		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 1-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:09
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	P2.110613.110915
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0153		0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 1-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:37
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	P2.110513.113713
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	10.0		0.500	0.250
Potassium, Total	7440-09-7	4.10		1.00	0.500
Sodium, Total	7440-23-5	24.4		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6	0.0862		0.0200	0.0100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 1-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:24
Collect Date:	10/30/2013 13:00	**Dilution:**	10	**File ID:**	P2.110513.122443
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	47.7		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 18-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:11
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	P2.110613.111118
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0113		0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 18-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:39
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	P2.110513.113916
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.25		0.500	0.250
Potassium, Total	7440-09-7	2.23		1.00	0.500
Sodium, Total	7440-23-5	19.6		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 18-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:27
Collect Date:	10/30/2013 14:20	**Dilution:**	10	**File ID:**	P2.110513.122743
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	35.9		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 6-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 11:42
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	P2.110513.114217
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.62		0.500	0.250
Potassium, Total	7440-09-7	1.91		1.00	0.500
Sodium, Total	7440-23-5	19.5		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 6-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/06/2013 09:57
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/06/2013 11:14
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	P2.110613.111419
Sample Tag:	02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.00994	J	0.0100	0.00500

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	PE-ICP2
Client ID:	MPL 6-1013-1	**Prep Method:**	3015	**Prep Date:**	11/04/2013 09:38
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	11/05/2013 09:45
Workgroup #:	WG451450	**Analyst:**	KHR	**Run Date:**	11/05/2013 12:30
Collect Date:	10/30/2013 15:35	**Dilution:**	10	**File ID:**	P2.110513.123043
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	35.7		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

2.1.1.2 QC Summary Data

Example 6010 Calculations
Perkin Elmer Optima 4300 DV

1.0 Initial Calibration (ICAL) Parameters
The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system in ug/mL (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial volume (mL)	50
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/mL (mg/L)	0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (mg/L) (ppm)	0.1
Vf = Final volume (mL)	50
Vi = Initial weight (g)	1
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in ug/g (mg/kg)	5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:	**Example:**
Cx = Concentration calculated as received (wet basis)	5
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (mg/kg)	6.25

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG451280
Analyst: REK
Spike Analyst: REK
Run Date: 11/04/2013 09:38
Method: 3015
Balance: BAL002
Instrument: MW-2
Instrument Start: 11/04/2013 09:43

SOP: ME407 Revison 14
Spike Solution: STD61081
Spike Witness: ERP
HNO3 Lot #: COA16631
Digestion Tubes Lot #: COA16971
HCL Lot #: COA17104
ICP Filters- fisher-Lot# RGT26836

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG451280-02	BLANK	1	40 mL	50 mL	202.707 g	202.699 g		
2	WG451280-04	FLT_BLK	1	40 mL	50 mL	205.373 g	205.374 g		
3	WG451280-03	LCS	1	40 mL	50 mL	207.474 g	207.467 g	5 mL	
4	L13101810-01	SAMP	1	40 mL	50 mL	202.111 g	202.108 g		11/08/13
5	L13101810-02	SAMP	1	40 mL	50 mL	204.141 g	204.133 g		11/08/13
6	L13101810-04	SAMP	1	40 mL	50 mL	207.854 g	207.85 g		11/08/13
7	L13101810-05	SAMP	1	40 mL	50 mL	204.193 g	204.189 g		11/08/13
8	L13101835-01	SAMP	1	40 mL	50 mL	203.049 g	203.045 g		11/08/13
9	L13101835-02	SAMP	1	40 mL	50 mL	202.223 g	202.208 g		11/08/13
10	L13101835-03	SAMP	1	40 mL	50 mL	203.883 g	203.874 g		11/08/13
11	L13101866-01	SAMP	1	40 mL	50 mL	205.184 g	205.161 g		11/11/13
12	L13101867-01	SAMP	1	40 mL	50 mL	203.522 g	203.513 g		11/11/13
13	WG451280-01	REF	1	40 mL	50 mL	204.195 g	204.186 g		
14	L13101867-02	RS01	1	40 mL	50 mL	204.195 g	204.186 g		11/11/13
15	WG451280-05	MS	1	40 mL	50 mL	207.77 g	207.755 g	5 mL	
16	L13101867-03	MS01	1	40 mL	50 mL	207.77 g	207.755 g	5 mL	11/11/13
17	WG451280-06	MSD	1	40 mL	50 mL	210.776 g	210.764 g	5 mL	
18	L13101867-04	SD01	1	40 mL	50 mL	210.776 g	210.764 g	5 mL	11/11/13
19	L13101867-05	SAMP	1	40 mL	50 mL	200.494 g	200.482 g		11/11/13
20	L13101867-06	SAMP	1	40 mL	50 mL	203.119 g	203.106 g		11/11/13
21	L13101868-01	SAMP	1	40 mL	50 mL	205.779 g	205.766 g		11/11/13
22	L13101868-02	SAMP	1	40 mL	50 mL	204.212 g	204.198 g		11/11/13
23	L13101868-03	SAMP	1	40 mL	50 mL	206.664 g	206.648 g		11/11/13
24	L13101868-04	SAMP	1	40 mL	50 mL	204.062 g	204.049 g		11/11/13
25	L13101868-05	SAMP	1	40 mL	50 mL	202.618 g	202.611 g		11/11/13
26	L13110058-01	SAMP	1	40 mL	50 mL	202.789 g	202.779 g		11/05/13
27	L13110058-02	SAMP	1	40 mL	50 mL	202.622 g	202.611 g		11/05/13

L13101868-03	filtered digestate

Analyst: _____

Reviewer: _____

MW_DIG - Modified 09/30/2009
PDF ID: 3181798
Report generated: 11/04/2013 10:44

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110513H3R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48054

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD60861 Int. Std: RGT17684
CCV: STD60952 LLCCV: STD60905 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450, 451533, 451224, 451163, 451453, 451567, 451568

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.110513.093416	WG451566-01	Calibration Point		1		11/05/13 09:34
2	P2.110513.093716	WG451566-02	Calibration Point		1		11/05/13 09:37
3	P2.110513.094016	WG451566-03	Calibration Point		1		11/05/13 09:40
4	P2.110513.094316	WG451566-04	Calibration Point		1		11/05/13 09:43
5	P2.110513.094520	WG451566-05	Calibration Point		1		11/05/13 09:45
6	P2.110513.094722	WG451566-06	Initial Calibration Verification		1		11/05/13 09:47
7	P2.110513.094925	WG451566-07	Initial Calib Blank		1		11/05/13 09:49
8	P2.110513.095224	WG451566-08	Low Level Initial Calibration V		1		11/05/13 09:52
9	P2.110513.095524	WG451566-09	Interference Check		1		11/05/13 09:55
10	P2.110513.095724	WG451566-10	Interference Check		1		11/05/13 09:57
11	P2.110513.095924	WG451566-11	CCV		1		11/05/13 09:59
12	P2.110513.100204	WG451566-12	CCB		1		11/05/13 10:02
13	P2.110513.101317	WG451280-02	Method/Prep Blank	40/50	1		11/05/13 10:13
14	P2.110513.101618	WG451280-03	Laboratory Control S	40/50	1		11/05/13 10:16
15	P2.110513.101822	WG451280-04	Filter Blank		1		11/05/13 10:18
16	P2.110513.102122	WG451280-01	Reference Sample		1	L13101867-02	11/05/13 10:21
17	P2.110513.102423	WG451280-05	Matrix Spike	40/50	1	L13101867-02	11/05/13 10:24
18	P2.110513.102627	WG451280-06	Matrix Spike Duplica	40/50	1	L13101867-02	11/05/13 10:26
19	P2.110513.102832	L13110058-01	LF30/31-EWTSPOND1 IN-30	40/50	1		11/05/13 10:28
20	P2.110513.103133	L13110058-02	LF30/31-EWTSPOND1 IN-31	40/50	1		11/05/13 10:31
21	P2.110513.103434	WG451450-01	Post Digestion Spike		1	L13110058-02	11/05/13 10:34
22	P2.110513.103637	WG451450-02	Serial Dilution		5	L13110058-02	11/05/13 10:36
23	P2.110513.103937	WG451566-13	CCV		1		11/05/13 10:39
24	P2.110513.104142	WG451566-14	CCB		1		11/05/13 10:41
25	P2.110513.104441	L13101810-01	50WW24-102913	40/50	1		11/05/13 10:44
26	P2.110513.104745	L13101810-02	50WW24F-102913	40/50	1		11/05/13 10:47
27	P2.110513.105049	L13101810-04	50WW23F-102913	40/50	1		11/05/13 10:50
28	P2.110513.105355	L13101810-05	50WW23F-102913	40/50	1		11/05/13 10:53
29	P2.110513.105657	WG451566-15	CCV		1		11/05/13 10:56
30	P2.110513.105902	WG451566-16	CCB		1		11/05/13 10:59
31	P2.110513.110202	WG451566-17	Low Level Continuing Calibra		1		11/05/13 11:02
32	P2.110513.110502	L13101835-01	201 EFFLUENT	40/50	1		11/05/13 11:05
33	P2.110513.110802	L13101835-02	202 EFFLUENT	40/50	1		11/05/13 11:08
34	P2.110513.111100	L13101835-03	FLUME	40/50	1		11/05/13 11:11

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110513H3R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48054

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD60861 Int. Std: RGT17684
CCV: STD60952 LLCCV: STD60905 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450, 451533, 451224, 451163, 451453, 451567, 451568

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.110513.111404	L13101866-01	14-NWS-58-9-G-2	40/50	1		11/05/13 11:14
36	P2.110513.111705	L13101867-01	18-018007-G-1	40/50	1		11/05/13 11:17
37	P2.110513.112006	L13101867-05	18-01801A-G-1	40/50	1		11/05/13 11:20
38	P2.110513.112307	L13101867-06	18-01801A-G-D-1	40/50	1		11/05/13 11:23
39	P2.110513.112608	WG451566-18	CCV		1		11/05/13 11:26
40	P2.110513.112813	WG451566-19	CCB		1		11/05/13 11:28
41	P2.110513.113113	L13101868-01	MPL 13-1013-1	40/50	1		11/05/13 11:31
42	P2.110513.113413	L13101868-02	MPL 13-1013-2	40/50	1		11/05/13 11:34
43	P2.110513.113713	L13101868-03	MPL 1-1013-1	40/50	1		11/05/13 11:37
44	P2.110513.113916	L13101868-04	MPL 18-1013-1	40/50	1		11/05/13 11:39
45	P2.110513.114217	L13101868-05	MPL 6-1013-1	40/50	1		11/05/13 11:42
46	P2.110513.115834	WG451280-01	Reference Sample		10	L13101867-02	11/05/13 11:58
47	P2.110513.120135	WG451280-05	Matrix Spike	40/50	10	L13101867-02	11/05/13 12:01
48	P2.110513.120436	WG451280-06	Matrix Spike Duplica	40/50	10	L13101867-02	11/05/13 12:04
49	P2.110513.120737	L13101867-05	18-01801A-G-1	40/50	10		11/05/13 12:07
50	P2.110513.121038	WG451566-20	CCV		1		11/05/13 12:10
51	P2.110513.121243	WG451566-21	CCB		1		11/05/13 12:12
52	P2.110513.121542	L13101867-06	18-01801A-G-D-1	40/50	10		11/05/13 12:15
53	P2.110513.121843	L13101868-01	MPL 13-1013-1	40/50	10		11/05/13 12:18
54	P2.110513.122143	L13101868-02	MPL 13-1013-2	40/50	10		11/05/13 12:21
55	P2.110513.122443	L13101868-03	MPL 1-1013-1	40/50	10		11/05/13 12:24
56	P2.110513.122743	L13101868-04	MPL 18-1013-1	40/50	10		11/05/13 12:27
57	P2.110513.123043	L13101868-05	MPL 6-1013-1	40/50	10		11/05/13 12:30
58	P2.110513.123343	WG451566-22	CCV		1		11/05/13 12:33
59	P2.110513.123548	WG451566-23	CCB		1		11/05/13 12:35
60	P2.110513.125917	WG451566-24	Low Level Continuing Calibra		1		11/05/13 12:59
61	P2.110513.130217	WG451310-02	Method/Prep Blank	40/50	1		11/05/13 13:02
62	P2.110513.130517	WG451310-03	Laboratory Control S	40/50	1		11/05/13 13:05
63	P2.110513.130721	WG451310-01	Reference Sample		1	L13110054-11	11/05/13 13:07
64	P2.110513.131024	WG451310-04	Matrix Spike	40/50	1	L13110054-11	11/05/13 13:10
65	P2.110513.131230	WG451310-05	Matrix Spike Duplica	40/50	1	L13110054-11	11/05/13 13:12
66	P2.110513.131436	L13110113-01	WELL 8	40/50	5		11/05/13 13:14
67	P2.110513.131638	L13110092-10	PL08CSP-01-01EB	40/50	1		11/05/13 13:16
68	P2.110513.131938	WG451533-01	Post Digestion Spike		1	L13110092-10	11/05/13 13:19

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110513H3R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48054

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD60861 Int. Std: RGT17684
CCV: STD60952 LLCCV: STD60905 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450, 451533, 451224, 451163, 451453, 451567, 451568

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.110513.132141	WG451533-02	Serial Dilution		5	L13110092-10	11/05/13 13:21
70	P2.110513.132441	WG451566-25	CCV		1		11/05/13 13:24
71	P2.110513.132646	WG451566-26	CCB		1		11/05/13 13:26
72	P2.110513.132946	L13101873-01	RIVER \#4	40/50	1		11/05/13 13:29
73	P2.110513.133249	L13101873-02	RIVER \#5	40/50	1		11/05/13 13:32
74	P2.110513.133550	L13101873-03	RIVER \#1	40/50	1		11/05/13 13:35
75	P2.110513.133854	L13101873-04	RIVER \#2	40/50	1		11/05/13 13:38
76	P2.110513.134158	L13110054-01	8001MW06-131031	40/50	1		11/05/13 13:41
77	P2.110513.134502	L13110054-02	8001MW07-131031	40/50	1		11/05/13 13:45
78	P2.110513.134806	L13110054-03	8001MW08-131031	40/50	1		11/05/13 13:48
79	P2.110513.135110	L13110054-04	8001MW50-131031	40/50	1		11/05/13 13:51
80	P2.110513.135420	L13110054-05	FCMW15-131031	40/50	1		11/05/13 13:54
81	P2.110513.135727	WG451566-27	CCV		1		11/05/13 13:57
82	P2.110513.135932	WG451566-28	CCB		1		11/05/13 13:59
83	P2.110513.140232	L13110054-06	EQBMW01A-131031	40/50	1		11/05/13 14:02
84	P2.110513.140534	L13110054-07	EQBMW07-131031	40/50	1		11/05/13 14:05
85	P2.110513.140838	L13110054-08	8001MW01-131031	40/50	1		11/05/13 14:08
86	P2.110513.141143	L13110054-09	8001MW02-131031	40/50	1		11/05/13 14:11
87	P2.110513.141448	L13110054-10	FCMW07-131031	40/50	1		11/05/13 14:14
88	P2.110513.141756	L13110054-14	DUP-01-131031	40/50	1		11/05/13 14:17
89	P2.110513.142100	L13110054-15	DUP-02-131031	40/50	1		11/05/13 14:21
90	P2.110513.143049	WG451310-01	Reference Sample		100	L13110054-11	11/05/13 14:30
91	P2.110513.143350	WG451310-04	Matrix Spike	40/50	100	L13110054-11	11/05/13 14:33
92	P2.110513.143651	WG451566-29	CCV		1		11/05/13 14:36
93	P2.110513.143856	WG451566-30	CCB		1		11/05/13 14:38
94	P2.110513.144156	WG451310-05	Matrix Spike Duplica	40/50	100	L13110054-11	11/05/13 14:41
95	P2.110513.144457	L13110113-01	WELL 8	40/50	100		11/05/13 14:44
96	P2.110513.144758	L13110054-01	8001MW06-131031	40/50	100		11/05/13 14:47
97	P2.110513.145058	L13110054-02	8001MW07-131031	40/50	100		11/05/13 14:50
98	P2.110513.145358	L13110054-03	8001MW08-131031	40/50	100		11/05/13 14:53
99	P2.110513.145659	L13110054-04	8001MW50-131031	40/50	100		11/05/13 14:56
100	P2.110513.150000	L13110054-05	FCMW15-131031	40/50	100		11/05/13 15:00
101	P2.110513.150300	L13110054-06	EQBMW01A-131031	40/50	100		11/05/13 15:03
102	P2.110513.150601	L13110054-07	EQBMW07-131031	40/50	100		11/05/13 15:06

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110513H3R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48054

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD60861 Int. Std: RGT17684
CCV: STD60952 LLCCV: STD60905 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450, 451533, 451224, 451163, 451453, 451567, 451568

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	P2.110513.150905	WG451566-31	CCV		1		11/05/13 15:09
104	P2.110513.151110	WG451566-32	CCB		1		11/05/13 15:11
105	P2.110513.151410	L13110054-08	8001MW01-131031	40/50	10		11/05/13 15:14
106	P2.110513.151711	L13110054-09	8001MW02-131031	40/50	10		11/05/13 15:17
107	P2.110513.152012	L13110054-10	FCMW07-131031	40/50	100		11/05/13 15:20
108	P2.110513.152313	L13110054-14	DUP-01-131031	40/50	100		11/05/13 15:23
109	P2.110513.152614	L13110054-15	DUP-02-131031	40/50	10		11/05/13 15:26
110	P2.110513.153059	WG451566-33	CCV		1		11/05/13 15:30
111	P2.110513.153305	WG451566-34	CCB		1		11/05/13 15:33
112	P2.110513.153605	WG451566-35	Low Level Continuing Calibra		1		11/05/13 15:36
113	P2.110513.153905	WG451566-36	Low Level Continuing Calibra		1		11/05/13 15:39
114	P2.110513.154206	WG451153-02	Method/Prep Blank	40/50	1		11/05/13 15:42
115	P2.110513.154507	WG451153-03	Laboratory Control S	40/50	1		11/05/13 15:45
116	P2.110513.154711	WG451153-01	Reference Sample		20	L13101842-07	11/05/13 15:47
117	P2.110513.155012	WG451153-04	Matrix Spike	40/50	20	L13101842-07	11/05/13 15:50
118	P2.110513.155313	WG451153-05	Matrix Spike Duplica	40/50	20	L13101842-07	11/05/13 15:53
119	P2.110513.155614	L13101823-01	POND OUTFALL	40/50	1		11/05/13 15:56
120	P2.110513.155915	L13101824-01	FTGWEF357	40/50	1		11/05/13 15:59
121	P2.110513.160216	WG451224-03	Post Digestion Spike		1	L13101824-01	11/05/13 16:02
122	P2.110513.160422	WG451224-04	Serial Dilution		5	L13101824-01	11/05/13 16:04
123	P2.110513.160723	WG451566-37	CCV		1		11/05/13 16:07
124	P2.110513.160928	WG451566-38	CCB		1		11/05/13 16:09
125	P2.110513.161228	WG451138-02	Method/Prep Blank	40/50	1		11/05/13 16:12
126	P2.110513.161529	WG451138-03	Laboratory Control S	40/50	1		11/05/13 16:15
127	P2.110513.161733	WG451138-01	Reference Sample		1	L13101819-06	11/05/13 16:17
128	P2.110513.162034	WG451138-05	Matrix Spike	40/50	1	L13101819-06	11/05/13 16:20
129	P2.110513.162238	WG451138-06	Matrix Spike Duplica	40/50	1	L13101819-06	11/05/13 16:22
130	P2.110513.162443	L13101819-05	14-NWS-58-8S-G-2	40/50	2		11/05/13 16:24
131	P2.110513.162744	L13101757-03	ERT003:EB-6:W102813	40/50	1		11/05/13 16:27
132	P2.110513.163045	WG451163-03	Post Digestion Spike		1	L13101757-03	11/05/13 16:30
133	P2.110513.163250	WG451163-04	Serial Dilution		5	L13101757-03	11/05/13 16:32
134	P2.110513.163551	WG451566-39	CCV		1		11/05/13 16:35
135	P2.110513.163756	WG451566-40	CCB		1		11/05/13 16:37
136	P2.110513.164057	WG451344-04	Method/Prep Blank	40/50	1		11/05/13 16:40

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110513H3R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48054

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD60861 Int. Std: RGT17684
CCV: STD60952 LLCCV: STD60905 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450, 451533, 451224, 451163, 451453, 451567, 451568

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	P2.110513.164358	WG451344-05	Laboratory Control S	40/50	1		11/05/13 16:43
138	P2.110513.164603	WG451344-01	Reference Sample		1	L13110038-02	11/05/13 16:46
139	P2.110513.164904	WG451344-06	Duplicate	40/50	1	L13110038-02	11/05/13 16:49
140	P2.110513.165205	WG451344-02	Reference Sample		1	L13110038-04	11/05/13 16:52
141	P2.110513.165507	WG451344-07	Matrix Spike	40/50	1	L13110038-04	11/05/13 16:55
142	P2.110513.165712	L13110038-06	DBSK	40/50	1		11/05/13 16:57
143	P2.110513.170014	L13110038-08	UBSK1	40/50	1		11/05/13 17:00
144	P2.110513.170315	WG451453-01	Post Digestion Spike		1	L13110038-08	11/05/13 17:03
145	P2.110513.170520	WG451453-02	Serial Dilution		5	L13110038-08	11/05/13 17:05
146	P2.110513.170822	WG451566-41	CCV		1		11/05/13 17:08
147	P2.110513.171027	WG451566-42	CCB		1		11/05/13 17:10
148	P2.110513.171327	L13110045-02	001	40/50	1		11/05/13 17:13
149	P2.110513.171632	L13110045-04	DMC	40/50	1		11/05/13 17:16
150	P2.110513.171937	L13110045-06	DMF	40/50	1		11/05/13 17:19
151	P2.110513.172242	L13110045-08	DPF	40/50	1		11/05/13 17:22
152	P2.110513.172547	WG451344-03	Reference Sample		1	L13110046-02	11/05/13 17:25
153	P2.110513.172852	WG451344-08	Matrix Spike	40/50	1	L13110046-02	11/05/13 17:28
154	P2.110513.173057	L13110046-05	004	40/50	1		11/05/13 17:30
155	P2.110513.173402	L13110046-07	005	40/50	1		11/05/13 17:34
156	P2.110513.173703	L13110046-34	DMF	40/50	1		11/05/13 17:37
157	P2.110513.174008	WG451566-43	CCV		1		11/05/13 17:40
158	P2.110513.174213	WG451566-44	CCB		1		11/05/13 17:42
159	P2.110513.174513	L13110046-36	DPF-1	40/50	1		11/05/13 17:45
160	P2.110513.174814	L13110046-38	UMF-1	40/50	1		11/05/13 17:48
161	P2.110513.175119	L13110046-40	UPF	40/50	1		11/05/13 17:51
162	P2.110513.175420	L13110046-42	DBC	40/50	1		11/05/13 17:54
163	P2.110513.175725	L13110046-44	DMC-1	40/50	1		11/05/13 17:57
164	P2.110513.180029	L13110046-46	DUTBC	40/50	1		11/05/13 18:00
165	P2.110513.180334	WG451566-45	CCV		1		11/05/13 18:03
166	P2.110513.180540	WG451566-46	CCB		1		11/05/13 18:05
167	P2.110513.180842	WG451321-03	Method/Prep Blank	40/50	1		11/05/13 18:08
168	P2.110513.181144	WG451321-04	Laboratory Control S	40/50	1		11/05/13 18:11
169	P2.110513.181349	WG451321-01	Reference Sample		1	L13110017-01	11/05/13 18:13
170	P2.110513.181651	WG451321-05	Duplicate	40/50	1	L13110017-01	11/05/13 18:16

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110513H3R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48054

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD60861 Int. Std: RGT17684
CCV: STD60952 LLCCV: STD60905 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450, 451533, 451224, 451163, 451453, 451567, 451568

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
171	P2.110513.181956	WG451321-06	Matrix Spike	40/50	1	L13110017-01	11/05/13 18:19
172	P2.110513.182201	L13110017-02	LRB2	40/50	1		11/05/13 18:22
173	P2.110513.182506	L13110019-01	BWQ5-0861	40/50	1		11/05/13 18:25
174	P2.110513.182807	L13110019-02	BWQ5-0847	40/50	1		11/05/13 18:28
175	P2.110513.183136	WG451567-01	Post Digestion Spike		1	L13110019-02	11/05/13 18:31
176	P2.110513.183341	WG451567-02	Serial Dilution		5	L13110019-02	11/05/13 18:33
177	P2.110513.183642	WG451566-47	CCV		1		11/05/13 18:36
178	P2.110513.183848	WG451566-48	CCB		1		11/05/13 18:38
179	P2.110513.184150	L13110020-01	DMC	40/50	1		11/05/13 18:41
180	P2.110513.184455	L13110020-03	UMC	40/50	1		11/05/13 18:44
181	P2.110513.184757	L13110021-01	001	40/50	1		11/05/13 18:47
182	P2.110513.185102	L13110021-04	004	40/50	1		11/05/13 18:51
183	P2.110513.185404	L13110021-08	DNB1	40/50	1		11/05/13 18:54
184	P2.110513.185709	WG451321-02	Reference Sample		1	L13110022-01	11/05/13 18:57
185	P2.110513.190012	WG451321-07	Matrix Spike	40/50	1	L13110022-01	11/05/13 19:00
186	P2.110513.190217	L13110022-03	DSOB	40/50	1		11/05/13 19:02
187	P2.110513.190522	L13110022-05	DSWFTP	40/50	1		11/05/13 19:05
188	P2.110513.190824	WG451566-49	CCV		1		11/05/13 19:08
189	P2.110513.191030	WG451566-50	CCB		1		11/05/13 19:10
190	P2.110513.191332	L13110022-07	DUT	40/50	1		11/05/13 19:13
191	P2.110513.191634	L13110022-09	USBSK	40/50	1		11/05/13 19:16
192	P2.110513.191936	L13110023-01	008	40/50	1		11/05/13 19:19
193	P2.110513.192241	L13110023-03	DMC	40/50	1		11/05/13 19:22
194	P2.110513.192544	L13110028-01	001	40/50	1		11/05/13 19:25
195	P2.110513.192849	L13110028-03	DOMB	40/50	1		11/05/13 19:28
196	P2.110513.193154	L13110028-05	UBC	40/50	1		11/05/13 19:31
197	P2.110513.193456	WG451566-51	CCV		1		11/05/13 19:34
198	P2.110513.193701	WG451566-52	CCB		1		11/05/13 19:37
199	P2.110513.194003	WG451336-03	Method/Prep Blank	40/50	1		11/05/13 19:40
200	P2.110513.194305	WG451336-04	Laboratory Control S	40/50	1		11/05/13 19:43
201	P2.110513.194510	WG451336-01	Reference Sample		1	L13110031-01	11/05/13 19:45
202	P2.110513.194816	WG451336-05	Duplicate	40/50	1	L13110031-01	11/05/13 19:48
203	P2.110513.195122	WG451336-06	Matrix Spike	40/50	1	L13110031-01	11/05/13 19:51
204	P2.110513.195329	L13110031-03	DMC	40/50	1		11/05/13 19:53

Page: 6 Approved: November 06, 2013

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110513H3R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48054

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD60861 Int. Std: RGT17684
CCV: STD60952 LLCCV: STD60905 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450, 451533, 451224, 451163, 451453, 451567, 451568

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
205	P2.110513.195635	L13110032-01	001	40/50	1		11/05/13 19:56
206	P2.110513.195940	L13110032-03	DSC	40/50	1		11/05/13 19:59
207	P2.110513.200245	WG451568-01	Post Digestion Spike		1	L13110032-03	11/05/13 20:02
208	P2.110513.200451	WG451568-02	Serial Dilution		5	L13110032-03	11/05/13 20:04
209	P2.110513.200753	WG451566-53	CCV		1		11/05/13 20:07
210	P2.110513.200958	WG451566-54	CCB		1		11/05/13 20:09
211	P2.110513.201300	L13110032-05	USC	40/50	1		11/05/13 20:13
212	P2.110513.201605	L13110033-01	SCGW-1	40/50	1		11/05/13 20:16
213	P2.110513.201907	L13110033-02	SCGW-2	40/50	1		11/05/13 20:19
214	P2.110513.202213	L13110036-01	002	40/50	1		11/05/13 20:22
215	P2.110513.202518	L13110036-03	008	40/50	1		11/05/13 20:25
216	P2.110513.202823	WG451336-02	Reference Sample		1	L13110036-05	11/05/13 20:28
217	P2.110513.203129	WG451336-07	Matrix Spike	40/50	1	L13110036-05	11/05/13 20:31
218	P2.110513.203335	L13110036-07	DBSK4	40/50	1		11/05/13 20:33
219	P2.110513.203637	L13110038-01	057	40/50	1		11/05/13 20:36
220	P2.110513.203939	WG451566-55	CCV		1		11/05/13 20:39
221	P2.110513.204145	WG451566-56	CCB		1		11/05/13 20:41
222	P2.110513.204447	L13110038-03	063	40/50	1		11/05/13 20:44
223	P2.110513.204749	L13110038-05	DBSK	40/50	1		11/05/13 20:47
224	P2.110513.205051	L13110038-07	UBSK1	40/50	1		11/05/13 20:50
225	P2.110513.205353	L13110045-01	001	40/50	1		11/05/13 20:53
226	P2.110513.205655	L13110045-03	DMC	40/50	1		11/05/13 20:56
227	P2.110513.210000	L13110045-05	DMF	40/50	1		11/05/13 21:00
228	P2.110513.210305	L13110045-07	DPF	40/50	1		11/05/13 21:03
229	P2.110513.210607	WG451566-57	CCV		1		11/05/13 21:06
230	P2.110513.210813	WG451566-58	CCB		1		11/05/13 21:08

Comments

Seq.	Rerun	Dil.	Reason	Analytes
108			Typographical error - KHR	

Page: 7 Approved: November 06, 2013

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110613H2R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48080

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD61198 Int. Std: RGT17684
CCV: STD61200 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.110613.094629	WG451793-01	Calibration Point		1		11/06/13 09:46
2	P2.110613.094932	WG451793-02	Calibration Point		1		11/06/13 09:49
3	P2.110613.095232	WG451793-03	Calibration Point		1		11/06/13 09:52
4	P2.110613.095532	WG451793-04	Calibration Point		1		11/06/13 09:55
5	P2.110613.095737	WG451793-05	Calibration Point		1		11/06/13 09:57
6	P2.110613.095943	WG451793-06	ICV 2nd Vendor		1		11/06/13 09:59
7	P2.110613.100147	WG451793-07	ICB		1		11/06/13 10:01
8	P2.110613.100523	WG451793-08	Initial Calibration Verification		1		11/06/13 10:05
9	P2.110613.100728	WG451793-09	Initial Calib Blank		1		11/06/13 10:07
10	P2.110613.101050	WG451793-10	Interference Check		1		11/06/13 10:10
11	P2.110613.101254	WG451793-11	Interference Check		1		11/06/13 10:12
12	P2.110613.101457	WG451793-12	CCV		1		11/06/13 10:14
13	P2.110613.101702	WG451793-13	CCB		1		11/06/13 10:17
14	P2.110613.102816	WG451280-02	Method/Prep Blank	40/50	1		11/06/13 10:28
15	P2.110613.103117	WG451280-03	Laboratory Control S	40/50	1		11/06/13 10:31
16	P2.110613.103321	L13101866-01	14-NWS-58-9-G-2	40/50	1		11/06/13 10:33
17	P2.110613.103621	L13101867-01	18-018007-G-1	40/50	1		11/06/13 10:36
18	P2.110613.103922	L13101867-02	18-018008-G-1		1	WG451280-01	11/06/13 10:39
19	P2.110613.104223	L13101867-03	18-018008-G-1	40/50	1	WG451280-05	11/06/13 10:42
20	P2.110613.104428	L13101867-04	18-018008-G-1	40/50	1	WG451280-06	11/06/13 10:44
21	P2.110613.104633	L13101867-05	18-01801A-G-1	40/50	1		11/06/13 10:46
22	P2.110613.104935	WG451450-03	Post Digestion Spike		1	L13101867-05	11/06/13 10:49
23	P2.110613.105208	WG451450-04	Serial Dilution		5	L13101867-05	11/06/13 10:52
24	P2.110613.105508	WG451793-14	CCV		1		11/06/13 10:55
25	P2.110613.105714	WG451793-15	CCB		1		11/06/13 10:57
26	P2.110613.110014	L13101867-06	18-01801A-G-D-1	40/50	1		11/06/13 11:00
27	P2.110613.110315	L13101868-01	MPL 13-1013-1	40/50	1		11/06/13 11:03
28	P2.110613.110615	L13101868-02	MPL 13-1013-2	40/50	1		11/06/13 11:06
29	P2.110613.110915	L13101868-03	MPL 1-1013-1	40/50	1		11/06/13 11:09
30	P2.110613.111118	L13101868-04	MPL 18-1013-1	40/50	1		11/06/13 11:11
31	P2.110613.111419	L13101868-05	MPL 6-1013-1	40/50	1		11/06/13 11:14
32	P2.110613.111720	WG451793-16	CCV		1		11/06/13 11:17
33	P2.110613.111926	WG451793-17	CCB		1		11/06/13 11:19

Page: 1 Approved: November 08, 2013

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 110613H2R.CSV
Analyst1: KHR Analyst2: N/A
Method: 6010/200.7 SOP: ME600E Rev: 14
Maintenance Log ID: 48080

Calibration Std: STD61062 ICV Std: STD61061 Post Spike: STD61080
ICSA: STD60853 ICSAB: STD61198 Int. Std: RGT17684
CCV: STD61200 LLCCV: Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 451450

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time

Comments

Seq.	Rerun	Dil.	Reason	Analytes
6			ICV reanalyzed for NPDES criteria - KHR	

Page: 2 Approved: November 08, 2013

Maren Berry

Microbac Laboratories Inc.

Data Checklist

Date: 05-NOV-2013
Analyst: KHR
Analyst: NA
Method: 6010B/6010C/200.7
Instrument: PE-ICP2
Curve Workgroup: 451566
Runlog ID: 56887
Analytical Workgroups: 451450, 451533, 451224, 451163, 451453, 451567, 451568

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	X
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	0092, 1823, 1824
Level 4	1810, 1866, 1867, 1868, 0058
Level 4	0054, 0113, 1819
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
06-NOV-2013

Secondary Reviewer:
06-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-06-2013 13:57:05

Microbac Laboratories Inc.

Data Checklist

Date: 06-NOV-2013
Analyst: KHR
Analyst: NA
Method: 6010B/6010C/200.7
Instrument: PE-ICP2
Curve Workgroup: 451793
Runlog ID: 56932
Analytical Workgroups: 451450

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	
Case Narrative	
Client Forms	X
Level X	
Level 3	
Level 4	1866, 1867, 1868
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	MMB
Comments	

Primary Reviewer: 07-NOV-2013
Kym H. Rhoden

Secondary Reviewer: 08-NOV-2013
Maren Berry

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-08-2013 13:58:11

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010B AAB#: WG451450

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/04/2013	5	180		11/05/13	6.1	180	
MPL 13-1013-1	01	10/30/13					11/04/2013	5	180		11/05/13	6.1	180	
MPL 13-1013-1	01	10/30/13					11/04/2013	5	180		11/06/13	7.1	180	
MPL 13-1013-2	02	10/30/13					11/04/2013	5	180		11/05/13	6.1	180	
MPL 13-1013-2	02	10/30/13					11/04/2013	5	180		11/05/13	6.1	180	
MPL 13-1013-2	02	10/30/13					11/04/2013	5	180		11/06/13	7.1	180	
MPL 1-1013-1	03	10/30/13					11/04/2013	4.9	180		11/05/13	6	180	
MPL 1-1013-1	03	10/30/13					11/04/2013	4.9	180		11/06/13	6.9	180	
MPL 1-1013-1	03	10/30/13					11/04/2013	4.9	180		11/05/13	5.9	180	
MPL 18-1013-1	04	10/30/13					11/04/2013	4.8	180		11/06/13	6.9	180	
MPL 18-1013-1	04	10/30/13					11/04/2013	4.8	180		11/05/13	5.9	180	
MPL 18-1013-1	04	10/30/13					11/04/2013	4.8	180		11/05/13	5.9	180	
MPL 6-1013-1	05	10/30/13					11/04/2013	4.8	180		11/06/13	6.8	180	
MPL 6-1013-1	05	10/30/13					11/04/2013	4.8	180		11/05/13	5.8	180	
MPL 6-1013-1	05	10/30/13					11/04/2013	4.8	180		11/05/13	5.9	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3185452
Report generated 11/07/2013 07:35

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: P2.110513.101317
Prep Date: 11/04/13 09:38
Analyzed Date: 11/05/13 10:13
Analyst: KHR

Work Group: WG451450
Blank Sample ID: WG451280-02
Instrument ID: PE-ICP2
Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451280-03	P2.110513.101618	11/05/13 10:16	01
FLT_BLK	WG451280-04	P2.110513.101822	11/05/13 10:18	01
MPL 13-1013-1	L13101868-01	P2.110513.113113	11/05/13 11:31	01
MPL 13-1013-2	L13101868-02	P2.110513.113413	11/05/13 11:34	01
MPL 1-1013-1	L13101868-03	P2.110513.113713	11/05/13 11:37	01
MPL 18-1013-1	L13101868-04	P2.110513.113916	11/05/13 11:39	01
MPL 6-1013-1	L13101868-05	P2.110513.114217	11/05/13 11:42	01
MPL 13-1013-1	L13101868-01	P2.110513.121843	11/05/13 12:18	DL01
MPL 13-1013-2	L13101868-02	P2.110513.122143	11/05/13 12:21	DL01
MPL 1-1013-1	L13101868-03	P2.110513.122443	11/05/13 12:24	DL01
MPL 18-1013-1	L13101868-04	P2.110513.122743	11/05/13 12:27	DL01
MPL 6-1013-1	L13101868-05	P2.110513.123043	11/05/13 12:30	DL01
LCS	WG451280-03	P2.110613.103117	11/06/13 10:31	02
MPL 13-1013-1	L13101868-01	P2.110613.110315	11/06/13 11:03	02
MPL 13-1013-2	L13101868-02	P2.110613.110615	11/06/13 11:06	02
MPL 1-1013-1	L13101868-03	P2.110613.110915	11/06/13 11:09	02
MPL 18-1013-1	L13101868-04	P2.110613.111118	11/06/13 11:11	02
MPL 6-1013-1	L13101868-05	P2.110613.111419	11/06/13 11:14	02

Report Name: BLANK_SUMMARY
PDF File ID: 3185453
Report generated 11/07/2013 07:35

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: P2.110613.102816
Prep Date: 11/04/13 09:38
Analyzed Date: 11/06/13 10:28
Analyst: KHR

Work Group: WG451450
Blank Sample ID: WG451280-02
Instrument ID: PE-ICP2
Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451280-03	P2.110513.101618	11/05/13 10:16	01
FLT_BLK	WG451280-04	P2.110513.101822	11/05/13 10:18	01
MPL 13-1013-1	L13101868-01	P2.110513.113113	11/05/13 11:31	01
MPL 13-1013-2	L13101868-02	P2.110513.113413	11/05/13 11:34	01
MPL 1-1013-1	L13101868-03	P2.110513.113713	11/05/13 11:37	01
MPL 18-1013-1	L13101868-04	P2.110513.113916	11/05/13 11:39	01
MPL 6-1013-1	L13101868-05	P2.110513.114217	11/05/13 11:42	01
MPL 13-1013-1	L13101868-01	P2.110513.121843	11/05/13 12:18	DL01
MPL 13-1013-2	L13101868-02	P2.110513.122143	11/05/13 12:21	DL01
MPL 1-1013-1	L13101868-03	P2.110513.122443	11/05/13 12:24	DL01
MPL 18-1013-1	L13101868-04	P2.110513.122743	11/05/13 12:27	DL01
MPL 6-1013-1	L13101868-05	P2.110513.123043	11/05/13 12:30	DL01
LCS	WG451280-03	P2.110613.103117	11/06/13 10:31	02
MPL 13-1013-1	L13101868-01	P2.110613.110315	11/06/13 11:03	02
MPL 13-1013-2	L13101868-02	P2.110613.110615	11/06/13 11:06	02
MPL 1-1013-1	L13101868-03	P2.110613.110915	11/06/13 11:09	02
MPL 18-1013-1	L13101868-04	P2.110613.111118	11/06/13 11:11	02
MPL 6-1013-1	L13101868-05	P2.110613.111419	11/06/13 11:14	02

Report Name: BLANK_SUMMARY
PDF File ID: 3185453
Report generated 11/07/2013 07:35

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/04/13 09:38 Sample ID: WG451280-02
Instrument ID: PE-ICP2 Run Date: 11/05/13 10:13 Prep Method: 3015
File ID: P2.110513.101317 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG451450 Matrix: Water Units: mg/L
Contract #: Cal ID: PE-ICP - 05-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Calcium, Total	0.250	0.500	0.250	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Tin, Total	0.250	0.500	0.250	1	U
Zinc, Total	0.0100	0.0200	0.0100	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3185454
07-NOV-2013 07:35

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/04/13 09:38 Sample ID: WG451280-02
Instrument ID: PE-ICP2 Run Date: 11/06/13 10:28 Prep Method: 3015
File ID: P2.110613.102816 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG451450 Matrix: Water Units: mg/L
Contract #: Cal ID: PE-ICP-06-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Vanadium, Total	0.00500	0.0100	0.00500	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3185454
07-NOV-2013 07:35

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451280-03
Instrument ID: PE-ICP2 Run Time: 10:16 Prep Method: 3015
File ID: P2.110513.101618 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG451450 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD61081 Cal ID: PE-ICP-05-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Beryllium, Total	0.0313	0.0314	101	80 - 120	
Calcium, Total	6.25	6.50	104	80 - 120	
Magnesium, Total	6.25	6.35	102	80 - 120	
Potassium, Total	31.3	31.5	101	80 - 120	
Sodium, Total	31.3	31.2	100	80 - 120	
Tin, Total	0.625	0.631	101	80 - 120	
Zinc, Total	0.625	0.651	104	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 3185455
Report generated: 11/07/2013 07:36

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/06/2013 Sample ID: WG451280-03
Instrument ID: PE-ICP2 Run Time: 10:31 Prep Method: 3015
File ID: P2.110613.103117 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG451450 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD61081 Cal ID: PE-ICP - 06-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Vanadium, Total	0.625	0.619	99.1	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 3185455
Report generated: 11/07/2013 07:36

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L13101868 Cal ID: PE-ICP2 - Worknum: WG451450
Instrument ID: PE-ICP2 Contract #: Method: 6010B
Parent ID: WG451280-01 File ID: P2.110513.102122 Dil: 1 Matrix: WATER
Sample ID: WG451280-05 MS File ID: P2.110513.102423 Dil: 1 Units: mg/L
Sample ID: WG451280-06 MSD File ID: P2.110513.102627 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Beryllium, Total	0.00117	0.0313	0.0311	95.8	0.0313	0.0326	100	4.58	80 - 120	20	
Magnesium, Total	4.10	6.25	9.95	93.6	6.25	10.4	100	4.07	80 - 120	20	
Potassium, Total	0.850	31.3	32.5	101	31.3	32.9	103	1.31	80 - 120	20	
Sodium, Total	78.3	31.3	110	102	31.3	109	97.6	1.14	80 - 120	20	
Tin	ND	0.625	0.692	111	0.625	0.722	116	4.30	80 - 120	20	
Zinc, Total	0.0137	0.625	0.636	99.6	0.625	0.667	105	4.74	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_MS_MSD_DRYWT - Modified 05/26/2011
PDF File ID: 3185456
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L13101868 Cal ID: PE-ICP2 - Worknum: WG451450
Instrument ID: PE-ICP2 Contract #: Method: 6010B
Parent ID: WG451280-01 File ID: P2.110513.115834 Dil: 10 Matrix: WATER
Sample ID: WG451280-05 MS File ID: P2.110513.120135 Dil: 10 Units: mg/L
Sample ID: WG451280-06 MSD File ID: P2.110513.120436 Dil: 10

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Calcium, Total	23.8	6.25	30.1	100	6.25	31.4	121	4.22	80 - 120	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_MS_MSD_DRYWT - Modified 05/26/2011
PDF File ID: 3185456
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L13101868 Cal ID: PE-ICP2 - Worknum: WG451450
Instrument ID: PE-ICP2 Contract #: Method: 6010B
Parent ID: WG451280-01 File ID: P2.110613.103922 Dil: 1 Matrix: WATER
Sample ID: WG451280-05 MS File ID: P2.110613.104223 Dil: 1 Units: mg/L
Sample ID: WG451280-06 MSD File ID: P2.110613.104428 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Vanadium, Total	ND	0.625	0.624	99.8	0.625	0.655	105	4.93	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_MS_MSD_DRYWT - Modified 05/26/2011
PDF File ID: 3185456
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
Serial Dilution Report

Login: L13101868 **Worknum:** WG451450
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG451450-02 **File ID:** P2.110513.103637 **Dil:** 5 **Units:** mg/L
Sample: L13110058-02 **File ID:** P2.110513.103133 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Beryllium	ND	U	ND	U		
Calcium	49.8		47.2		5.33	
Magnesium	6.68	X	6.88	X	2.94	
Potassium	0.609	F	ND	U		
Sodium	2.80	X	2.83	X	1.16	
Tin	ND	U	ND	U		
Vanadium	ND	U	ND	U		
Zinc	ND	U	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 50 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 3185450
11/07/2013 07:42

Microbac Laboratories Inc.
Serial Dilution Report

Login: L13101868 **Worknum:** WG451450
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG451450-04 **File ID:** P2.110613.105208 **Dil:** 5 **Units:** mg/L
Sample: L13101867-05 **File ID:** P2.110613.104633 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Beryllium	0.00149	F	ND	U		
Calcium	43.5		40.5		6.76	
Magnesium	22.3		22.2		0.67	
Potassium	1.75	X	ND	U		
Sodium	125		144		15.10	E
Tin	ND	U	ND	U		
Vanadium	0.00691	F	ND	U		
Zinc	0.0133	F	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 50 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 3185450
11/07/2013 07:42

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L13101868 **Worknum:** WG451450
Instrument ID: PE-ICP2 **Method:** 6010B
Post Spike ID: WG451450-01 **File ID:** P2.110513.103434 **Dil:** 1 **Units:** mg/L
Sample ID: L13110058-02 **File ID:** P2.110513.103133 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
BERYLLIUM	0.0258		0	U	.025	103.3	75 - 125	
CALCIUM	51.6		49.8		5	135.2	75 - 125	N
MAGNESIUM	11.2		6.68		5	103.7	75 - 125	
POTASSIUM	26.5		0.609	F	25	103.9	75 - 125	
SODIUM	28.5		2.80		25	103.8	75 - 125	
TIN	0.518		0	U	.5	103.7	75 - 125	
VANADIUM	0.525		0	U	.5	105.1	75 - 125	
ZINC	0.519		0	U	.5	103.9	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 3185451
Report generated: 11/07/2013 07:42

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L13101868 **Worknum:** WG451450
Instrument ID: PE-ICP2 **Method:** 6010B
Post Spike ID: WG451450-03 **File ID:** P2.110613.104935 **Dil:** 1 **Units:** mg/L
Sample ID: L13101867-05 **File ID:** P2.110613.104633 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
BERYLLIUM	0.0261		0.00149	F	.025	98.9	75 - 125	
CALCIUM	44.4		43.5		5	105.5	75 - 125	
MAGNESIUM	25.7		22.3		5	112.7	75 - 125	
POTASSIUM	28.9		1.75		25	109.2	75 - 125	
SODIUM	136		125		25	95.1	75 - 125	
TIN	-0.0392	U	0	U	.5	-07.8	75 - 125	N
VANADIUM	0.511		0.00691	F	.5	100.9	75 - 125	
ZINC	0.517		0.0133	F	.5	101.0	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 3185451
Report generated: 11/07/2013 07:42

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L13101868**	Workgroup (AAB#):	**WG451450**
Analytical Method:	**6010B**	Instrument ID:	**PE-ICP2**
ICAL Worknum:	**WG451566**	Initial Calibration Date:	**05-NOV-2013 09:45**

	WG451566-01		WG451566-02		WG451566-03		WG451566-04		WG451566-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
BERYLLIUM	0	-1390	.0005	208	.001	379	.05	21000	.1	42000	.999999	
CALCIUM	0	-69.4	NA	NA	.2	23.0	10	1250	20	2530	.999978	
MAGNESIUM	0	15.7	.1	74.9	.2	143	10	8540	20	17400	.999961	
POTASSIUM	0	39.6	.5	472	1	1030	50	57700	100	118000	1	
SODIUM	0	608	.5	3560	1	7260	50	430000	100	851000	1	
TIN	0	34.7	.01	19.0	.02	48.2	1	3710	1	7310	.999967	
VANADIUM	0	6730	.01	1280	.02	2140	1	123000	2	242000	.999951	
ZINC	0	-18.9	.01	140	.02	276	1	16500	2	32700	.999992	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
*** = Out of Compliance; R < 0.995**

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 3185459
Report generated: 07-NOV-2013 07:36

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L13101868**	Workgroup (AAB#):	**WG451450**
Analytical Method:	**6010B**	Instrument ID:	**PE-ICP2**
ICAL Worknum:	**WG451793**	Initial Calibration Date:	**06-NOV-2013 09:57**

	WG451793-01		WG451793-02		WG451793-03		WG451793-04		WG451793-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
BERYLLIUM	0	-1360	.0005	190	.001	340	.05	21700	.1	43400	1	
CALCIUM	0	-62.4	NA	NA	.2	23.7	10	1190	20	2420	.99995	
MAGNESIUM	0	18.9	.1	62.0	.2	121	10	7390	20	14300	.999884	
POTASSIUM	0	-59.6	.5	521	1	886	50	47900	100	99000	1	
SODIUM	0	742	.5	2850	1	5670	50	336000	100	711000	1	
TIN	0	19.9	.01	29.6	.02	64.9	1	3860	1	7660	.999994	
VANADIUM	0	6660	.01	1070	.02	2280	1	126000	2	252000	1	
ZINC	0	-13.1	.01	144	.02	294	1	18300	2	36400	.999999	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
*** = Out of Compliance; R < 0.995**

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 3185459
Report generated: 07-NOV-2013 07:36

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L13101868
Instrument ID: PE-ICP2
File ID: P2.110513.094925
Workgroup (AAB#): WG451450
Matrix: WATER

Run Date: 11/05/2013
Run Time: 09:49
Analyst: KHR
Cal ID: PE-ICP2 - 05-NOV-13

Sample ID: WG451566-07
Method: 6010B
Units: mg/L

Analytes	MDL	RDL	Concentration	Qualifier
BERYLLIUM	.0008	.0016	.0008	U
CALCIUM	.2	.4	.2	U
MAGNESIUM	.2	.4	.2	U
POTASSIUM	.4	.8	.4	U
SODIUM	.2	.4	.2	U
TIN	.2	.4	.2	U
VANADIUM	.004	.008	.004	U
ZINC	.008	.016	.008	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 3185461
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L13101868
Run Date: 11/06/2013
Sample ID: WG451793-09
Instrument ID: PE-ICP2
Run Time: 10:07
Method: 6010B
File ID: P2.110613.100728
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP2 - 06-NOV-13
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
BERYLLIUM	.0008	.0016	.0008	U
CALCIUM	.2	.4	.2	U
MAGNESIUM	.2	.4	.2	U
POTASSIUM	.4	.8	.4	U
SODIUM	.2	.4	.2	U
TIN	.2	.4	.2	U
VANADIUM	.004	.008	.004	U
ZINC	.008	.016	.008	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 3185461
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-12
Instrument ID: PE-ICP2
Run Time: 10:02
Method: 6010B
File ID: P2.110513.100204
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.000800	0.00160	0.000800	U
Calcium	0.200	0.400	0.200	U
Magnesium	0.200	0.400	0.200	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U
Tin	0.200	0.400	0.200	U
Vanadium	0.00400	0.00800	0.00400	U
Zinc	0.00800	0.0160	0.00800	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185464
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-14
Instrument ID: PE-ICP2
Run Time: 10:41
Method: 6010B
File ID: P2.110513.104142
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.000800	0.00160	0.000800	U
Calcium	0.200	0.400	0.200	U
Magnesium	0.200	0.400	0.200	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U
Tin	0.200	0.400	0.200	U
Vanadium	0.00400	0.00800	0.00400	U
Zinc	0.00800	0.0160	0.00800	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185464
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-19
Instrument ID: PE-ICP2
Run Time: 11:28
Method: 6010B
File ID: P2.110513.112813
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.000800	0.00160	0.000800	U
Calcium	0.200	0.400	0.200	U
Magnesium	0.200	0.400	0.200	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U
Tin	0.200	0.400	0.200	U
Vanadium	0.00400	0.00800	0.00400	U
Zinc	0.00800	0.0160	0.00800	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185464
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-21
Instrument ID: PE-ICP2
Run Time: 12:12
Method: 6010B
File ID: P2.110513.121243
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.000800	0.00160	0.000800	U
Calcium	0.200	0.400	0.200	U
Magnesium	0.200	0.400	0.200	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U
Tin	0.200	0.400	0.200	U
Vanadium	0.00400	0.00800	0.00400	U
Zinc	0.00800	0.0160	0.00800	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185464
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-23
Instrument ID: PE-ICP2
Run Time: 12:35
Method: 6010B
File ID: P2.110513.123548
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.000800	0.00160	0.000800	U
Calcium	0.200	0.400	0.200	U
Magnesium	0.200	0.400	0.200	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U
Tin	0.200	0.400	0.200	U
Vanadium	0.00400	0.00800	0.00400	U
Zinc	0.00800	0.0160	0.00800	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185464
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/06/2013
Sample ID: WG451793-13
Instrument ID: PE-ICP2
Run Time: 10:17
Method: 6010B
File ID: P2.110613.101702
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 06-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.000800	0.00160	0.000800	U
Calcium	0.200	0.400	0.200	U
Magnesium	0.200	0.400	0.200	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U
Tin	0.200	0.400	0.200	U
Vanadium	0.00400	0.00800	0.00400	U
Zinc	0.00800	0.0160	0.00800	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185464
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/06/2013
Sample ID: WG451793-15
Instrument ID: PE-ICP2
Run Time: 10:57
Method: 6010B
File ID: P2.110613.105714
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 06-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.000800	0.00160	0.000800	U
Calcium	0.200	0.400	0.200	U
Magnesium	0.200	0.400	0.200	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U
Tin	0.200	0.400	0.200	U
Vanadium	0.00400	0.00800	0.00400	U
Zinc	0.00800	0.0160	0.00800	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185464
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/06/2013
Sample ID: WG451793-17
Instrument ID: PE-ICP2
Run Time: 11:19
Method: 6010B
File ID: P2.110613.111926
Analyst: KHR
Units: mg/L
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 06-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Beryllium	0.000800	0.00160	0.000800	U
Calcium	0.200	0.400	0.200	U
Magnesium	0.200	0.400	0.200	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U
Tin	0.200	0.400	0.200	U
Vanadium	0.00400	0.00800	0.00400	U
Zinc	0.00800	0.0160	0.00800	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185464
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451566-06
Instrument ID: PE-ICP2 Run Time: 09:47 Method: 6010B
File ID: P2.110513.094722 Analyst: KHR Units: mg/L
Workgroup (AAB#): WG451450 Cal ID: PE-ICP - 05-NOV-13
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Beryllium		.05	0.0502	100	90 - 110	
Calcium		10	10.2	102	90 - 110	
Magnesium		10	9.84	98.4	90 - 110	
Potassium		50	51.3	103	90 - 110	
Sodium		50	50.1	100	90 - 110	
Tin		1	1.03	103	90 - 110	
Vanadium		1	0.970	97.0	90 - 110	
Zinc		1	0.993	99.3	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 3185460
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)

(Alternate Source)

Login Number: L13101868 Run Date: 11/06/2013 Sample ID: WG451793-08

Instrument ID: PE-ICP2 Run Time: 10:05 Method: 6010B

File ID: P2.110613.100523 Analyst: KHR Units: mg/L

Workgroup (AAB#): WG451450 Cal ID: PE-ICP - 06-NOV-13

QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Beryllium		.05	0.0510	102	90 - 110	
Calcium		10	10.4	104	90 - 110	
Magnesium		10	10.3	103	90 - 110	
Potassium		50	52.9	106	90 - 110	
Sodium		50	53.0	106	90 - 110	
Tin		1	1.03	103	90 - 110	
Vanadium		1	0.968	96.8	90 - 110	
Zinc		1	0.999	99.9	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 3185460
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-11
Instrument ID: PE-ICP2
Run Time: 09:59
Method: 6010B
File ID: P2.110513.095924
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0515	mg/L	103	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	50.6	mg/L	101	90 - 110		
Sodium		50.0	50.7	mg/L	101	90 - 110		
Tin		1.00	0.990	mg/L	99.0	90 - 110		
Vanadium		1.00	1.03	mg/L	103	90 - 110		
Zinc		1.00	1.05	mg/L	105	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3185463
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-13
Instrument ID: PE-ICP2
Run Time: 10:39
Method: 6010B
File ID: P2.110513.103937
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0508	mg/L	102	90 - 110		
Calcium		10.0	10.5	mg/L	105	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	51.8	mg/L	104	90 - 110		
Sodium		50.0	50.8	mg/L	102	90 - 110		
Tin		1.00	1.03	mg/L	103	90 - 110		
Vanadium		1.00	1.04	mg/L	104	90 - 110		
Zinc		1.00	1.04	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3185463
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-18
Instrument ID: PE-ICP2
Run Time: 11:26
Method: 6010B
File ID: P2.110513.112608
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0503	mg/L	101	90 - 110		
Calcium		10.0	10.4	mg/L	104	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	51.3	mg/L	103	90 - 110		
Sodium		50.0	51.0	mg/L	102	90 - 110		
Tin		1.00	1.03	mg/L	103	90 - 110		
Vanadium		1.00	1.03	mg/L	103	90 - 110		
Zinc		1.00	1.04	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-20
Instrument ID: PE-ICP2
Run Time: 12:10
Method: 6010B
File ID: P2.110513.121038
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0513	mg/L	103	90 - 110		
Calcium		10.0	10.6	mg/L	106	90 - 110		
Magnesium		10.0	10.2	mg/L	102	90 - 110		
Potassium		50.0	51.8	mg/L	104	90 - 110		
Sodium		50.0	50.7	mg/L	101	90 - 110		
Tin		1.00	1.06	mg/L	106	90 - 110		
Vanadium		1.00	1.06	mg/L	106	90 - 110		
Zinc		1.00	1.07	mg/L	107	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3185463
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451566-22
Instrument ID: PE-ICP2
Run Time: 12:33
Method: 6010B
File ID: P2.110513.123343
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0494	mg/L	98.8	90 - 110		
Calcium		10.0	10.2	mg/L	102	90 - 110		
Magnesium		10.0	9.99	mg/L	99.9	90 - 110		
Potassium		50.0	51.4	mg/L	103	90 - 110		
Sodium		50.0	49.4	mg/L	98.9	90 - 110		
Tin		1.00	1.04	mg/L	104	90 - 110		
Vanadium		1.00	1.04	mg/L	104	90 - 110		
Zinc		1.00	1.06	mg/L	106	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/06/2013
Sample ID: WG451793-12
Instrument ID: PE-ICP2
Run Time: 10:14
Method: 6010B
File ID: P2.110613.101457
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 06-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0511	mg/L	102	90 - 110		
Calcium		10.0	10.7	mg/L	107	90 - 110		
Magnesium		10.0	10.5	mg/L	105	90 - 110		
Potassium		50.0	53.1	mg/L	106	90 - 110		
Sodium		50.0	53.7	mg/L	107	90 - 110		
Tin		1.00	1.03	mg/L	103	90 - 110		
Vanadium		1.00	1.02	mg/L	102	90 - 110		
Zinc		1.00	1.04	mg/L	104	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3185463
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/06/2013
Sample ID: WG451793-14
Instrument ID: PE-ICP2
Run Time: 10:55
Method: 6010B
File ID: P2.110613.105508
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 06-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0488	mg/L	97.6	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Potassium		50.0	52.4	mg/L	105	90 - 110		
Sodium		50.0	52.6	mg/L	105	90 - 110		
Tin		1.00	1.01	mg/L	101	90 - 110		
Vanadium		1.00	0.994	mg/L	99.4	90 - 110		
Zinc		1.00	0.997	mg/L	99.7	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3185463
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/06/2013
Sample ID: WG451793-16
Instrument ID: PE-ICP2
Run Time: 11:17
Method: 6010B
File ID: P2.110613.111720
Analyst: KHR
QC Key: DOD4
Workgroup (AAB#): WG451450
Cal ID: PE-ICP - 06-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Beryllium		0.0500	0.0494	mg/L	98.8	90 - 110		
Calcium		10.0	10.3	mg/L	103	90 - 110		
Magnesium		10.0	10.6	mg/L	106	90 - 110		
Potassium		50.0	53.3	mg/L	107	90 - 110		
Sodium		50.0	52.5	mg/L	105	90 - 110		
Tin		1.00	1.02	mg/L	102	90 - 110		
Vanadium		1.00	1.00	mg/L	100	90 - 110		
Zinc		1.00	1.02	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3185463
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L13101868
Instrument ID: PE-ICP2
Sol. A : WG451566-09 **File ID:** P2.110513.095524
Sol. AB : WG451566-10 **File ID:** P2.110513.095724

Workgroup (AAB#): WG451450
Method: 6010B
Units: mg/L
Matrix: Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Beryllium	NS	-0.0000400	NS	0.250	0.245	98.0	
Calcium	250	256	102	250	257	103	
Magnesium	250	254	102	250	252	101	
Potassium	NS	-0.0847	NS	5.00	4.98	99.6	
Sodium	NS	-0.00211	NS	5.00	4.97	99.4	
Tin	NS	-0.0758	NS	NS	-0.0811	NS	
Vanadium	NS	0.000180	NS	0.250	0.242	96.8	
Zinc	NS	0.00170	NS	0.500	0.468	93.6	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).
+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 3185462
Report generated 11/07/2013 07:36

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L13101868
Instrument ID: PE-ICP2
Sol. A : WG451793-10 **File ID:** P2.110613.101050
Sol. AB : WG451793-11 **File ID:** P2.110613.101254

Workgroup (AAB#): WG451450
Method: 6010B
Units: mg/L
Matrix: Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Beryllium	NS	0.0000100	NS	0.250	0.248	99.2	
Calcium	250	283	113	250	266	106	
Magnesium	250	253	101	250	255	102	
Potassium	NS	-0.00303	NS	5.00	5.32	106	
Sodium	NS	-0.0416	NS	5.00	5.61	112	
Tin	NS	-0.0764	NS	NS	-0.0800	NS	
Vanadium	NS	0.0000300	NS	0.250	0.242	96.8	
Zinc	NS	0.00270	NS	0.500	0.464	92.8	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).
+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13101868 **Date:** 12/29/2012
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	396.15	0	0	0.0681	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	0.206	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	24.1	0
CALCIUM	227.55	0	0	0	0	0
CHROMIUM	267.72	0	0	-0.490	1.50	0
COBALT	228.62	0	0	0	5.90	-0.192
COPPER	327.39	0.0717	0	0	0	0
IRON	239.56	-0.460	-0.119	-0.241	0.430	0.0546
LEAD	220.35	0	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	0.130	0	0	0	0
MOLYBDENUM	202.03	0	69.0	5.34	-1.00	-0.750
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0.200	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	-2.05	0	0.0990	0	0.360
ZINC	206.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 3185458
Report generated: 11/07/2013 07:36

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13101868 **Date:** 12/29/2012
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	396.15	0	-0.158	0	0	-0.0238
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	10.0	0	5.00	0
BARIUM	233.53	0	0	0	0.337	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	0	0
CHROMIUM	267.72	-0.0220	0	0	-0.200	0
COBALT	228.62	0	180	-3.64	0	0
COPPER	327.39	0	0	0	0	0
IRON	239.56	0.215	-24.0	0.000840	0.0262	0.0722
LEAD	220.35	0	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.104	0	0	0
MANGANESE	257.61	-0.100	0	0	0	0
MOLYBDENUM	202.03	-0.376	10.6	0.0420	-1.80	0.170
NICKEL	231.60	-0.00974	-831	-0.0400	0.129	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	3.00	0	2.21	0
VANADIUM	290.88	0	0	0.0800	0	-0.567
ZINC	206.20	0	0	0	0	-0.0400

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 3185458
Report generated: 11/07/2013 07:36

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13101868 **Date:** 12/29/2012
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	0	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	0	0
CHROMIUM	267.72	-0.0400	0	0	0	0
COBALT	228.62	0.280	2.77	0	0	0
COPPER	327.39	0	0	0	0	0
IRON	239.56	-0.0800	0	0	0	0.540
LEAD	220.35	0	0	0	0	0
LITHIUM	670.78	0.154	0	0	0	0
MAGNESIUM	279.08	0	0.0200	0	0	0
MANGANESE	257.61	0	0	0	0	0
MOLYBDENUM	202.03	-0.0774	0	0	0	-18.0
NICKEL	231.60	0.150	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0.0700	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	1.00	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	-1.05	0	0	0	0
VANADIUM	290.88	-0.440	0	0	0	0
ZINC	206.20	-0.0613	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 3185458
Report generated: 11/07/2013 07:36

INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13101868 **Date:** 12/29/2012
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	MN	MO	NA	NI	PB
ALUMINUM	396.15	0	0	0	0	-0.166
ANTIMONY	206.84	0	0	0	-0.0500	-0.0100
ARSENIC	188.98	0	0	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	0	0
CHROMIUM	267.72	-0.110	0	0	0	0.0550
COBALT	228.62	0	0	0	1.05	0.462
COPPER	327.39	0	0	0	0	1.00
IRON	239.56	-0.0445	-0.0490	0	0	0.0327
LEAD	220.35	0	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	0	-0.209	0	0	0.600
MOLYBDENUM	202.03	-0.197	0	0	0	-0.500
NICKEL	231.60	0	0	0	0	-0.190
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0.400	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	-0.200	-0.480	0	0	-0.224
ZINC	206.20	-0.0553	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 3185458
Report generated: 11/07/2013 07:36

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13101868 **Date:** 12/29/2012
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	SB	SE	SI	SN	SR
ALUMINUM	396.15	0	0.000612	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	-0.740	0	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	0	0.0223
CHROMIUM	267.72	8.46	0	0	0	0
COBALT	228.62	0.730	-0.250	0	0	0
COPPER	327.39	0	0	0	0	0
IRON	239.56	-0.0366	-0.210	0	0	0
LEAD	220.35	0	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	0	0.300	0	0	0
MOLYBDENUM	202.03	-1.46	0	11.1	0	0
NICKEL	231.60	-0.745	-0.376	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	-0.220	0	0	0
VANADIUM	290.88	-0.920	-0.100	0	0	0
ZINC	206.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 3185458
Report generated: 11/07/2013 07:36

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L13101868 **Date:** 12/29/2012
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Wave Length	TI	TL	V	ZN
ALUMINUM	396.15	0	-0.0270	0	0
ANTIMONY	206.84	0	0	0	-0.300
ARSENIC	188.98	0	0	0.200	0
BARIUM	233.53	0	0	0.0400	0
BERYLLIUM	234.86	0	0	0	0
BORON	249.68	0	0	0	0
CADMIUM	228.80	0	0	0	0
CALCIUM	227.55	-0.150	0	0	0
CHROMIUM	267.72	0.297	0	0	-8.16
COBALT	228.62	0	1.00	0	0
COPPER	327.39	0	0	0	-0.200
IRON	239.56	0	0	-0.00351	0.000100
LEAD	220.35	0	0	0	-0.100
LITHIUM	670.78	0	0	0	0
MAGNESIUM	279.08	0	0	0.0260	0
MANGANESE	257.61	0	1.00	0	0
MOLYBDENUM	202.03	0	-0.120	0.178	0
NICKEL	231.60	0	0	0	-0.200
POTASSIUM	766.49	0	0	0	0
SELENIUM	196.03	0	0	0	0
SILICON	251.61	0	0	0	0
SILVER	328.07	0	0	0	0
SODIUM	589.59	0	0	0	0
STRONTIUM	407.77	0	0	0	0
THALLIUM	190.80	0	0	0	0
TIN	189.93	0	0	0	0
TITANIUM	334.94	0	-12.0	0	0
VANADIUM	290.88	0	-2.76	0	-0.100
ZINC	206.20	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 3185458
Report generated: 11/07/2013 07:36

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L13101868 **Date:** 08/14/2013
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	450.0
Antimony	10.00	45.0
Arsenic	10.00	9.0
Barium	10.00	9.0
Beryllium	10.00	4.5
Boron	10.00	45.0
Cadmium	10.00	4.5
Calcium	10.00	450.0
Chromium	10.00	45.0
Cobalt	10.00	45.0
Copper	10.00	45.0
Iron	10.00	450.0
Lead	10.00	90.0
Lithium	10.00	0.9
Magnesium	10.00	450.0
Manganese	10.00	27.0
Molybdenum	10.00	45.0
Nickel	10.00	45.0
Potassium	10.00	80.0
Selenium	10.00	45.0
Silicon	10.00	36.0
Silver	10.00	4.5
Sodium	10.00	180.0
Strontium	10.00	2.7
Thallium	10.00	45.0
Tin	10.00	45.0
Titanium	10.00	18.0
Vanadium	10.00	45.0
Zinc	10.00	45.0

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 3185457
Report generated: 11/07/2013 07:36

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L13101868 **Date:** 09/20/2013
Insturment ID: PE-ICP2 **Method:** 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Phosphorus	10.00	180.0

Comments:
All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 3185457
Report generated: 11/07/2013 07:36

2.1.1.3 Raw Data

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Analysis Begun

Start Time: 11/5/2013 9:34:14 AM **Plasma On Time: 11/5/2013 6:44:41 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 110513H3
Results Library: C:\pe\peicp2\Results\results1.mdb

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: S0 **Date Collected: 11/5/2013 9:34:16 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S0

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1829603.4	34092.31	1.86%		
YRADIAL	143815.4	11079.51	7.70%		
Ga 417.206	609720.6	13297.08	2.18%		
GaRADIAL	38624.3	1279.28	3.31%		
Ag 328.068†	-412.4	128.78	31.22%	[0.00]	mg/L
Al 396.153†	-5.1	3.88	75.37%	[0.00]	mg/L
As 188.979†	-6.4	1.31	20.65%	[0.00]	mg/L
Ba 233.527†	-136.1	16.22	11.92%	[0.00]	mg/L
Be 234.861†	-1389.9	19.85	1.43%	[0.00]	mg/L
B 249.677†	348.1	55.97	16.08%	[0.00]	mg/L
Ca 227.546†	-69.4	0.13	0.18%	[0.00]	mg/L
Cd 228.802†	29.9	2.64	8.83%	[0.00]	mg/L
Co 228.616†	-10.8	7.48	69.38%	[0.00]	mg/L
Cr 267.716†	148.1	2.42	1.64%	[0.00]	mg/L
Cu 327.393†	-640.9	170.82	26.65%	[0.00]	mg/L
Fe 239.562†	-0.5	4.92	>999.9%	[0.00]	mg/L
Mg 279.077†	15.7	5.00	31.88%	[0.00]	mg/L
Mn 257.610†	274.1	6.33	2.31%	[0.00]	mg/L
Mo 202.031†	51.6	7.53	14.60%	[0.00]	mg/L
Ni 231.604†	-181.4	15.79	8.71%	[0.00]	mg/L
Pb 220.353†	-52.5	6.83	13.01%	[0.00]	mg/L
Sb 206.836†	10.5	3.70	35.14%	[0.00]	mg/L
Se 196.026†	21.8	3.93	18.00%	[0.00]	mg/L
Si 251.611†	567.0	43.41	7.66%	[0.00]	mg/L
Sn 189.927†	34.7	5.37	15.47%	[0.00]	mg/L
Ti 334.940†	628.3	59.86	9.53%	[0.00]	mg/L
Tl 190.801†	-55.2	7.35	13.32%	[0.00]	mg/L
V 290.880†	6729.8	158.74	2.36%	[0.00]	mg/L
Zn 206.200†	-18.9	9.90	52.43%	[0.00]	mg/L
K 766.490†	39.6	44.01	111.04%	[0.00]	mg/L
Na 589.592†	608.1	77.77	12.79%	[0.00]	mg/L
Sr 407.771†	-286.4	165.65	57.83%	[0.00]	mg/L
Li 670.784†	91.0	53.02	58.25%	[0.00]	mg/L
P 214.914†	50.8	13.23	26.05%	[0.00]	mg/L

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S1 **Date Collected: 11/5/2013 9:37:16 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Nebulizer Parameters: S1

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1857876.1	6914.05	0.37%		
YRADIAL	130223.1	7139.71	5.48%		
Ga 417.206	636757.9	3523.10	0.55%		
GaRADIAL	36867.6	1292.36	3.51%		
Ag 328.068†	560.9	68.18	12.16%	[0.0032]	mg/L
Al 396.153†	207.8	10.17	4.89%	[0.08]	mg/L
Ba 233.527†	410.6	2.90	0.71%	[0.008]	mg/L
Be 234.861†	207.9	30.08	14.47%	[0.0004]	mg/L
Cd 228.802†	6.8	5.02	73.93%	[0.0004]	mg/L
Co 228.616†	24.7	2.54	10.29%	[0.0016]	mg/L
Cr 267.716†	264.1	7.05	2.67%	[0.004]	mg/L
Cu 327.393†	545.9	76.05	13.93%	[0.004]	mg/L
Fe 239.562†	75.4	8.75	11.61%	[0.032]	mg/L
Mg 279.077†	74.9	12.93	17.26%	[0.08]	mg/L
Mn 257.610†	1608.6	20.73	1.29%	[0.004]	mg/L
Mo 202.031†	86.1	4.09	4.74%	[0.008]	mg/L
Ni 231.604†	94.2	6.90	7.32%	[0.004]	mg/L
Pb 220.353†	19.4	12.45	64.30%	[0.004]	mg/L
Sb 206.836†	13.3	4.40	33.07%	[0.0096]	mg/L
Si 251.611†	809.9	6.75	0.83%	[0.04]	mg/L
Sn 189.927†	19.0	4.78	25.19%	[0.008]	mg/L
Ti 334.940†	4371.8	48.04	1.10%	[0.008]	mg/L
V 290.880†	1276.1	149.40	11.71%	[0.008]	mg/L
Zn 206.200†	139.7	6.12	4.38%	[0.008]	mg/L
K 766.490†	471.9	21.92	4.65%	[0.4]	mg/L
Na 589.592†	3561.9	79.60	2.23%	[0.4]	mg/L
Sr 407.771†	6935.3	135.90	1.96%	[0.008]	mg/L
Li 670.784†	484.6	69.25	14.29%	[0.008]	mg/L
P 214.914†	55.4	10.61	19.14%	[0.08]	mg/L

==========

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S2 **Date Collected: 11/5/2013 9:40:16 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S2

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1877276.5	19714.66	1.05%		
YRADIAL	131335.5	10967.09	8.35%		
Ga 417.206	629797.0	6626.47	1.05%		
GaRADIAL	37375.4	2789.22	7.46%		
Ag 328.068†	1208.3	62.53	5.18%	[0.0064]	mg/L
Al 396.153†	404.0	34.41	8.52%	[0.16]	mg/L
As 188.979†	4.6	5.37	116.93%	[0.0064]	mg/L
Ba 233.527†	828.0	7.42	0.90%	[0.016]	mg/L
Be 234.861†	379.5	4.44	1.17%	[0.0008]	mg/L
B 249.677†	44.7	26.09	58.35%	[0.008]	mg/L
Ca 227.546†	23.0	3.91	17.02%	[0.16]	mg/L
Cd 228.802†	9.7	2.17	22.46%	[0.0008]	mg/L
Co 228.616†	41.2	10.30	25.01%	[0.0032]	mg/L
Cr 267.716†	523.3	12.76	2.44%	[0.008]	mg/L
Cu 327.393†	1118.1	42.74	3.82%	[0.008]	mg/L
Fe 239.562†	149.5	12.00	8.02%	[0.064]	mg/L
Mg 279.077†	142.5	10.94	7.68%	[0.16]	mg/L
Mn 257.610†	3235.3	34.19	1.06%	[0.008]	mg/L

Approved: November 06, 2013

Kim H. Rhoden

Mo 202.031†	173.2	3.26	1.88%	[0.016]	mg/L
Ni 231.604†	196.4	7.92	4.03%	[0.008]	mg/L
Pb 220.353†	43.4	10.28	23.67%	[0.008]	mg/L
Sb 206.836†	25.0	4.57	18.29%	[0.0192]	mg/L
Se 196.026†	-2.7	7.60	276.79%	[0.0062]	mg/L

Standard intensity and concentration values are not in the same order.

Si 251.611†	1738.6	51.90	2.98%	[0.08]	mg/L
Sn 189.927†	48.2	4.81	9.98%	[0.016]	mg/L
Ti 334.940†	8841.4	352.32	3.98%	[0.016]	mg/L
Tl 190.801†	4.6	8.23	177.51%	[0.008]	mg/L
V 290.880†	2142.4	218.90	10.22%	[0.016]	mg/L
Zn 206.200†	276.4	10.16	3.68%	[0.016]	mg/L
K 766.490†	1032.3	19.55	1.89%	[0.8]	mg/L
Na 589.592†	7262.4	145.61	2.01%	[0.8]	mg/L
Sr 407.771†	14538.9	236.94	1.63%	[0.016]	mg/L
Li 670.784†	958.5	14.52	1.51%	[0.016]	mg/L
P 214.914†	104.4	3.94	3.77%	[0.16]	mg/L

==========

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S3 **Date Collected: 11/5/2013 9:43:16 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S3

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1862188.6	61179.17	3.29%		
YRADIAL	129958.8	4354.81	3.35%		
Ga 417.206	651530.9	31072.30	4.77%		
GaRADIAL	37711.2	1089.93	2.89%		
Ag 328.068†	66853.6	3460.23	5.18%	[0.40]	mg/L
Al 396.153†	23685.8	140.68	0.59%	[10.00]	mg/L
As 188.979†	395.0	19.94	5.05%	[0.40]	mg/L
Ba 233.527†	51673.3	1799.59	3.48%	[1.00]	mg/L
Be 234.861†	20967.2	1083.86	5.17%	[0.05]	mg/L
B 249.677†	17631.6	889.52	5.05%	[0.50]	mg/L
Ca 227.546†	1249.3	53.90	4.31%	[10.00]	mg/L
Cd 228.802†	852.4	51.88	6.09%	[0.05]	mg/L
Co 228.616†	2797.3	68.92	2.46%	[0.20]	mg/L
Cr 267.716†	32319.3	1360.11	4.21%	[0.50]	mg/L
Cu 327.393†	63328.7	3371.82	5.32%	[0.50]	mg/L
Fe 239.562†	9042.3	80.99	0.90%	[4.00]	mg/L
Mg 279.077†	8539.4	96.87	1.13%	[10.00]	mg/L
Mn 257.610†	187711.1	3861.37	2.06%	[0.50]	mg/L
Mo 202.031†	10929.1	468.29	4.28%	[1.00]	mg/L
Ni 231.604†	11442.3	525.95	4.60%	[0.50]	mg/L
Pb 220.353†	1961.1	60.46	3.08%	[0.50]	mg/L
Sb 206.836†	1467.4	74.32	5.06%	[1.20]	mg/L
Se 196.026†	195.2	8.53	4.37%	[0.40]	mg/L

Standard intensity and concentration values are not in the same order.

Si 251.611†	105261.7	5180.15	4.92%	[5.00]	mg/L
Sn 189.927†	3710.2	118.28	3.19%	[1.00]	mg/L
Ti 334.940†	541107.6	9911.43	1.83%	[1.00]	mg/L
Tl 190.801†	567.9	16.08	2.83%	[0.50]	mg/L
V 290.880†	123500.0	4574.05	3.70%	[1.00]	mg/L
Zn 206.200†	16468.5	524.20	3.18%	[1.00]	mg/L
K 766.490†	57696.9	588.75	1.02%	[50.00]	mg/L
Na 589.592†	430366.1	23498.27	5.46%	[50.00]	mg/L
Sr 407.771†	855910.2	55433.12	6.48%	[1.00]	mg/L
Li 670.784†	56316.2	407.93	0.72%	[1.00]	mg/L
P 214.914†	5869.0	157.66	2.69%	[10]	mg/L

==========

Sequence No.: 5 **Autosampler Location: 5**

Approved: November 06, 2013

Kim H. Rhoden

Sample ID: S4
Analyst:
Initial Sample Wt:
Dilution:

Date Collected: 11/5/2013 9:45:20 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: S4

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: S4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1863906.3	25425.32	1.36%		
YRADIAL	138374.1	6843.70	4.95%		
Ga 417.206	648495.9	13198.60	2.04%		
GaRADIAL	39774.3	1604.35	4.03%		
Ag 328.068†	132252.4	623.11	0.47%	[0.80]	mg/L
Al 396.153†	48301.4	264.49	0.55%	[20.00]	mg/L
As 188.979†	796.2	17.43	2.19%	[0.80]	mg/L
Ba 233.527†	102197.6	1752.17	1.71%	[2.00]	mg/L
Be 234.861†	42030.8	303.69	0.72%	[0.10]	mg/L
B 249.677†	36736.5	283.92	0.77%	[1.00]	mg/L
Ca 227.546†	2529.6	45.70	1.81%	[20.00]	mg/L
Cd 228.802†	1709.8	39.61	2.32%	[0.10]	mg/L
Co 228.616†	5518.3	110.56	2.00%	[0.40]	mg/L
Cr 267.716†	64040.3	795.65	1.24%	[1.00]	mg/L
Cu 327.393†	126668.0	383.75	0.30%	[1.00]	mg/L
Fe 239.562†	18524.2	101.82	0.55%	[8.00]	mg/L
Mg 279.077†	17392.2	51.85	0.30%	[20.00]	mg/L
Mn 257.610†	375268.6	6153.52	1.64%	[1.00]	mg/L
Mo 202.031†	21981.4	356.56	1.62%	[2.00]	mg/L
Ni 231.604†	22669.2	427.88	1.89%	[1.00]	mg/L
Pb 220.353†	3847.9	48.24	1.25%	[1.00]	mg/L
Sb 206.836†	2936.5	52.42	1.79%	[2.40]	mg/L
Se 196.026†	398.4	7.83	1.96%	[0.80]	mg/L
Standard intensity and concentration values are not in the same order.					
Si 251.611†	207602.5	1153.61	0.56%	[10.00]	mg/L
Sn 189.927†	7306.7	158.45	2.17%	[2.00]	mg/L
Ti 334.940†	1091270.9	16034.43	1.47%	[2.00]	mg/L
Tl 190.801†	1115.5	23.95	2.15%	[1.00]	mg/L
V 290.880†	241914.1	4631.54	1.91%	[2.00]	mg/L
Zn 206.200†	32660.6	569.42	1.74%	[2.00]	mg/L
K 766.490†	117811.1	669.56	0.57%	[100.00]	mg/L
Na 589.592†	851422.1	23904.08	2.81%	[100.00]	mg/L
Sr 407.771†	1678219.9	47525.78	2.83%	[2.00]	mg/L
Li 670.784†	114493.9	661.44	0.58%	[2.00]	mg/L
P 214.914†	11738.0	295.01	2.51%	[20]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	147.6	165500	0.00000	0.999986	
Al 396.153	4	Lin, Calc Int	-47.9	2409	0.00000	0.999955	
As 188.979	3	Wt. Lin	-1.8	994.6	0.00000	0.999996	
Ba 233.527	4	Lin, Calc Int	75.4	51170	0.00000	0.999985	
Be 234.861	4	Lin, Calc Int	20.0	419900	0.00000	0.999999	
B 249.677	3	Lin, Calc Int	-247.2	36740	0.00000	0.999803	
Ca 227.546	3	Lin, Calc Int	-1.6	126.3	0.00000	0.999978	
Cd 228.802	4	Lin, Calc Int	-1.6	17110	0.00000	0.999997	
Co 228.616	4	Lin, Calc Int	4.7	13820	0.00000	0.999977	
Cr 267.716	4	Lin, Calc Int	43.2	64110	0.00000	0.999990	
Cu 327.393	4	Lin, Calc Int	44.4	126600	0.00000	1.000000	
Fe 239.562	4	Lin, Calc Int	-26.6	2309	0.00000	0.999933	
Mg 279.077	4	Lin, Calc Int	-16.8	867.5	0.00000	0.999961	
Mn 257.610	4	Lin, Calc Int	116.1	375200	0.00000	1.000000	
Mo 202.031	4	Lin, Calc Int	-9.1	10980	0.00000	0.999996	
Ni 231.604	4	Lin, Calc Int	19.2	22690	0.00000	0.999990	
Pb 220.353	4	Lin, Calc Int	9.8	3851	0.00000	0.999959	
Sb 206.836	4	Lin, Calc Int	0.9	1223	0.00000	1.000000	

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Se 196.026	3	Wt. Lin	-5.9	504.0	0.00000	0.999996
Si 251.611	4	Lin, Calc Int	199.9	20790	0.00000	0.999977
Sn 189.927	4	Lin, Calc Int	0.7	3664	0.00000	0.999967
Ti 334.940	4	Lin, Calc Int	-527.5	545000	0.00000	0.999992
Tl 190.801	3	Lin, Calc Int	-0.1	1120	0.00000	0.999941
V 290.880	4	Lin, Calc Int	478.4	121200	0.00000	0.999951
Zn 206.200	4	Lin, Calc Int	24.8	16340	0.00000	0.999992
K 766.490	4	Non Lin, Calc Int	49.4	1128	0.49241	1.000000
Na 589.592	4	Non Lin, Calc Int	128.7	8697	-1.83849	1.000000
Sr 407.771	4	Lin, Calc Int	2511.3	841000	0.00000	0.999954
Li 670.784	4	Lin, Calc Int	-94.3	57120	0.00000	0.999968
P 214.914	4	Lin, Calc Int	5.9	586.5	0.00000	1.000000

Sequence No.: 6 **Autosampler Location: 11**
Sample ID: ICV 2nd Vendor **Date Collected: 11/5/2013 9:47:22 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICV 2nd Vendor

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: ICV 2nd Vendor

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1880148.7						23999.77	1.28%
YRADIAL	133136.0						2423.15	1.82%
Ga 417.206	649762.2						12886.63	1.98%
GaRADIAL	38058.1						814.53	2.14%
Ag 328.068†	67336.5	0.410	mg/L	0.0088	0.410	mg/L	0.0088	2.14%
QC value within limits for Ag 328.068 Recovery = 102.40%								
Al 396.153†	23556.0	9.73	mg/L	0.048	9.73	mg/L	0.048	0.49%
QC value within limits for Al 396.153 Recovery = 97.32%								
As 188.979†	404.5	0.404	mg/L	0.0029	0.404	mg/L	0.0029	0.71%
QC value within limits for As 188.979 Recovery = 100.96%								
Ba 233.527†	50275.5	0.981	mg/L	0.0091	0.981	mg/L	0.0091	0.93%
QC value within limits for Ba 233.527 Recovery = 98.14%								
Be 234.861†	21292.7	0.0501	mg/L	0.00072	0.0501	mg/L	0.00072	1.44%
QC value within limits for Be 234.861 Recovery = 100.29%								
B 249.677†	18599.1	0.509	mg/L	0.0118	0.509	mg/L	0.0118	2.32%
QC value within limits for B 249.677 Recovery = 101.83%								
Ca 227.546†	1224.7	10.2	mg/L	0.10	10.2	mg/L	0.10	1.02%
QC value within limits for Ca 227.546 Recovery = 101.54%								
Cd 228.802†	866.5	0.0494	mg/L	0.00093	0.0494	mg/L	0.00093	1.88%
QC value within limits for Cd 228.802 Recovery = 98.71%								
Co 228.616†	2825.0	0.203	mg/L	0.0014	0.203	mg/L	0.0014	0.70%
QC value within limits for Co 228.616 Recovery = 101.62%								
Cr 267.716†	31414.7	0.490	mg/L	0.0046	0.490	mg/L	0.0046	0.93%
QC value within limits for Cr 267.716 Recovery = 97.94%								
Cu 327.393†	62750.9	0.497	mg/L	0.0083	0.497	mg/L	0.0083	1.67%
QC value within limits for Cu 327.393 Recovery = 99.36%								
Fe 239.562†	8878.3	3.86	mg/L	0.008	3.86	mg/L	0.008	0.21%
QC value within limits for Fe 239.562 Recovery = 96.41%								
Mg 279.077†	8508.0	9.84	mg/L	0.108	9.84	mg/L	0.108	1.10%
QC value within limits for Mg 279.077 Recovery = 98.43%								
Mn 257.610†	184120.3	0.491	mg/L	0.0058	0.491	mg/L	0.0058	1.19%
QC value within limits for Mn 257.610 Recovery = 98.24%								
Mo 202.031†	10809.6	0.986	mg/L	0.0130	0.986	mg/L	0.0130	1.32%
QC value within limits for Mo 202.031 Recovery = 98.56%								
Ni 231.604†	11031.7	0.485	mg/L	0.0086	0.485	mg/L	0.0086	1.78%
QC value within limits for Ni 231.604 Recovery = 97.00%								
Pb 220.353†	1891.8	0.490	mg/L	0.0026	0.490	mg/L	0.0026	0.52%
QC value within limits for Pb 220.353 Recovery = 98.03%								
Sb 206.836†	1488.6	1.22	mg/L	0.023	1.22	mg/L	0.023	1.86%
QC value within limits for Sb 206.836 Recovery = 101.28%								
Se 196.026†	204.2	0.418	mg/L	0.0095	0.418	mg/L	0.0095	2.27%
QC value within limits for Se 196.026 Recovery = 104.54%								
Si 251.611†	104947.7	5.03	mg/L	0.104	5.03	mg/L	0.104	2.08%

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   QC value within limits for Si 251.611  Recovery = 100.53%
Sn 189.927†            3764.1        1.03 mg/L        0.005        1.03 mg/L        0.005   0.45%
   QC value within limits for Sn 189.927  Recovery = 102.71%
Ti 334.940†          546751.0        1.01 mg/L        0.010        1.01 mg/L        0.010   1.02%
   QC value within limits for Ti 334.940  Recovery = 100.54%
Tl 190.801†             558.2       0.513 mg/L       0.0025       0.513 mg/L       0.0025   0.50%
   QC value within limits for Tl 190.801  Recovery = 102.62%
V 290.880†           118184.8       0.970 mg/L       0.0039       0.970 mg/L       0.0039   0.40%
   QC value within limits for V 290.880  Recovery = 97.04%
Zn 206.200†           16172.8       0.993 mg/L       0.0098       0.993 mg/L       0.0098   0.98%
   QC value within limits for Zn 206.200  Recovery = 99.28%
K 766.490†            59238.2        51.3 mg/L         0.55        51.3 mg/L         0.55   1.07%
   QC value within limits for K 766.490  Recovery = 102.51%
Na 589.592†          431377.6        50.1 mg/L         1.07        50.1 mg/L         1.07   2.13%
   QC value within limits for Na 589.592  Recovery = 100.24%
Sr 407.771†          816237.1       0.967 mg/L       0.0290       0.967 mg/L       0.0290   3.00%
   QC value within limits for Sr 407.771  Recovery = 96.73%
Li 670.784†           56009.0       0.982 mg/L       0.0081       0.982 mg/L       0.0081   0.83%
   QC value within limits for Li 670.784  Recovery = 98.22%
P 214.914†             5929.8        10.1 mg/L         0.03        10.1 mg/L         0.03   0.30%
   QC value within limits for P 214.914  Recovery = 100.99%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 7                                  Autosampler Location: 1
Sample ID: ICB                                   Date Collected: 11/5/2013 9:49:25 AM
Analyst:                                         Data Type: Original
Initial Sample Wt:                               Initial Sample Vol:
Dilution:                                        Sample Prep Vol:

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Nebulizer Parameters: ICB
Analyte                 Back Pressure    Flow
All                    178.0 kPa         0.47 L/min

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Mean Data: ICB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029           1868115.8                                                   20917.36   1.12%
YRADIAL              126290.1                                                    4076.81   3.23%
Ga 417.206           627541.1                                                    4404.77   0.70%
GaRADIAL              36194.7                                                    1269.10   3.51%
Ag 328.068†              74.8    -0.00044 mg/L      0.000287    -0.00044 mg/L      0.000287  64.98%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               2.7      0.0209 mg/L       0.00184      0.0209 mg/L       0.00184   8.81%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†              -0.6     0.00123 mg/L      0.003125     0.00123 mg/L      0.003125 254.58%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -9.6    -0.00166 mg/L      0.000076    -0.00166 mg/L      0.000076   4.61%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              32.7     0.00003 mg/L      0.000037     0.00003 mg/L      0.000037 132.38%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              334.6      0.0158 mg/L       0.00205      0.0158 mg/L       0.00205  12.92%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              10.4      0.0943 mg/L       0.04049      0.0943 mg/L       0.04049  42.96%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -2.0    -0.00003 mg/L      0.000144    -0.00003 mg/L      0.000144 434.43%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -5.1    -0.00071 mg/L      0.000423    -0.00071 mg/L      0.000423  59.97%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               9.6    -0.00053 mg/L      0.000045    -0.00053 mg/L      0.000045   8.63%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               4.8    -0.00031 mg/L      0.000183    -0.00031 mg/L      0.000183  58.49%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              -3.1      0.0102 mg/L       0.00232      0.0102 mg/L       0.00232  22.78%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               5.8      0.0260 mg/L       0.00622      0.0260 mg/L       0.00622  23.88%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              21.3    -0.00025 mg/L      0.000027    -0.00025 mg/L      0.000027  10.58%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               8.7     0.00161 mg/L      0.000438     0.00161 mg/L      0.000438  27.13%
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   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†                0.9    -0.00080 mg/L      0.000174    -0.00080 mg/L      0.000174  21.68%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               13.7     0.00099 mg/L      0.001362     0.00099 mg/L      0.001362 136.86%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                1.0     0.00013 mg/L      0.001934     0.00013 mg/L      0.001934 >999.9%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -4.5     0.00277 mg/L      0.003893     0.00277 mg/L      0.003893 140.39%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               13.3    -0.00899 mg/L      0.001701    -0.00899 mg/L      0.001701  18.92%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               11.5     0.00295 mg/L      0.000744     0.00295 mg/L      0.000744  25.25%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               80.7     0.00113 mg/L      0.000241     0.00113 mg/L      0.000241  21.36%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -3.8    -0.00327 mg/L      0.003856    -0.00327 mg/L      0.003856 117.98%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                69.3    -0.00338 mg/L      0.000727    -0.00338 mg/L      0.000727  21.52%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                7.3    -0.00108 mg/L      0.000073    -0.00108 mg/L      0.000073   6.76%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                22.9     -0.0235 mg/L       0.02750     -0.0235 mg/L       0.02750 116.95%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               35.1     -0.0108 mg/L       0.00532     -0.0108 mg/L       0.00532  49.44%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              -40.0    -0.00304 mg/L      0.000062    -0.00304 mg/L      0.000062   2.03%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               39.0     0.00233 mg/L      0.001691     0.00233 mg/L      0.001691  72.46%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                16.2      0.0174 mg/L       0.00371      0.0174 mg/L       0.00371  21.25%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 8                                   Autosampler Location: 14
Sample ID: LLICV                                  Date Collected: 11/5/2013 9:52:24 AM
Analyst: KHR                                      Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

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Nebulizer Parameters: LLICV
Analyte                 Back Pressure    Flow
All                    179.0 kPa        0.47 L/min

------------------------------------------------------------------------------------------
Mean Data: LLICV
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            1877535.9                                                   133409.23   7.11%
YRADIAL               129861.6                                                    12530.42   9.65%
Ga 417.206            635211.0                                                    51548.39   8.12%
GaRADIAL               36844.1                                                     2520.54   6.84%
Ag 328.068†               68.3    -0.00044 mg/L      0.000498    -0.00044 mg/L      0.000498 113.05%
Al 396.153†              408.8       0.190 mg/L        0.0068       0.190 mg/L        0.0068   3.60%
As 188.979†               -1.7     0.00011 mg/L      0.003829     0.00011 mg/L      0.003829 >999.9%
Ba 233.527†              -17.9    -0.00182 mg/L      0.000171    -0.00182 mg/L      0.000171   9.35%
Be 234.861†              745.4     0.00171 mg/L      0.000119     0.00171 mg/L      0.000119   6.96%
B 249.677†               -12.6     0.00635 mg/L      0.001034     0.00635 mg/L      0.001034  16.27%
Ca 227.546†               61.3       0.499 mg/L        0.0575       0.499 mg/L        0.0575  11.52%
Cd 228.802†               -1.2     0.00002 mg/L      0.000399     0.00002 mg/L      0.000399 >999.9%
Co 228.616†               -6.3    -0.00079 mg/L      0.000481    -0.00079 mg/L      0.000481  60.77%
Cr 267.716†                4.1    -0.00061 mg/L      0.000179    -0.00061 mg/L      0.000179  29.20%
Cu 327.393†               -0.4    -0.00035 mg/L      0.000487    -0.00035 mg/L      0.000487 139.73%
Fe 239.562†              170.7      0.0854 mg/L       0.00336      0.0854 mg/L       0.00336   3.93%
Mg 279.077†              367.9       0.443 mg/L        0.0342       0.443 mg/L        0.0342   7.70%
Mn 257.610†               57.9    -0.00015 mg/L      0.000040    -0.00015 mg/L      0.000040  26.33%
Mo 202.031†                1.6     0.00097 mg/L      0.000793     0.00097 mg/L      0.000793  81.81%
Ni 231.604†                1.6    -0.00077 mg/L      0.001250    -0.00077 mg/L      0.001250 161.46%
Pb 220.353†               17.2     0.00194 mg/L      0.000059     0.00194 mg/L      0.000059   3.04%
Sb 206.836†               -1.9    -0.00227 mg/L      0.002462    -0.00227 mg/L      0.002462 108.50%
Se 196.026†               -5.4     0.00105 mg/L      0.005923     0.00105 mg/L      0.005923 563.24%
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Si 251.611†	32.7	-0.00805	mg/L	0.002492	-0.00805	mg/L	0.002492	30.95%
Sn 189.927†	1355.3	0.370	mg/L	0.0291	0.370	mg/L	0.0291	7.87%
Ti 334.940†	-38.7	0.00097	mg/L	0.000270	0.00097	mg/L	0.000270	27.79%
Tl 190.801†	-5.7	-0.00495	mg/L	0.003048	-0.00495	mg/L	0.003048	61.57%
V 290.880†	322.9	-0.00130	mg/L	0.003307	-0.00130	mg/L	0.003307	253.62%
Zn 206.200†	25.4	0.00004	mg/L	0.000159	0.00004	mg/L	0.000159	437.40%
K 766.490†	1016.3	0.856	mg/L	0.0502	0.856	mg/L	0.0502	5.87%
Na 589.592†	3671.3	0.407	mg/L	0.0079	0.407	mg/L	0.0079	1.95%
Sr 407.771†	-63.1	-0.00308	mg/L	0.000064	-0.00308	mg/L	0.000064	2.09%
Li 670.784†	-46.0	0.00085	mg/L	0.000729	0.00085	mg/L	0.000729	86.12%
P 214.914†	18.9	0.0221	mg/L	0.01488	0.0221	mg/L	0.01488	67.18%

Sequence No.: 9 **Autosampler Location: 12**
Sample ID: ICSA **Date Collected: 11/5/2013 9:55:24 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1870686.7						93221.93	4.98%
YRADIAL	133542.7						1696.32	1.27%
Ga 417.206	679852.2						31080.72	4.57%
GaRADIAL	39567.4						580.09	1.47%
Ag 328.068†	-6662.2	0.00398	mg/L	0.001022	0.00398	mg/L	0.001022	25.67%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	592420.8	246	mg/L	9.8	246	mg/L	9.8	3.99%
QC value within limits for Al 396.153 Recovery = 98.39%								
As 188.979†	-17.4	-0.00307	mg/L	0.008111	-0.00307	mg/L	0.008111	264.38%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	246.5	0.00090	mg/L	0.000137	0.00090	mg/L	0.000137	15.23%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	9653.9	-0.00081	mg/L	0.000372	-0.00081	mg/L	0.000372	45.89%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	1814.5	0.0148	mg/L	0.00274	0.0148	mg/L	0.00274	18.56%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	32060.6	256	mg/L	1.0	256	mg/L	1.0	0.39%
QC value within limits for Ca 227.546 Recovery = 102.50%								
Cd 228.802†	-2.8	0.00028	mg/L	0.000141	0.00028	mg/L	0.000141	50.35%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	8.4	-0.00216	mg/L	0.000865	-0.00216	mg/L	0.000865	39.97%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	115.5	-0.00072	mg/L	0.000438	-0.00072	mg/L	0.000438	60.59%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-777.0	-0.00087	mg/L	0.001029	-0.00087	mg/L	0.001029	118.01%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	221990.2	96.2	mg/L	0.08	96.2	mg/L	0.08	0.09%
QC value within limits for Fe 239.562 Recovery = 96.17%								
Mg 279.077†	220148.7	254	mg/L	0.5	254	mg/L	0.5	0.18%
QC value within limits for Mg 279.077 Recovery = 101.50%								
Mn 257.610†	-1163.3	0.00202	mg/L	0.000334	0.00202	mg/L	0.000334	16.56%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	1.0	0.00242	mg/L	0.000201	0.00242	mg/L	0.000201	8.30%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	22.4	0.00015	mg/L	0.000925	0.00015	mg/L	0.000925	621.77%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-93.7	-0.00027	mg/L	0.000786	-0.00027	mg/L	0.000786	289.21%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-9.5	-0.00493	mg/L	0.001860	-0.00493	mg/L	0.001860	37.69%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-19.0	0.00002	mg/L	0.005039	0.00002	mg/L	0.005039	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	646.4	0.0215	mg/L	0.00697	0.0215	mg/L	0.00697	32.49%
QC value within limits for Si 251.611 Recovery = Not calculated								

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Sn 189.927†	-277.2	-0.0758 mg/L	0.00240	-0.0758 mg/L	0.00240	3.16%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-21130.3	0.00029 mg/L	0.001139	0.00029 mg/L	0.001139	394.79%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-23.7	-0.0148 mg/L	0.01635	-0.0148 mg/L	0.01635	110.18%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	2523.4	0.00018 mg/L	0.002967	0.00018 mg/L	0.002967	>999.9%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	23.8	0.00170 mg/L	0.000681	0.00170 mg/L	0.000681	40.16%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	-46.1	-0.0847 mg/L	0.06076	-0.0847 mg/L	0.06076	71.77%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	110.3	-0.00211 mg/L	0.007348	-0.00211 mg/L	0.007348	348.33%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	6656.6	-0.00317 mg/L	0.000033	-0.00317 mg/L	0.000033	1.04%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	-12.7	0.00143 mg/L	0.000837	0.00143 mg/L	0.000837	58.54%
QC value within limits for Li 670.784 Recovery = Not calculated						
P 214.914†	46.4	0.0690 mg/L	0.04836	0.0690 mg/L	0.04836	70.10%
QC value within limits for P 214.914 Recovery = Not calculated						

All analyte(s) passed QC.

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Sequence No.: 10 **Autosampler Location: 13**
Sample ID: ICSAB **Date Collected: 11/5/2013 9:57:24 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1809762.2						21232.86	1.17%
YRADIAL	131873.8						1182.55	0.90%
Ga 417.206	647475.5						13147.60	2.03%
GaRADIAL	38847.4						261.11	0.67%
Ag 328.068†	74776.7	0.496	mg/L	0.0017	0.496	mg/L	0.0017	0.35%
QC value within limits for Ag 328.068 Recovery = 99.27%								
Al 396.153†	590436.9	245	mg/L	6.2	245	mg/L	6.2	2.55%
QC value within limits for Al 396.153 Recovery = 98.06%								
As 188.979†	227.8	0.243	mg/L	0.0035	0.243	mg/L	0.0035	1.42%
QC value within limits for As 188.979 Recovery = 97.36%								
Ba 233.527†	12707.1	0.244	mg/L	0.0035	0.244	mg/L	0.0035	1.44%
QC value within limits for Ba 233.527 Recovery = 97.76%								
Be 234.861†	112486.9	0.244	mg/L	0.0003	0.244	mg/L	0.0003	0.12%
QC value within limits for Be 234.861 Recovery = 97.71%								
B 249.677†	1777.3	0.00067	mg/L	0.001989	0.00067	mg/L	0.001989	297.79%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	32163.3	257	mg/L	2.2	257	mg/L	2.2	0.84%
QC value within limits for Ca 227.546 Recovery = 102.96%								
Cd 228.802†	8240.3	0.482	mg/L	0.0077	0.482	mg/L	0.0077	1.59%
QC value within limits for Cd 228.802 Recovery = 96.35%								
Co 228.616†	3217.9	0.230	mg/L	0.0040	0.230	mg/L	0.0040	1.73%
QC value within limits for Co 228.616 Recovery = 92.00%								
Cr 267.716†	15594.9	0.241	mg/L	0.0007	0.241	mg/L	0.0007	0.29%
QC value within limits for Cr 267.716 Recovery = 96.37%								
Cu 327.393†	29227.7	0.236	mg/L	0.0004	0.236	mg/L	0.0004	0.15%
QC value within limits for Cu 327.393 Recovery = 94.43%								
Fe 239.562†	220582.6	95.6	mg/L	0.24	95.6	mg/L	0.24	0.25%
QC value within limits for Fe 239.562 Recovery = 95.56%								
Mg 279.077†	218992.0	252	mg/L	0.1	252	mg/L	0.1	0.04%
QC value within limits for Mg 279.077 Recovery = 100.96%								
Mn 257.610†	89539.1	0.244	mg/L	0.0024	0.244	mg/L	0.0024	0.96%
QC value within limits for Mn 257.610 Recovery = 97.54%								
Mo 202.031†	5.6	0.00300	mg/L	0.000328	0.00300	mg/L	0.000328	10.92%
QC value within limits for Mo 202.031 Recovery = Not calculated								

Approved: November 06, 2013

Kim H. Rhoden

Ni 231.604†	10860.3	0.477 mg/L	0.0065	0.477 mg/L	0.0065	1.36%
QC value within limits for Ni 231.604 Recovery = 95.48%						
Pb 220.353†	1753.1	0.479 mg/L	0.0077	0.479 mg/L	0.0077	1.62%
QC value within limits for Pb 220.353 Recovery = 95.82%						
Sb 206.836†	584.6	0.479 mg/L	0.0035	0.479 mg/L	0.0035	0.73%
QC value within limits for Sb 206.836 Recovery = 95.86%						
Se 196.026†	96.7	0.230 mg/L	0.0123	0.230 mg/L	0.0123	5.35%
QC value within limits for Se 196.026 Recovery = 91.87%						
Si 251.611†	302.9	0.00494 mg/L	0.010475	0.00494 mg/L	0.010475	211.99%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-296.4	-0.0811 mg/L	0.00230	-0.0811 mg/L	0.00230	2.83%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-20857.7	0.00084 mg/L	0.001285	0.00084 mg/L	0.001285	153.17%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	525.1	0.475 mg/L	0.0112	0.475 mg/L	0.0112	2.36%
QC value within limits for Tl 190.801 Recovery = 95.09%						
V 290.880†	31844.3	0.242 mg/L	0.0039	0.242 mg/L	0.0039	1.59%
QC value within limits for V 290.880 Recovery = 96.88%						
Zn 206.200†	7606.4	0.468 mg/L	0.0074	0.468 mg/L	0.0074	1.59%
QC value within limits for Zn 206.200 Recovery = 93.60%						
K 766.490†	5691.1	4.98 mg/L	0.067	4.98 mg/L	0.067	1.35%
QC value within limits for K 766.490 Recovery = 99.68%						
Na 589.592†	43279.6	4.97 mg/L	0.015	4.97 mg/L	0.015	0.30%
QC value within limits for Na 589.592 Recovery = 99.34%						
Sr 407.771†	6516.1	-0.00336 mg/L	0.000091	-0.00336 mg/L	0.000091	2.72%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	12.5	0.00187 mg/L	0.000560	0.00187 mg/L	0.000560	29.93%
QC value within limits for Li 670.784 Recovery = Not calculated						
P 214.914†	-35.8	-0.0712 mg/L	0.04856	-0.0712 mg/L	0.04856	68.23%
QC value within limits for P 214.914 Recovery = Not calculated						

All analyte(s) passed QC.

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Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 9:59:24 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1959680.1						18390.48	0.94%
YRADIAL	138295.4						3956.70	2.86%
Ga 417.206	675105.8						11446.68	1.70%
GaRADIAL	38284.7						943.28	2.46%
Ag 328.068†	69820.5	0.425	mg/L	0.0113	0.425	mg/L	0.0113	2.66%
QC value within limits for Ag 328.068 Recovery = 106.20%								
Al 396.153†	24378.8	10.1	mg/L	0.08	10.1	mg/L	0.08	0.80%
QC value within limits for Al 396.153 Recovery = 100.71%								
As 188.979†	390.5	0.390	mg/L	0.0081	0.390	mg/L	0.0081	2.07%
QC value within limits for As 188.979 Recovery = 97.39%								
Ba 233.527†	53113.2	1.04	mg/L	0.010	1.04	mg/L	0.010	1.00%
QC value within limits for Ba 233.527 Recovery = 103.69%								
Be 234.861†	21855.6	0.0515	mg/L	0.00121	0.0515	mg/L	0.00121	2.35%
QC value within limits for Be 234.861 Recovery = 102.92%								
B 249.677†	18839.6	0.516	mg/L	0.0089	0.516	mg/L	0.0089	1.72%
QC value within limits for B 249.677 Recovery = 103.13%								
Ca 227.546†	1244.9	10.3	mg/L	0.10	10.3	mg/L	0.10	1.01%
QC value within limits for Ca 227.546 Recovery = 103.48%								
Cd 228.802†	872.1	0.0497	mg/L	0.00125	0.0497	mg/L	0.00125	2.52%
QC value within limits for Cd 228.802 Recovery = 99.45%								
Co 228.616†	2733.7	0.197	mg/L	0.0032	0.197	mg/L	0.0032	1.61%
QC value within limits for Co 228.616 Recovery = 98.35%								
Cr 267.716†	33346.4	0.520	mg/L	0.0079	0.520	mg/L	0.0079	1.53%
QC value within limits for Cr 267.716 Recovery = 103.97%								

Approved: November 06, 2013

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Cu 327.393†            67049.1       0.531 mg/L        0.0139       0.531 mg/L        0.0139   2.62%
   QC value within limits for Cu 327.393  Recovery = 106.16%
Fe 239.562†             9293.4        4.04 mg/L         0.037        4.04 mg/L         0.037   0.93%
   QC value within limits for Fe 239.562  Recovery = 100.91%
Mg 279.077†             8796.8        10.2 mg/L          0.15        10.2 mg/L          0.15   1.48%
   QC value within limits for Mg 279.077  Recovery = 101.76%
Mn 257.610†           188958.7       0.504 mg/L        0.0035       0.504 mg/L        0.0035   0.69%
   QC value within limits for Mn 257.610  Recovery = 100.82%
Mo 202.031†            11289.5        1.03 mg/L         0.011        1.03 mg/L         0.011   1.03%
   QC value within limits for Mo 202.031  Recovery = 102.93%
Ni 231.604†            11801.3       0.519 mg/L        0.0039       0.519 mg/L        0.0039   0.75%
   QC value within limits for Ni 231.604  Recovery = 103.79%
Pb 220.353†             1934.8       0.501 mg/L        0.0100       0.501 mg/L        0.0100   2.00%
   QC value within limits for Pb 220.353  Recovery = 100.28%
Sb 206.836†             1456.4        1.19 mg/L         0.013        1.19 mg/L         0.013   1.11%
   QC value within limits for Sb 206.836  Recovery = 99.08%
Se 196.026†              194.4       0.399 mg/L        0.0048       0.399 mg/L        0.0048   1.22%
   QC value within limits for Se 196.026  Recovery = 99.72%
Si 251.611†           109500.3        5.24 mg/L         0.108        5.24 mg/L         0.108   2.06%
   QC value within limits for Si 251.611  Recovery = 104.90%
Sn 189.927†             3630.1       0.990 mg/L        0.0203       0.990 mg/L        0.0203   2.05%
   QC value within limits for Sn 189.927  Recovery = 99.05%
Ti 334.940†           545026.5        1.00 mg/L         0.005        1.00 mg/L         0.005   0.50%
   QC value within limits for Ti 334.940  Recovery = 100.23%
Tl 190.801†              573.3       0.527 mg/L        0.0079       0.527 mg/L        0.0079   1.50%
   QC value within limits for Tl 190.801  Recovery = 105.34%
V 290.880†            125104.6        1.03 mg/L         0.008        1.03 mg/L         0.008   0.78%
   QC value within limits for V 290.880  Recovery = 102.75%
Zn 206.200†            17107.6        1.05 mg/L         0.013        1.05 mg/L         0.013   1.23%
   QC value within limits for Zn 206.200  Recovery = 105.03%
K 766.490†             58518.6        50.6 mg/L          0.32        50.6 mg/L          0.32   0.63%
   QC value within limits for K 766.490  Recovery = 101.29%
Na 589.592†           436700.4        50.7 mg/L          3.83        50.7 mg/L          3.83   7.55%
   QC value within limits for Na 589.592  Recovery = 101.49%
Sr 407.771†           802027.6       0.950 mg/L        0.0780       0.950 mg/L        0.0780   8.20%
   QC value within limits for Sr 407.771  Recovery = 95.04%
Li 670.784†            58363.6        1.02 mg/L         0.005        1.02 mg/L         0.005   0.50%
   QC value within limits for Li 670.784  Recovery = 102.35%
P 214.914†              5699.5        9.71 mg/L         0.222        9.71 mg/L         0.222   2.29%
   QC value within limits for P 214.914  Recovery = 97.07%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/5/2013 10:02:04 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                  Back Pressure    Flow
All                     179.0 kPa        0.47 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1939786.1                                                     35439.82   1.83%
YRADIAL               125278.5                                                      2618.60   2.09%
Ga 417.206            654436.1                                                     10694.37   1.63%
GaRADIAL               35838.5                                                       620.82   1.73%
Ag 328.068†               17.5    -0.00078 mg/L      0.000663    -0.00078 mg/L      0.000663  84.67%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               20.0     0.0280 mg/L       0.00906      0.0280 mg/L       0.00906  32.30%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                0.5     0.00230 mg/L      0.001776     0.00230 mg/L      0.001776  77.29%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -2.5    -0.00152 mg/L      0.000123    -0.00152 mg/L      0.000123   8.09%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               83.3     0.00015 mg/L      0.000065     0.00015 mg/L      0.000065  44.26%
   QC value within limits for Be 234.861  Recovery = Not calculated
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Approved: November 06, 2013

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B 249.677†                17.6     0.00720 mg/L      0.001790     0.00720 mg/L      0.001790  24.84%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               17.1       0.149 mg/L        0.0219       0.149 mg/L        0.0219  14.74%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -1.9    -0.00003 mg/L      0.000225    -0.00003 mg/L      0.000225 722.85%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                1.2    -0.00025 mg/L      0.000452    -0.00025 mg/L      0.000452 182.85%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -10.6    -0.00084 mg/L      0.000261    -0.00084 mg/L      0.000261  30.93%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              183.7     0.00110 mg/L      0.001271     0.00110 mg/L      0.001271 115.44%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               21.9      0.0210 mg/L       0.00293      0.0210 mg/L       0.00293  13.94%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               43.1      0.0691 mg/L       0.01099      0.0691 mg/L       0.01099  15.91%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†                6.7    -0.00029 mg/L      0.000037    -0.00029 mg/L      0.000037  12.86%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               11.7     0.00189 mg/L      0.000074     0.00189 mg/L      0.000074   3.94%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               11.7    -0.00033 mg/L      0.000349    -0.00033 mg/L      0.000349 105.05%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               16.8     0.00182 mg/L      0.001222     0.00182 mg/L      0.001222  67.19%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                5.2     0.00358 mg/L      0.004046     0.00358 mg/L      0.004046 113.01%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -4.4     0.00290 mg/L      0.009574     0.00290 mg/L      0.009574 329.62%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              -49.3     -0.0120 mg/L       0.00074     -0.0120 mg/L       0.00074   6.13%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                4.0     0.00091 mg/L      0.000751     0.00091 mg/L      0.000751  82.52%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               38.9     0.00106 mg/L      0.000040     0.00106 mg/L      0.000040   3.75%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                0.8     0.00078 mg/L      0.002867     0.00078 mg/L      0.002867 368.35%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                41.7    -0.00361 mg/L      0.001661    -0.00361 mg/L      0.001661  46.03%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               12.1    -0.00078 mg/L      0.000396    -0.00078 mg/L      0.000396  50.47%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                -2.3     -0.0458 mg/L       0.04231     -0.0458 mg/L       0.04231  92.42%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               89.2    -0.00454 mg/L      0.014296    -0.00454 mg/L      0.014296 315.17%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              -84.7    -0.00309 mg/L      0.000029    -0.00309 mg/L      0.000029   0.95%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              -57.6     0.00064 mg/L      0.000538     0.00064 mg/L      0.000538  83.77%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                 4.7    -0.00205 mg/L      0.004446    -0.00205 mg/L      0.004446 216.70%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.
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Approved: November 06, 2013

Kim H. Rhoden

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Reprocessing Begun
Logged In Analyst: peicp2 **Technique: ICP Continuous**

Results Data Set (original): 110513H3
Results Library (original): C:\pe\peicp2\Results\results1.mdb
Results Data Set (reprocessed): 110513H3R
Results Library (reprocessed): C:\pe\peicp2\Results\results1.mdb

==========

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: S0 **Date Collected: 11/5/2013 9:34:16 AM**
Analyst: **Data Type: Reprocessed on 11/5/2013 10:11:13 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S0

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Y 371.029	1829603.4	34092.31	1.86%		
YRADIAL	143815.4	11079.51	7.70%		
Ga 417.206	609720.6	13297.08	2.18%		
GaRADIAL	38624.3	1279.28	3.31%		
Ag 328.068†	-412.4	128.78	31.22%	[0.00]	mg/L
Al 396.153†	-5.1	3.88	75.37%	[0.00]	mg/L
As 188.979†	-6.4	1.31	20.65%	[0.00]	mg/L
Ba 233.527†	-136.1	16.22	11.92%	[0.00]	mg/L
Be 234.861†	-1389.9	19.85	1.43%	[0.00]	mg/L
B 249.677†	348.1	55.97	16.08%	[0.00]	mg/L
Ca 227.546†	-69.4	0.13	0.18%	[0.00]	mg/L
Cd 228.802†	29.9	2.64	8.83%	[0.00]	mg/L
Co 228.616†	-10.8	7.48	69.38%	[0.00]	mg/L
Cr 267.716†	148.1	2.42	1.64%	[0.00]	mg/L
Cu 327.393†	-640.9	170.82	26.65%	[0.00]	mg/L
Fe 239.562†	-0.5	4.92	>999.9%	[0.00]	mg/L
Mg 279.077†	15.7	5.00	31.88%	[0.00]	mg/L
Mn 257.610†	274.1	6.33	2.31%	[0.00]	mg/L
Mo 202.031†	51.6	7.53	14.60%	[0.00]	mg/L
Ni 231.604†	-181.4	15.79	8.71%	[0.00]	mg/L
Pb 220.353†	-52.5	6.83	13.01%	[0.00]	mg/L
Sb 206.836†	10.5	3.70	35.14%	[0.00]	mg/L
Se 196.026†	21.8	3.93	18.00%	[0.00]	mg/L
Si 251.611†	567.0	43.41	7.66%	[0.00]	mg/L
Sn 189.927†	34.7	5.37	15.47%	[0.00]	mg/L
Ti 334.940†	628.3	59.86	9.53%	[0.00]	mg/L
Tl 190.801†	-55.2	7.35	13.32%	[0.00]	mg/L
V 290.880†	6729.8	158.74	2.36%	[0.00]	mg/L
Zn 206.200†	-18.9	9.90	52.43%	[0.00]	mg/L
K 766.490†	39.6	44.01	111.04%	[0.00]	mg/L
Na 589.592†	608.1	77.77	12.79%	[0.00]	mg/L
Sr 407.771†	-286.4	165.65	57.83%	[0.00]	mg/L
Li 670.784†	91.0	53.02	58.25%	[0.00]	mg/L
P 214.914†	50.8	13.23	26.05%	[0.00]	mg/L

==========

Sequence No.: 2 **Autosampler Location: 2**
Sample ID: S1 **Date Collected: 11/5/2013 9:37:16 AM**
Analyst: **Data Type: Reprocessed on 11/5/2013 10:11:52 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S1

Approved: November 06, 2013

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1857876.1	6914.05	0.37%		
YRADIAL	130223.1	7139.71	5.48%		
Ga 417.206	636757.9	3523.10	0.55%		
GaRADIAL	36867.6	1292.36	3.51%		
Ag 328.068†	560.9	68.18	12.16%	[0.0032]	mg/L
Al 396.153†	207.8	10.17	4.89%	[0.08]	mg/L
Ba 233.527†	410.6	2.90	0.71%	[0.008]	mg/L
Be 234.861†	207.9	30.08	14.47%	[0.0004]	mg/L
Cd 228.802†	6.8	5.02	73.93%	[0.0004]	mg/L
Co 228.616†	24.7	2.54	10.29%	[0.0016]	mg/L
Cr 267.716†	264.1	7.05	2.67%	[0.004]	mg/L
Cu 327.393†	545.9	76.05	13.93%	[0.004]	mg/L
Fe 239.562†	75.4	8.75	11.61%	[0.032]	mg/L
Mg 279.077†	74.9	12.93	17.26%	[0.08]	mg/L
Mn 257.610†	1608.6	20.73	1.29%	[0.004]	mg/L
Mo 202.031†	86.1	4.09	4.74%	[0.008]	mg/L
Ni 231.604†	94.2	6.90	7.32%	[0.004]	mg/L
Pb 220.353†	19.4	12.45	64.30%	[0.004]	mg/L
Sb 206.836†	13.3	4.40	33.07%	[0.0096]	mg/L
Si 251.611†	809.9	6.75	0.83%	[0.04]	mg/L
Sn 189.927†	19.0	4.78	25.19%	[0.008]	mg/L
Ti 334.940†	4371.8	48.04	1.10%	[0.008]	mg/L
V 290.880†	1276.1	149.40	11.71%	[0.008]	mg/L
Zn 206.200†	139.7	6.12	4.38%	[0.008]	mg/L
K 766.490†	471.9	21.92	4.65%	[0.4]	mg/L
Na 589.592†	3561.9	79.60	2.23%	[0.4]	mg/L
Sr 407.771†	6935.3	135.90	1.96%	[0.008]	mg/L
Li 670.784†	484.6	69.25	14.29%	[0.008]	mg/L
P 214.914†	55.4	10.61	19.14%	[0.08]	mg/L

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S2 **Date Collected: 11/5/2013 9:40:16 AM**
Analyst: **Data Type: Reprocessed on 11/5/2013 10:11:53 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S2

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1877276.5	19714.66	1.05%		
YRADIAL	131335.5	10967.09	8.35%		
Ga 417.206	629797.0	6626.47	1.05%		
GaRADIAL	37375.4	2789.22	7.46%		
Ag 328.068†	1208.3	62.53	5.18%	[0.0064]	mg/L
Al 396.153†	404.0	34.41	8.52%	[0.16]	mg/L
As 188.979†	4.6	5.37	116.93%	[0.0064]	mg/L
Ba 233.527†	828.0	7.42	0.90%	[0.016]	mg/L
Be 234.861†	379.5	4.44	1.17%	[0.0008]	mg/L
B 249.677†	44.7	26.09	58.35%	[0.008]	mg/L
Ca 227.546†	23.0	3.91	17.02%	[0.16]	mg/L
Cd 228.802†	9.7	2.17	22.46%	[0.0008]	mg/L
Co 228.616†	41.2	10.30	25.01%	[0.0032]	mg/L
Cr 267.716†	523.3	12.76	2.44%	[0.008]	mg/L
Cu 327.393†	1118.1	42.74	3.82%	[0.008]	mg/L
Fe 239.562†	149.5	12.00	8.02%	[0.064]	mg/L
Mg 279.077†	142.5	10.94	7.68%	[0.16]	mg/L
Mn 257.610†	3235.3	34.19	1.06%	[0.008]	mg/L

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Mo 202.031†	173.2	3.26	1.88%	[0.016]	mg/L
Ni 231.604†	196.4	7.92	4.03%	[0.008]	mg/L
Pb 220.353†	43.4	10.28	23.67%	[0.008]	mg/L
Sb 206.836†	25.0	4.57	18.29%	[0.0192]	mg/L
Se 196.026†	-2.7	7.60	276.79%	[0.0062]	mg/L

Standard intensity and concentration values are not in the same order.

Si 251.611†	1738.6	51.90	2.98%	[0.08]	mg/L
Sn 189.927†	48.2	4.81	9.98%	[0.016]	mg/L
Ti 334.940†	8841.4	352.32	3.98%	[0.016]	mg/L
Tl 190.801†	4.6	8.23	177.51%	[0.008]	mg/L
V 290.880†	2142.4	218.90	10.22%	[0.016]	mg/L
Zn 206.200†	276.4	10.16	3.68%	[0.016]	mg/L
K 766.490†	1032.3	19.55	1.89%	[0.8]	mg/L
Na 589.592†	7262.4	145.61	2.01%	[0.8]	mg/L
Sr 407.771†	14538.9	236.94	1.63%	[0.016]	mg/L
Li 670.784†	958.5	14.52	1.51%	[0.016]	mg/L
P 214.914†	104.4	3.94	3.77%	[0.16]	mg/L

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Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S3 **Date Collected: 11/5/2013 9:43:16 AM**
Analyst: **Data Type: Reprocessed on 11/5/2013 10:11:57 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S3

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1862188.6	61179.17	3.29%		
YRADIAL	129958.8	4354.81	3.35%		
Ga 417.206	651530.9	31072.30	4.77%		
GaRADIAL	37711.2	1089.93	2.89%		
Ag 328.068†	66853.6	3460.23	5.18%	[0.40]	mg/L
Al 396.153†	23685.8	140.68	0.59%	[10.00]	mg/L
As 188.979†	395.0	19.94	5.05%	[0.40]	mg/L
Ba 233.527†	51673.3	1799.59	3.48%	[1.00]	mg/L
Be 234.861†	20967.2	1083.86	5.17%	[0.05]	mg/L
B 249.677†	17631.6	889.52	5.05%	[0.50]	mg/L
Ca 227.546†	1249.3	53.90	4.31%	[10.00]	mg/L
Cd 228.802†	852.4	51.88	6.09%	[0.05]	mg/L
Co 228.616†	2797.3	68.92	2.46%	[0.20]	mg/L
Cr 267.716†	32319.3	1360.11	4.21%	[0.50]	mg/L
Cu 327.393†	63328.7	3371.82	5.32%	[0.50]	mg/L
Fe 239.562†	9042.3	80.99	0.90%	[4.00]	mg/L
Mg 279.077†	8539.4	96.87	1.13%	[10.00]	mg/L
Mn 257.610†	187711.1	3861.37	2.06%	[0.50]	mg/L
Mo 202.031†	10929.1	468.29	4.28%	[1.00]	mg/L
Ni 231.604†	11442.3	525.95	4.60%	[0.50]	mg/L
Pb 220.353†	1961.1	60.46	3.08%	[0.50]	mg/L
Sb 206.836†	1467.4	74.32	5.06%	[1.20]	mg/L
Se 196.026†	195.2	8.53	4.37%	[0.40]	mg/L

Standard intensity and concentration values are not in the same order.

Si 251.611†	105261.7	5180.15	4.92%	[5.00]	mg/L
Sn 189.927†	3710.2	118.28	3.19%	[1.00]	mg/L
Ti 334.940†	541107.6	9911.43	1.83%	[1.00]	mg/L
Tl 190.801†	567.9	16.08	2.83%	[0.50]	mg/L
V 290.880†	123500.0	4574.05	3.70%	[1.00]	mg/L
Zn 206.200†	16468.5	524.20	3.18%	[1.00]	mg/L
K 766.490†	57696.9	588.75	1.02%	[50.00]	mg/L
Na 589.592†	430366.1	23498.27	5.46%	[50.00]	mg/L
Sr 407.771†	855910.2	55433.12	6.48%	[1.00]	mg/L
Li 670.784†	56316.2	407.93	0.72%	[1.00]	mg/L
P 214.914†	5869.0	157.66	2.69%	[10]	mg/L

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Sequence No.: 5
Sample ID: S4
Analyst:
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 11/5/2013 9:45:20 AM
Data Type: Reprocessed on 11/5/2013 10:11:58 AM

Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: S4

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: S4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Y 371.029	1863906.3	25425.32	1.36%		
YRADIAL	138374.1	6843.70	4.95%		
Ga 417.206	648495.9	13198.60	2.04%		
GaRADIAL	39774.3	1604.35	4.03%		
Ag 328.068†	132252.4	623.11	0.47%	[0.80]	mg/L
Al 396.153†	48301.4	264.49	0.55%	[20.00]	mg/L
As 188.979†	796.2	17.43	2.19%	[0.80]	mg/L
Ba 233.527†	102197.6	1752.17	1.71%	[2.00]	mg/L
Be 234.861†	42030.8	303.69	0.72%	[0.10]	mg/L
B 249.677†	36736.5	283.92	0.77%	[1.00]	mg/L
Ca 227.546†	2529.6	45.70	1.81%	[20.00]	mg/L
Cd 228.802†	1709.8	39.61	2.32%	[0.10]	mg/L
Co 228.616†	5518.3	110.56	2.00%	[0.40]	mg/L
Cr 267.716†	64040.3	795.65	1.24%	[1.00]	mg/L
Cu 327.393†	126668.0	383.75	0.30%	[1.00]	mg/L
Fe 239.562†	18524.2	101.82	0.55%	[8.00]	mg/L
Mg 279.077†	17392.2	51.85	0.30%	[20.00]	mg/L
Mn 257.610†	375268.6	6153.52	1.64%	[1.00]	mg/L
Mo 202.031†	21981.4	356.56	1.62%	[2.00]	mg/L
Ni 231.604†	22669.2	427.88	1.89%	[1.00]	mg/L
Pb 220.353†	3847.9	48.24	1.25%	[1.00]	mg/L
Sb 206.836†	2936.5	52.42	1.79%	[2.40]	mg/L
Se 196.026†	398.4	7.83	1.96%	[0.80]	mg/L
Standard intensity and concentration values are not in the same order.					
Si 251.611†	207602.5	1153.61	0.56%	[10.00]	mg/L
Sn 189.927†	7306.7	158.45	2.17%	[2.00]	mg/L
Ti 334.940†	1091270.9	16034.43	1.47%	[2.00]	mg/L
Tl 190.801†	1115.5	23.95	2.15%	[1.00]	mg/L
V 290.880†	241914.1	4631.54	1.91%	[2.00]	mg/L
Zn 206.200†	32660.6	569.42	1.74%	[2.00]	mg/L
K 766.490†	117811.1	669.56	0.57%	[100.00]	mg/L
Na 589.592†	851422.1	23904.08	2.81%	[100.00]	mg/L
Sr 407.771†	1678219.9	47525.78	2.83%	[2.00]	mg/L
Li 670.784†	114493.9	661.44	0.58%	[2.00]	mg/L
P 214.914†	11738.0	295.01	2.51%	[20]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	147.6	165500	0.00000	0.999986	
Al 396.153	4	Lin, Calc Int	-47.9	2409	0.00000	0.999955	
As 188.979	3	Wt. Lin	-1.8	994.6	0.00000	0.999996	
Ba 233.527	4	Lin, Calc Int	75.4	51170	0.00000	0.999985	
Be 234.861	4	Lin, Calc Int	20.0	419900	0.00000	0.999999	
B 249.677	3	Lin, Calc Int	-247.2	36740	0.00000	0.999803	
Ca 227.546	3	Lin, Calc Int	-1.6	126.3	0.00000	0.999978	
Cd 228.802	4	Lin, Calc Int	-1.6	17110	0.00000	0.999997	
Co 228.616	4	Lin, Calc Int	4.7	13820	0.00000	0.999977	
Cr 267.716	4	Lin, Calc Int	43.2	64110	0.00000	0.999990	
Cu 327.393	4	Lin, Calc Int	44.4	126600	0.00000	1.000000	
Fe 239.562	4	Lin, Calc Int	-26.6	2309	0.00000	0.999933	
Mg 279.077	4	Lin, Calc Int	-16.8	867.5	0.00000	0.999961	
Mn 257.610	4	Lin, Calc Int	116.1	375200	0.00000	1.000000	
Mo 202.031	4	Lin, Calc Int	-9.1	10980	0.00000	0.999996	
Ni 231.604	4	Lin, Calc Int	19.2	22690	0.00000	0.999990	

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Pb 220.353	4	Lin, Calc Int	9.8	3851	0.00000	0.999959
Sb 206.836	4	Lin, Calc Int	0.9	1223	0.00000	1.000000
Se 196.026	3	Wt. Lin	-5.9	504.0	0.00000	0.999996
Si 251.611	4	Lin, Calc Int	199.9	20790	0.00000	0.999977
Sn 189.927	4	Lin, Calc Int	0.7	3664	0.00000	0.999967
Ti 334.940	4	Lin, Calc Int	-527.5	545000	0.00000	0.999992
Tl 190.801	3	Lin, Calc Int	-0.1	1120	0.00000	0.999941
V 290.880	4	Lin, Calc Int	478.4	121200	0.00000	0.999951
Zn 206.200	4	Lin, Calc Int	24.8	16340	0.00000	0.999992
K 766.490	4	Non Lin, Calc Int	49.4	1128	0.49241	1.000000
Na 589.592	4	Non Lin, Calc Int	128.7	8697	-1.83849	1.000000
Sr 407.771	4	Lin, Calc Int	2511.3	841000	0.00000	0.999954
Li 670.784	4	Lin, Calc Int	-94.3	57120	0.00000	0.999968
P 214.914	4	Lin, Calc Int	5.9	586.5	0.00000	1.000000

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Sequence No.: 6 **Autosampler Location: 11**
Sample ID: ICV 2nd Vendor **Date Collected: 11/5/2013 9:47:22 AM**
Analyst: **Data Type: Reprocessed on 11/5/2013 10:11:59 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICV 2nd Vendor

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: ICV 2nd Vendor

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	1880148.7				23999.77	1.28%
YRADIAL	133136.0				2423.15	1.82%
Ga 417.206	649762.2				12886.63	1.98%
GaRADIAL	38058.1				814.53	2.14%
Ag 328.068†	67336.5	0.410 mg/L	0.0088	0.410 mg/L	0.0088	2.14%
QC value within limits for Ag 328.068 Recovery = 102.40%						
Al 396.153†	23556.0	9.73 mg/L	0.048	9.73 mg/L	0.048	0.49%
QC value within limits for Al 396.153 Recovery = 97.32%						
As 188.979†	404.5	0.404 mg/L	0.0029	0.404 mg/L	0.0029	0.71%
QC value within limits for As 188.979 Recovery = 100.96%						
Ba 233.527†	50275.5	0.981 mg/L	0.0091	0.981 mg/L	0.0091	0.93%
QC value within limits for Ba 233.527 Recovery = 98.14%						
Be 234.861†	21292.7	0.0502 mg/L	0.00072	0.0502 mg/L	0.00072	1.44%
QC value within limits for Be 234.861 Recovery = 100.35%						
B 249.677†	18599.1	0.509 mg/L	0.0118	0.509 mg/L	0.0118	2.32%
QC value within limits for B 249.677 Recovery = 101.83%						
Ca 227.546†	1224.7	10.2 mg/L	0.10	10.2 mg/L	0.10	1.02%
QC value within limits for Ca 227.546 Recovery = 101.54%						
Cd 228.802†	866.5	0.0494 mg/L	0.00093	0.0494 mg/L	0.00093	1.88%
QC value within limits for Cd 228.802 Recovery = 98.71%						
Co 228.616†	2825.0	0.203 mg/L	0.0014	0.203 mg/L	0.0014	0.70%
QC value within limits for Co 228.616 Recovery = 101.62%						
Cr 267.716†	31414.7	0.490 mg/L	0.0046	0.490 mg/L	0.0046	0.93%
QC value within limits for Cr 267.716 Recovery = 97.94%						
Cu 327.393†	62750.9	0.497 mg/L	0.0083	0.497 mg/L	0.0083	1.67%
QC value within limits for Cu 327.393 Recovery = 99.36%						
Fe 239.562†	8878.3	3.86 mg/L	0.008	3.86 mg/L	0.008	0.21%
QC value within limits for Fe 239.562 Recovery = 96.41%						
Mg 279.077†	8508.0	9.84 mg/L	0.108	9.84 mg/L	0.108	1.10%
QC value within limits for Mg 279.077 Recovery = 98.43%						
Mn 257.610†	184120.3	0.491 mg/L	0.0058	0.491 mg/L	0.0058	1.19%
QC value within limits for Mn 257.610 Recovery = 98.24%						
Mo 202.031†	10809.6	0.986 mg/L	0.0130	0.986 mg/L	0.0130	1.32%
QC value within limits for Mo 202.031 Recovery = 98.56%						
Ni 231.604†	11031.7	0.485 mg/L	0.0086	0.485 mg/L	0.0086	1.78%
QC value within limits for Ni 231.604 Recovery = 97.00%						
Pb 220.353†	1891.8	0.490 mg/L	0.0026	0.490 mg/L	0.0026	0.52%
QC value within limits for Pb 220.353 Recovery = 98.03%						
Sb 206.836†	1488.6	1.22 mg/L	0.023	1.22 mg/L	0.023	1.86%
QC value within limits for Sb 206.836 Recovery = 101.28%						

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Se 196.026†              204.2       0.418 mg/L        0.0095       0.418 mg/L        0.0095   2.27%
   QC value within limits for Se 196.026  Recovery = 104.54%
Si 251.611†           104947.7        5.03 mg/L         0.104        5.03 mg/L         0.104   2.08%
   QC value within limits for Si 251.611  Recovery = 100.53%
Sn 189.927†             3764.1        1.03 mg/L         0.005        1.03 mg/L         0.005   0.45%
   QC value within limits for Sn 189.927  Recovery = 102.71%
Ti 334.940†           546751.0        1.01 mg/L         0.010        1.01 mg/L         0.010   1.02%
   QC value within limits for Ti 334.940  Recovery = 100.54%
Tl 190.801†              558.2       0.513 mg/L        0.0025       0.513 mg/L        0.0025   0.50%
   QC value within limits for Tl 190.801  Recovery = 102.62%
V 290.880†            118184.8       0.970 mg/L        0.0039       0.970 mg/L        0.0039   0.40%
   QC value within limits for V 290.880  Recovery = 97.04%
Zn 206.200†            16172.8       0.993 mg/L        0.0098       0.993 mg/L        0.0098   0.98%
   QC value within limits for Zn 206.200  Recovery = 99.28%
K 766.490†             59238.2        51.3 mg/L          0.55        51.3 mg/L          0.55   1.07%
   QC value within limits for K 766.490  Recovery = 102.51%
Na 589.592†           431377.6        50.1 mg/L          1.07        50.1 mg/L          1.07   2.13%
   QC value within limits for Na 589.592  Recovery = 100.24%
Sr 407.771†           816237.1       0.967 mg/L        0.0290       0.967 mg/L        0.0290   3.00%
   QC value within limits for Sr 407.771  Recovery = 96.73%
Li 670.784†            56009.0       0.982 mg/L        0.0081       0.982 mg/L        0.0081   0.83%
   QC value within limits for Li 670.784  Recovery = 98.22%
P 214.914†              5929.8        10.1 mg/L          0.03        10.1 mg/L          0.03   0.30%
   QC value within limits for P 214.914  Recovery = 100.99%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 7                                    Autosampler Location: 1
Sample ID: ICB                                     Date Collected: 11/5/2013 9:49:25 AM
Analyst:                                           Data Type: Reprocessed on 11/5/2013 10:12:02 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICB
Analyte                 Back Pressure    Flow
All                     178.0 kPa        0.47 L/min

------------------------------------------------------------------------------------------
Mean Data: ICB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            1868115.8                                                  20917.36   1.12%
YRADIAL               126290.1                                                   4076.81   3.23%
Ga 417.206            627541.1                                                   4404.77   0.70%
GaRADIAL               36194.7                                                   1269.10   3.51%
Ag 328.068†               74.8    -0.00044 mg/L      0.000287    -0.00044 mg/L      0.000287  64.98%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                2.7      0.0209 mg/L       0.00184      0.0209 mg/L       0.00184   8.81%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               -0.6     0.00123 mg/L      0.003125     0.00123 mg/L      0.003125 254.58%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -9.6    -0.00166 mg/L      0.000076    -0.00166 mg/L      0.000076   4.61%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               32.7     0.00003 mg/L      0.000037     0.00003 mg/L      0.000037 131.93%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               334.6      0.0158 mg/L       0.00205      0.0158 mg/L       0.00205  12.92%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               10.4      0.0943 mg/L       0.04049      0.0943 mg/L       0.04049  42.96%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -2.0    -0.00003 mg/L      0.000144    -0.00003 mg/L      0.000144 434.43%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -5.1    -0.00071 mg/L      0.000423    -0.00071 mg/L      0.000423  59.97%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                9.6    -0.00053 mg/L      0.000045    -0.00053 mg/L      0.000045   8.63%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†                4.8    -0.00031 mg/L      0.000183    -0.00031 mg/L      0.000183  58.49%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               -3.1      0.0102 mg/L       0.00232      0.0102 mg/L       0.00232  22.78%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                5.8      0.0260 mg/L       0.00622      0.0260 mg/L       0.00622  23.88%
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   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              21.3    -0.00025 mg/L      0.000027    -0.00025 mg/L      0.000027  10.58%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               8.7     0.00161 mg/L      0.000438     0.00161 mg/L      0.000438  27.13%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               0.9    -0.00080 mg/L      0.000174    -0.00080 mg/L      0.000174  21.68%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              13.7     0.00099 mg/L      0.001362     0.00099 mg/L      0.001362 136.86%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               1.0     0.00013 mg/L      0.001934     0.00013 mg/L      0.001934 >999.9%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -4.5     0.00277 mg/L      0.003893     0.00277 mg/L      0.003893 140.39%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              13.3    -0.00899 mg/L      0.001701    -0.00899 mg/L      0.001701  18.92%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              11.5     0.00295 mg/L      0.000744     0.00295 mg/L      0.000744  25.25%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              80.7     0.00113 mg/L      0.000241     0.00113 mg/L      0.000241  21.36%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -3.8    -0.00327 mg/L      0.003856    -0.00327 mg/L      0.003856 117.98%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               69.3    -0.00338 mg/L      0.000727    -0.00338 mg/L      0.000727  21.52%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               7.3    -0.00108 mg/L      0.000073    -0.00108 mg/L      0.000073   6.76%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               22.9     -0.0235 mg/L       0.02750     -0.0235 mg/L       0.02750 116.95%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              35.1     -0.0108 mg/L       0.00532     -0.0108 mg/L       0.00532  49.44%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             -40.0    -0.00304 mg/L      0.000062    -0.00304 mg/L      0.000062   2.03%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              39.0     0.00233 mg/L      0.001691     0.00233 mg/L      0.001691  72.46%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†               16.2      0.0174 mg/L       0.00371      0.0174 mg/L       0.00371  21.25%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==============================================================================================
Sequence No.: 8                                    Autosampler Location: 14
Sample ID: LLICV                                   Date Collected: 11/5/2013 9:52:24 AM
Analyst: KHR                                       Data Type: Reprocessed on 11/5/2013 10:12:03 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

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Nebulizer Parameters: LLICV
Analyte                 Back Pressure    Flow
All                    178.0 kPa        0.47 L/min

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Mean Data: LLICV
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            1877535.9                                                 133409.23   7.11%
YRADIAL               129861.6                                                  12530.42   9.65%
Ga 417.206            635211.0                                                  51548.39   8.12%
GaRADIAL               36844.1                                                   2520.54   6.84%
Ag 328.068†               68.3    -0.00044 mg/L      0.000498    -0.00044 mg/L      0.000498 113.05%
Al 396.153†              408.8       0.190 mg/L        0.0068       0.190 mg/L        0.0068   3.60%
As 188.979†               -1.7     0.00011 mg/L      0.003829     0.00011 mg/L      0.003829 >999.9%
Ba 233.527†              -17.9    -0.00182 mg/L      0.000171    -0.00182 mg/L      0.000171   9.35%
Be 234.861†              745.4     0.00171 mg/L      0.000119     0.00171 mg/L      0.000119   6.95%
B 249.677†               -12.6     0.00635 mg/L      0.001034     0.00635 mg/L      0.001034  16.27%
Ca 227.546†               61.3       0.499 mg/L        0.0575       0.499 mg/L        0.0575  11.52%
Cd 228.802†               -1.2     0.00002 mg/L      0.000399     0.00002 mg/L      0.000399 >999.9%
Co 228.616†               -6.3    -0.00079 mg/L      0.000481    -0.00079 mg/L      0.000481  60.77%
Cr 267.716†                4.1    -0.00061 mg/L      0.000179    -0.00061 mg/L      0.000179  29.20%
Cu 327.393†               -0.4    -0.00035 mg/L      0.000487    -0.00035 mg/L      0.000487 139.73%
Fe 239.562†              170.7      0.0854 mg/L       0.00336      0.0854 mg/L       0.00336   3.93%
Mg 279.077†              367.9       0.443 mg/L        0.0342       0.443 mg/L        0.0342   7.70%
Mn 257.610†               57.9    -0.00015 mg/L      0.000040    -0.00015 mg/L      0.000040  26.33%
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Mo 202.031†	1.6	0.00097	mg/L	0.000793	0.00097	mg/L	0.000793	81.81%
Ni 231.604†	1.6	-0.00077	mg/L	0.001250	-0.00077	mg/L	0.001250	161.46%
Pb 220.353†	17.2	0.00194	mg/L	0.000059	0.00194	mg/L	0.000059	3.04%
Sb 206.836†	-1.9	-0.00227	mg/L	0.002462	-0.00227	mg/L	0.002462	108.50%
Se 196.026†	-5.4	0.00105	mg/L	0.005923	0.00105	mg/L	0.005923	563.24%
Si 251.611†	32.7	-0.00805	mg/L	0.002492	-0.00805	mg/L	0.002492	30.95%
Sn 189.927†	1355.3	0.370	mg/L	0.0291	0.370	mg/L	0.0291	7.87%
Ti 334.940†	-38.7	0.00097	mg/L	0.000270	0.00097	mg/L	0.000270	27.79%
Tl 190.801†	-5.7	-0.00495	mg/L	0.003048	-0.00495	mg/L	0.003048	61.57%
V 290.880†	322.9	-0.00130	mg/L	0.003307	-0.00130	mg/L	0.003307	253.62%
Zn 206.200†	25.4	0.00004	mg/L	0.000159	0.00004	mg/L	0.000159	437.40%
K 766.490†	1016.3	0.856	mg/L	0.0502	0.856	mg/L	0.0502	5.87%
Na 589.592†	3671.3	0.407	mg/L	0.0079	0.407	mg/L	0.0079	1.95%
Sr 407.771†	-63.1	-0.00308	mg/L	0.000064	-0.00308	mg/L	0.000064	2.09%
Li 670.784†	-46.0	0.00085	mg/L	0.000729	0.00085	mg/L	0.000729	86.12%
P 214.914†	18.9	0.0221	mg/L	0.01488	0.0221	mg/L	0.01488	67.18%

Sequence No.: 9
Sample ID: ICSA
Analyst:
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 12
Date Collected: 11/5/2013 9:55:24 AM
Data Type: Reprocessed on 11/5/2013 10:12:04 AM

Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1870686.7						93221.93	4.98%
YRADIAL	133542.7						1696.32	1.27%
Ga 417.206	679852.2						31080.72	4.57%
GaRADIAL	39567.4						580.09	1.47%
Ag 328.068†	-6662.2	0.00398	mg/L	0.001022	0.00398	mg/L	0.001022	25.67%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	592420.8	246	mg/L	9.8	246	mg/L	9.8	3.99%
QC value within limits for Al 396.153 Recovery = 98.39%								
As 188.979†	-17.4	-0.00307	mg/L	0.008111	-0.00307	mg/L	0.008111	264.38%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	246.5	0.00090	mg/L	0.000137	0.00090	mg/L	0.000137	15.23%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	9653.9	-0.00004	mg/L	0.000371	-0.00004	mg/L	0.000371	920.94%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	1814.5	0.0148	mg/L	0.00274	0.0148	mg/L	0.00274	18.56%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	32060.6	256	mg/L	1.0	256	mg/L	1.0	0.39%
QC value within limits for Ca 227.546 Recovery = 102.50%								
Cd 228.802†	-2.8	0.00028	mg/L	0.000141	0.00028	mg/L	0.000141	50.35%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	8.4	-0.00216	mg/L	0.000865	-0.00216	mg/L	0.000865	39.97%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	115.5	-0.00072	mg/L	0.000438	-0.00072	mg/L	0.000438	60.59%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-777.0	-0.00087	mg/L	0.001029	-0.00087	mg/L	0.001029	118.01%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	221990.2	96.2	mg/L	0.08	96.2	mg/L	0.08	0.09%
QC value within limits for Fe 239.562 Recovery = 96.17%								
Mg 279.077†	220148.7	254	mg/L	0.5	254	mg/L	0.5	0.18%
QC value within limits for Mg 279.077 Recovery = 101.50%								
Mn 257.610†	-1163.3	0.00202	mg/L	0.000334	0.00202	mg/L	0.000334	16.56%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	1.0	0.00242	mg/L	0.000201	0.00242	mg/L	0.000201	8.30%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	22.4	0.00015	mg/L	0.000925	0.00015	mg/L	0.000925	621.77%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-93.7	-0.00027	mg/L	0.000786	-0.00027	mg/L	0.000786	289.21%
QC value within limits for Pb 220.353 Recovery = Not calculated								

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Sb 206.836†	-9.5	-0.00493 mg/L	0.001860	-0.00493 mg/L	0.001860	37.69%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-19.0	0.00002 mg/L	0.005039	0.00002 mg/L	0.005039	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	646.4	0.0215 mg/L	0.00697	0.0215 mg/L	0.00697	32.49%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-277.2	-0.0758 mg/L	0.00240	-0.0758 mg/L	0.00240	3.16%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-21130.3	0.00029 mg/L	0.001139	0.00029 mg/L	0.001139	394.79%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-23.7	-0.0148 mg/L	0.01635	-0.0148 mg/L	0.01635	110.18%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	2523.4	0.00018 mg/L	0.002967	0.00018 mg/L	0.002967	>999.9%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	23.8	0.00170 mg/L	0.000681	0.00170 mg/L	0.000681	40.16%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	-46.1	-0.0847 mg/L	0.06076	-0.0847 mg/L	0.06076	71.77%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	110.3	-0.00211 mg/L	0.007348	-0.00211 mg/L	0.007348	348.33%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	6656.6	-0.00317 mg/L	0.000033	-0.00317 mg/L	0.000033	1.04%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	-12.7	0.00143 mg/L	0.000837	0.00143 mg/L	0.000837	58.54%
QC value within limits for Li 670.784 Recovery = Not calculated						
P 214.914†	46.4	0.0690 mg/L	0.04836	0.0690 mg/L	0.04836	70.10%
QC value within limits for P 214.914 Recovery = Not calculated						

All analyte(s) passed QC.

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Sequence No.: 10 **Autosampler Location: 13**
Sample ID: ICSAB **Date Collected: 11/5/2013 9:57:24 AM**
Analyst: **Data Type: Reprocessed on 11/5/2013 10:12:06 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1809762.2						21232.86	1.17%
YRADIAL	131873.8						1182.55	0.90%
Ga 417.206	647475.5						13147.60	2.03%
GaRADIAL	38847.4						261.11	0.67%
Ag 328.068†	74776.7	0.496	mg/L	0.0017	0.496	mg/L	0.0017	0.35%
QC value within limits for Ag 328.068 Recovery = 99.27%								
Al 396.153†	590436.9	245	mg/L	6.2	245	mg/L	6.2	2.55%
QC value within limits for Al 396.153 Recovery = 98.06%								
As 188.979†	227.8	0.243	mg/L	0.0035	0.243	mg/L	0.0035	1.42%
QC value within limits for As 188.979 Recovery = 97.36%								
Ba 233.527†	12707.1	0.244	mg/L	0.0035	0.244	mg/L	0.0035	1.44%
QC value within limits for Ba 233.527 Recovery = 97.76%								
Be 234.861†	112486.9	0.245	mg/L	0.0003	0.245	mg/L	0.0003	0.12%
QC value within limits for Be 234.861 Recovery = 98.02%								
B 249.677†	1777.3	0.00067	mg/L	0.001989	0.00067	mg/L	0.001989	297.79%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	32163.3	257	mg/L	2.2	257	mg/L	2.2	0.84%
QC value within limits for Ca 227.546 Recovery = 102.96%								
Cd 228.802†	8240.3	0.482	mg/L	0.0077	0.482	mg/L	0.0077	1.59%
QC value within limits for Cd 228.802 Recovery = 96.35%								
Co 228.616†	3217.9	0.230	mg/L	0.0040	0.230	mg/L	0.0040	1.73%
QC value within limits for Co 228.616 Recovery = 92.00%								
Cr 267.716†	15594.9	0.241	mg/L	0.0007	0.241	mg/L	0.0007	0.29%
QC value within limits for Cr 267.716 Recovery = 96.37%								
Cu 327.393†	29227.7	0.236	mg/L	0.0004	0.236	mg/L	0.0004	0.15%
QC value within limits for Cu 327.393 Recovery = 94.43%								
Fe 239.562†	220582.6	95.6	mg/L	0.24	95.6	mg/L	0.24	0.25%

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   QC value within limits for Fe 239.562  Recovery = 95.56%
Mg 279.077†          218992.0        252 mg/L          0.1         252 mg/L          0.1   0.04%
   QC value within limits for Mg 279.077  Recovery = 100.96%
Mn 257.610†           89539.1      0.244 mg/L       0.0024       0.244 mg/L       0.0024   0.96%
   QC value within limits for Mn 257.610  Recovery = 97.54%
Mo 202.031†               5.6    0.00300 mg/L     0.000328     0.00300 mg/L     0.000328  10.92%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†           10860.3      0.477 mg/L       0.0065       0.477 mg/L       0.0065   1.36%
   QC value within limits for Ni 231.604  Recovery = 95.48%
Pb 220.353†            1753.1      0.479 mg/L       0.0077       0.479 mg/L       0.0077   1.62%
   QC value within limits for Pb 220.353  Recovery = 95.82%
Sb 206.836†             584.6      0.479 mg/L       0.0035       0.479 mg/L       0.0035   0.73%
   QC value within limits for Sb 206.836  Recovery = 95.86%
Se 196.026†              96.7      0.230 mg/L       0.0123       0.230 mg/L       0.0123   5.35%
   QC value within limits for Se 196.026  Recovery = 91.87%
Si 251.611†             302.9    0.00494 mg/L     0.010475     0.00494 mg/L     0.010475 211.99%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†            -296.4    -0.0811 mg/L      0.00230     -0.0811 mg/L      0.00230   2.83%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†          -20857.7    0.00084 mg/L     0.001285     0.00084 mg/L     0.001285 153.17%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†             525.1      0.475 mg/L       0.0112       0.475 mg/L       0.0112   2.36%
   QC value within limits for Tl 190.801  Recovery = 95.09%
V 290.880†            31844.3      0.242 mg/L       0.0039       0.242 mg/L       0.0039   1.59%
   QC value within limits for V 290.880  Recovery = 96.88%
Zn 206.200†            7606.4      0.468 mg/L       0.0074       0.468 mg/L       0.0074   1.59%
   QC value within limits for Zn 206.200  Recovery = 93.60%
K 766.490†             5691.1       4.98 mg/L        0.067        4.98 mg/L        0.067   1.35%
   QC value within limits for K 766.490  Recovery = 99.68%
Na 589.592†           43279.6       4.97 mg/L        0.015        4.97 mg/L        0.015   0.30%
   QC value within limits for Na 589.592  Recovery = 99.34%
Sr 407.771†            6516.1   -0.00336 mg/L     0.000091    -0.00336 mg/L     0.000091   2.72%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              12.5    0.00187 mg/L     0.000560     0.00187 mg/L     0.000560  29.93%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†              -35.8    -0.0712 mg/L      0.04856     -0.0712 mg/L      0.04856  68.23%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
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Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 9:59:24 AM**
Analyst: **Data Type: Reprocessed on 11/5/2013 10:12:07 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	**Back Pressure**	**Flow**
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	**Mean Corrected Intensity**	**Calib. Conc.**	**Units**	**Std.Dev.**	**Sample Conc.**	**Units**	**Std.Dev.**	**RSD**
Y 371.029	1959680.1						18390.48	0.94%
YRADIAL	138295.4						3956.70	2.86%
Ga 417.206	675105.8						11446.68	1.70%
GaRADIAL	38284.7						943.28	2.46%
Ag 328.068†	69820.5	0.425	mg/L	0.0113	0.425	mg/L	0.0113	2.66%
QC value within limits for Ag 328.068 Recovery = 106.20%								
Al 396.153†	24378.8	10.1	mg/L	0.08	10.1	mg/L	0.08	0.80%
QC value within limits for Al 396.153 Recovery = 100.71%								
As 188.979†	390.5	0.390	mg/L	0.0081	0.390	mg/L	0.0081	2.07%
QC value within limits for As 188.979 Recovery = 97.39%								
Ba 233.527†	53113.2	1.04	mg/L	0.010	1.04	mg/L	0.010	1.00%
QC value within limits for Ba 233.527 Recovery = 103.69%								
Be 234.861†	21855.6	0.0515	mg/L	0.00121	0.0515	mg/L	0.00121	2.35%
QC value within limits for Be 234.861 Recovery = 102.99%								
B 249.677†	18839.6	0.516	mg/L	0.0089	0.516	mg/L	0.0089	1.72%
QC value within limits for B 249.677 Recovery = 103.13%								

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Ca 227.546†	1244.9	10.3 mg/L	0.10	10.3 mg/L	0.10	1.01%
QC value within limits for Ca 227.546 Recovery = 103.48%						
Cd 228.802†	872.1	0.0497 mg/L	0.00125	0.0497 mg/L	0.00125	2.52%
QC value within limits for Cd 228.802 Recovery = 99.45%						
Co 228.616†	2733.7	0.197 mg/L	0.0032	0.197 mg/L	0.0032	1.61%
QC value within limits for Co 228.616 Recovery = 98.35%						
Cr 267.716†	33346.4	0.520 mg/L	0.0079	0.520 mg/L	0.0079	1.53%
QC value within limits for Cr 267.716 Recovery = 103.97%						
Cu 327.393†	67049.1	0.531 mg/L	0.0139	0.531 mg/L	0.0139	2.62%
QC value within limits for Cu 327.393 Recovery = 106.16%						
Fe 239.562†	9293.4	4.04 mg/L	0.037	4.04 mg/L	0.037	0.93%
QC value within limits for Fe 239.562 Recovery = 100.91%						
Mg 279.077†	8796.8	10.2 mg/L	0.15	10.2 mg/L	0.15	1.48%
QC value within limits for Mg 279.077 Recovery = 101.76%						
Mn 257.610†	188958.7	0.504 mg/L	0.0035	0.504 mg/L	0.0035	0.69%
QC value within limits for Mn 257.610 Recovery = 100.82%						
Mo 202.031†	11289.5	1.03 mg/L	0.011	1.03 mg/L	0.011	1.03%
QC value within limits for Mo 202.031 Recovery = 102.93%						
Ni 231.604†	11801.3	0.519 mg/L	0.0039	0.519 mg/L	0.0039	0.75%
QC value within limits for Ni 231.604 Recovery = 103.79%						
Pb 220.353†	1934.8	0.501 mg/L	0.0100	0.501 mg/L	0.0100	2.00%
QC value within limits for Pb 220.353 Recovery = 100.28%						
Sb 206.836†	1456.4	1.19 mg/L	0.013	1.19 mg/L	0.013	1.11%
QC value within limits for Sb 206.836 Recovery = 99.08%						
Se 196.026†	194.4	0.399 mg/L	0.0048	0.399 mg/L	0.0048	1.22%
QC value within limits for Se 196.026 Recovery = 99.72%						
Si 251.611†	109500.3	5.24 mg/L	0.108	5.24 mg/L	0.108	2.06%
QC value within limits for Si 251.611 Recovery = 104.90%						
Sn 189.927†	3630.1	0.990 mg/L	0.0203	0.990 mg/L	0.0203	2.05%
QC value within limits for Sn 189.927 Recovery = 99.05%						
Ti 334.940†	545026.5	1.00 mg/L	0.005	1.00 mg/L	0.005	0.50%
QC value within limits for Ti 334.940 Recovery = 100.23%						
Tl 190.801†	573.3	0.527 mg/L	0.0079	0.527 mg/L	0.0079	1.50%
QC value within limits for Tl 190.801 Recovery = 105.34%						
V 290.880†	125104.6	1.03 mg/L	0.008	1.03 mg/L	0.008	0.78%
QC value within limits for V 290.880 Recovery = 102.75%						
Zn 206.200†	17107.6	1.05 mg/L	0.013	1.05 mg/L	0.013	1.23%
QC value within limits for Zn 206.200 Recovery = 105.03%						
K 766.490†	58518.6	50.6 mg/L	0.32	50.6 mg/L	0.32	0.63%
QC value within limits for K 766.490 Recovery = 101.29%						
Na 589.592†	436700.4	50.7 mg/L	3.83	50.7 mg/L	3.83	7.55%
QC value within limits for Na 589.592 Recovery = 101.49%						
Sr 407.771†	802027.6	0.950 mg/L	0.0780	0.950 mg/L	0.0780	8.20%
QC value within limits for Sr 407.771 Recovery = 95.04%						
Li 670.784†	58363.6	1.02 mg/L	0.005	1.02 mg/L	0.005	0.50%
QC value within limits for Li 670.784 Recovery = 102.35%						
P 214.914†	5699.5	9.71 mg/L	0.222	9.71 mg/L	0.222	2.29%
QC value within limits for P 214.914 Recovery = 97.07%						

All analyte(s) passed QC.

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Sequence No.: 12 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/5/2013 10:02:04 AM**
Analyst: **Data Type: Reprocessed on 11/5/2013 10:12:08 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1939786.1						35439.82	1.83%
YRADIAL	125278.5						2618.60	2.09%
Ga 417.206	654436.1						10694.37	1.63%
GaRADIAL	35838.5						620.82	1.73%
Ag 328.068†	17.5	-0.00078	mg/L	0.000663	-0.00078	mg/L	0.000663	84.67%

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   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                20.0      0.0280 mg/L       0.00906      0.0280 mg/L       0.00906  32.30%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                 0.5     0.00230 mg/L      0.001776     0.00230 mg/L      0.001776  77.29%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†                -2.5    -0.00152 mg/L      0.000123    -0.00152 mg/L      0.000123   8.09%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†                83.3     0.00015 mg/L      0.000065     0.00015 mg/L      0.000065  44.22%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†                 17.6     0.00720 mg/L      0.001790     0.00720 mg/L      0.001790  24.84%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                17.1       0.149 mg/L        0.0219       0.149 mg/L        0.0219  14.74%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†                -1.9    -0.00003 mg/L      0.000225    -0.00003 mg/L      0.000225 722.85%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                 1.2    -0.00025 mg/L      0.000452    -0.00025 mg/L      0.000452 182.85%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               -10.6    -0.00084 mg/L      0.000261    -0.00084 mg/L      0.000261  30.93%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               183.7     0.00110 mg/L      0.001271     0.00110 mg/L      0.001271 115.44%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                21.9      0.0210 mg/L       0.00293      0.0210 mg/L       0.00293  13.94%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                43.1      0.0691 mg/L       0.01099      0.0691 mg/L       0.01099  15.91%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†                 6.7    -0.00029 mg/L      0.000037    -0.00029 mg/L      0.000037  12.86%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                11.7     0.00189 mg/L      0.000074     0.00189 mg/L      0.000074   3.94%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†                11.7    -0.00033 mg/L      0.000349    -0.00033 mg/L      0.000349 105.05%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                16.8     0.00182 mg/L      0.001222     0.00182 mg/L      0.001222  67.19%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                 5.2     0.00358 mg/L      0.004046     0.00358 mg/L      0.004046 113.01%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -4.4     0.00290 mg/L      0.009574     0.00290 mg/L      0.009574 329.62%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               -49.3     -0.0120 mg/L       0.00074     -0.0120 mg/L       0.00074   6.13%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 4.0     0.00091 mg/L      0.000751     0.00091 mg/L      0.000751  82.52%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†                38.9     0.00106 mg/L      0.000040     0.00106 mg/L      0.000040   3.75%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 0.8     0.00078 mg/L      0.002867     0.00078 mg/L      0.002867 368.35%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                 41.7    -0.00361 mg/L      0.001661    -0.00361 mg/L      0.001661  46.03%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                12.1    -0.00078 mg/L      0.000396    -0.00078 mg/L      0.000396  50.47%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                 -2.3     -0.0458 mg/L       0.04231     -0.0458 mg/L       0.04231  92.42%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†                89.2    -0.00454 mg/L      0.014296    -0.00454 mg/L      0.014296 315.17%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†               -84.7    -0.00309 mg/L      0.000029    -0.00309 mg/L      0.000029   0.95%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               -57.6     0.00064 mg/L      0.000538     0.00064 mg/L      0.000538  83.77%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                  4.7    -0.00205 mg/L      0.004446    -0.00205 mg/L      0.004446 216.70%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
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Approved: November 06, 2013

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Analysis Begun

Start Time: 11/5/2013 10:13:15 AM **Plasma On Time: 11/5/2013 6:44:41 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 110513H3R
Results Library: C:\pe\peicp2\Results\results1.mdb

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Sequence No.: 1 **Autosampler Location: 15**
Sample ID: PBW AH WG451280-02 **Date Collected: 11/5/2013 10:13:17 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW AH WG451280-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: PBW AH WG451280-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2148634.3						76606.51	3.57%
YRADIAL	151963.2						4364.90	2.87%
Ga 417.206	755974.6						25766.81	3.41%
GaRADIAL	39931.2						770.09	1.93%
Ag 328.068†	93.6	-0.00033	mg/L	0.000283	-0.00033	mg/L	0.000283	85.56%
Al 396.153†	2.7	0.0210	mg/L	0.00305	0.0210	mg/L	0.00305	14.55%
As 188.979†	1.5	0.00327	mg/L	0.006004	0.00327	mg/L	0.006004	183.35%
Ba 233.527†	23.1	-0.00102	mg/L	0.000249	-0.00102	mg/L	0.000249	24.37%
Be 234.861†	232.2	0.00050	mg/L	0.000134	0.00050	mg/L	0.000134	26.76%
B 249.677†	-285.1	-0.00104	mg/L	0.000276	-0.00104	mg/L	0.000276	26.54%
Ca 227.546†	13.5	0.120	mg/L	0.0434	0.120	mg/L	0.0434	36.05%
Cd 228.802†	-0.9	0.00002	mg/L	0.000220	0.00002	mg/L	0.000220	>999.9%
Co 228.616†	5.2	0.00004	mg/L	0.000228	0.00004	mg/L	0.000228	633.71%
Cr 267.716†	-28.5	-0.00112	mg/L	0.000286	-0.00112	mg/L	0.000286	25.41%
Cu 327.393†	95.1	0.00040	mg/L	0.001113	0.00040	mg/L	0.001113	278.86%
Fe 239.562†	26.8	0.0231	mg/L	0.00210	0.0231	mg/L	0.00210	9.07%
Mg 279.077†	6.5	0.0269	mg/L	0.00346	0.0269	mg/L	0.00346	12.87%
Mn 257.610†	10.1	-0.00028	mg/L	0.000030	-0.00028	mg/L	0.000030	10.47%
Mo 202.031†	-7.0	0.00019	mg/L	0.000574	0.00019	mg/L	0.000574	309.85%
Ni 231.604†	33.5	0.00063	mg/L	0.000151	0.00063	mg/L	0.000151	24.10%
Pb 220.353†	12.0	0.00057	mg/L	0.002121	0.00057	mg/L	0.002121	370.51%
Sb 206.836†	-3.6	-0.00363	mg/L	0.003162	-0.00363	mg/L	0.003162	87.21%
Se 196.026†	-7.7	-0.00370	mg/L	0.006812	-0.00370	mg/L	0.006812	184.12%
Si 251.611†	-50.6	-0.0120	mg/L	0.00147	-0.0120	mg/L	0.00147	12.21%
Sn 189.927†	-6.0	-0.00181	mg/L	0.000851	-0.00181	mg/L	0.000851	47.03%
Ti 334.940†	-10.9	0.00097	mg/L	0.000061	0.00097	mg/L	0.000061	6.33%
Tl 190.801†	3.1	0.00286	mg/L	0.002498	0.00286	mg/L	0.002498	87.29%
V 290.880†	-485.8	-0.00796	mg/L	0.003404	-0.00796	mg/L	0.003404	42.76%
Zn 206.200†	27.2	0.00014	mg/L	0.000400	0.00014	mg/L	0.000400	295.03%
K 766.490†	-11.9	-0.0543	mg/L	0.02098	-0.0543	mg/L	0.02098	38.66%
Na 589.592†	-71.9	-0.0231	mg/L	0.00428	-0.0231	mg/L	0.00428	18.58%
Sr 407.771†	-52.6	-0.00305	mg/L	0.000042	-0.00305	mg/L	0.000042	1.37%
Li 670.784†	-11.1	0.00146	mg/L	0.000168	0.00146	mg/L	0.000168	11.51%
P 214.914†	-15.4	-0.0364	mg/L	0.02071	-0.0364	mg/L	0.02071	56.93%

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Sequence No.: 2 **Autosampler Location: 16**
Sample ID: LCSW AH WG451280-03 **Date Collected: 11/5/2013 10:16:18 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Nebulizer Parameters: LCSW AH WG451280-03

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: LCSW AH WG451280-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1942396.5						34577.03	1.78%
YRADIAL	131379.0						3773.90	2.87%
Ga 417.206	674651.5						22031.32	3.27%
GaRADIAL	37976.9						909.09	2.39%
Ag 328.068†	34777.1	0.211	mg/L	0.0084	0.211	mg/L	0.0084	3.96%
Al 396.153†	11978.3	4.96	mg/L	0.082	4.96	mg/L	0.082	1.65%
As 188.979†	194.3	0.195	mg/L	0.0031	0.195	mg/L	0.0031	1.60%
Ba 233.527†	26425.6	0.515	mg/L	0.0085	0.515	mg/L	0.0085	1.64%
Be 234.861†	10688.2	0.0251	mg/L	0.00088	0.0251	mg/L	0.00088	3.52%
B 249.677†	37408.4	1.02	mg/L	0.032	1.02	mg/L	0.032	3.12%
Ca 227.546†	624.3	5.20	mg/L	0.161	5.20	mg/L	0.161	3.09%
Cd 228.802†	421.0	0.0240	mg/L	0.00102	0.0240	mg/L	0.00102	4.26%
Co 228.616†	1384.3	0.0995	mg/L	0.00163	0.0995	mg/L	0.00163	1.64%
Cr 267.716†	16573.6	0.258	mg/L	0.0071	0.258	mg/L	0.0071	2.77%
Cu 327.393†	32994.7	0.261	mg/L	0.0103	0.261	mg/L	0.0103	3.94%
Fe 239.562†	4732.8	2.06	mg/L	0.041	2.06	mg/L	0.041	2.00%
Mg 279.077†	4383.8	5.08	mg/L	0.170	5.08	mg/L	0.170	3.35%
Mn 257.610†	98640.1	0.263	mg/L	0.0039	0.263	mg/L	0.0039	1.50%
Mo 202.031†	5610.4	0.512	mg/L	0.0079	0.512	mg/L	0.0079	1.55%
Ni 231.604†	5986.4	0.263	mg/L	0.0034	0.263	mg/L	0.0034	1.28%
Pb 220.353†	977.4	0.252	mg/L	0.0009	0.252	mg/L	0.0009	0.37%
Sb 206.836†	726.3	0.593	mg/L	0.0201	0.593	mg/L	0.0201	3.38%
Se 196.026†	94.0	0.199	mg/L	0.0113	0.199	mg/L	0.0113	5.69%
Si 251.611†	54900.4	2.62	mg/L	0.095	2.62	mg/L	0.095	3.62%
Sn 189.927†	1849.3	0.504	mg/L	0.0078	0.504	mg/L	0.0078	1.56%
Ti 334.940†	268887.4	0.495	mg/L	0.0065	0.495	mg/L	0.0065	1.31%
Tl 190.801†	284.6	0.261	mg/L	0.0044	0.261	mg/L	0.0044	1.67%
V 290.880†	62223.0	0.509	mg/L	0.0068	0.509	mg/L	0.0068	1.33%
Zn 206.200†	8496.2	0.521	mg/L	0.0063	0.521	mg/L	0.0063	1.21%
K 766.490†	28865.9	25.2	mg/L	0.48	25.2	mg/L	0.48	1.92%
Na 589.592†	216358.3	25.0	mg/L	0.10	25.0	mg/L	0.10	0.39%
Sr 407.771†	419039.7	0.495	mg/L	0.0058	0.495	mg/L	0.0058	1.17%
Li 670.784†	28600.9	0.502	mg/L	0.0084	0.502	mg/L	0.0084	1.68%
P 214.914†	-100.8	-0.182	mg/L	0.0412	-0.182	mg/L	0.0412	22.62%

Sequence No.: 3
Sample ID: FLT BLK WG451280-04
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 17
Date Collected: 11/5/2013 10:18:22 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: FLT BLK WG451280-04

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: FLT BLK WG451280-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1882330.7						74528.85	3.96%
YRADIAL	129057.1						5046.37	3.91%
Ga 417.206	629166.2						26911.66	4.28%
GaRADIAL	36889.8						1097.08	2.97%
Ag 328.068†	83.8	-0.00038	mg/L	0.000313	-0.00038	mg/L	0.000313	82.04%
Al 396.153†	9.2	0.0236	mg/L	0.00383	0.0236	mg/L	0.00383	16.20%
As 188.979†	-0.7	0.00111	mg/L	0.001984	0.00111	mg/L	0.001984	179.20%
Ba 233.527†	-7.3	-0.00162	mg/L	0.000211	-0.00162	mg/L	0.000211	13.04%
Be 234.861†	-18.6	-0.00010	mg/L	0.000169	-0.00010	mg/L	0.000169	175.77%
B 249.677†	258.4	0.0138	mg/L	0.00244	0.0138	mg/L	0.00244	17.75%
Ca 227.546†	15.4	0.135	mg/L	0.0388	0.135	mg/L	0.0388	28.79%
Cd 228.802†	-3.1	-0.00010	mg/L	0.000056	-0.00010	mg/L	0.000056	56.73%
Co 228.616†	-3.1	-0.00056	mg/L	0.000441	-0.00056	mg/L	0.000441	78.18%

Approved: November 06, 2013

Kim H. Rhoden

Cr 267.716†	-4.6	-0.00075	mg/L	0.000195	-0.00075	mg/L	0.000195 26.09%
Cu 327.393†	3.1	-0.00032	mg/L	0.000471	-0.00032	mg/L	0.000471 144.91%
Fe 239.562†	14.7	0.0179	mg/L	0.00176	0.0179	mg/L	0.00176 9.85%
Mg 279.077†	11.1	0.0322	mg/L	0.00930	0.0322	mg/L	0.00930 28.90%
Mn 257.610†	53.8	-0.00017	mg/L	0.000046	-0.00017	mg/L	0.000046 27.69%
Mo 202.031†	-0.2	0.00080	mg/L	0.000492	0.00080	mg/L	0.000492 61.14%
Ni 231.604†	-2.3	-0.00095	mg/L	0.000491	-0.00095	mg/L	0.000491 51.74%
Pb 220.353†	3.0	-0.00178	mg/L	0.002134	-0.00178	mg/L	0.002134 120.03%
Sb 206.836†	4.5	0.00299	mg/L	0.001204	0.00299	mg/L	0.001204 40.26%
Se 196.026†	-4.5	0.00264	mg/L	0.006424	0.00264	mg/L	0.006424 243.57%
Si 251.611†	72.2	-0.00615	mg/L	0.002658	-0.00615	mg/L	0.002658 43.21%
Sn 189.927†	-6.1	-0.00185	mg/L	0.001730	-0.00185	mg/L	0.001730 93.37%
Ti 334.940†	14.9	0.00102	mg/L	0.000128	0.00102	mg/L	0.000128 12.58%
Tl 190.801†	-6.2	-0.00540	mg/L	0.004796	-0.00540	mg/L	0.004796 88.76%
V 290.880†	166.9	-0.00257	mg/L	0.002595	-0.00257	mg/L	0.002595 100.85%
Zn 206.200†	82.7	0.00354	mg/L	0.000517	0.00354	mg/L	0.000517 14.59%
K 766.490†	-16.1	-0.0580	mg/L	0.00642	-0.0580	mg/L	0.00642 11.07%
Na 589.592†	139.0	0.00119	mg/L	0.002673	0.00119	mg/L	0.002673 225.07%
Sr 407.771†	-23.3	-0.00302	mg/L	0.000095	-0.00302	mg/L	0.000095 3.16%
Li 670.784†	-10.6	0.00147	mg/L	0.000304	0.00147	mg/L	0.000304 20.75%
P 214.914†	9.2	0.00548	mg/L	0.019956	0.00548	mg/L	0.019956 364.25%

Sequence No.: 4
Sample ID: L1310186702 WG451280-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 18
Date Collected: 11/5/2013 10:21:22 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186702 WG451280-01

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1310186702 WG451280-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1920628.3						41980.77	2.19%
YRADIAL	128506.4						3328.60	2.59%
Ga 417.206	699579.1						13549.10	1.94%
GaRADIAL	38524.9						498.01	1.29%
Ag 328.068†	-541.6	-0.00012	mg/L	0.000493	-0.00012	mg/L	0.000493	426.99%
Al 396.153†	410.5	0.191	mg/L	0.0104	0.191	mg/L	0.0104	5.45%
As 188.979†	-2.8	0.00142	mg/L	0.005413	0.00142	mg/L	0.005413	382.40%
Ba 233.527†	799.9	0.0139	mg/L	0.00025	0.0139	mg/L	0.00025	1.79%
Be 234.861†	1283.6	0.00094	mg/L	0.000139	0.00094	mg/L	0.000139	14.84%
B 249.677†	2549.3	0.0724	mg/L	0.00116	0.0724	mg/L	0.00116	1.60%
Ca 227.546†	2297.9	18.4	mg/L	0.36	18.4	mg/L	0.36	1.96%
Cd 228.802†	-5.0	-0.00015	mg/L	0.000271	-0.00015	mg/L	0.000271	178.35%
Co 228.616†	79.8	0.00521	mg/L	0.000117	0.00521	mg/L	0.000117	2.24%
Cr 267.716†	15.5	-0.00113	mg/L	0.000242	-0.00113	mg/L	0.000242	21.54%
Cu 327.393†	-31.9	-0.00010	mg/L	0.000279	-0.00010	mg/L	0.000279	291.50%
Fe 239.562†	20048.5	8.70	mg/L	0.353	8.70	mg/L	0.353	4.06%
Mg 279.077†	2832.5	3.28	mg/L	0.124	3.28	mg/L	0.124	3.77%
Mn 257.610†	13913.1	0.0373	mg/L	0.00091	0.0373	mg/L	0.00091	2.45%
Mo 202.031†	15.7	0.00240	mg/L	0.000582	0.00240	mg/L	0.000582	24.28%
Ni 231.604†	71.8	0.00231	mg/L	0.000231	0.00231	mg/L	0.000231	9.97%
Pb 220.353†	19.3	0.00219	mg/L	0.001319	0.00219	mg/L	0.001319	60.32%
Sb 206.836†	-1.9	-0.00191	mg/L	0.001865	-0.00191	mg/L	0.001865	97.58%
Se 196.026†	-4.2	0.00514	mg/L	0.002348	0.00514	mg/L	0.002348	45.72%
Si 251.611†	374728.9	18.0	mg/L	0.10	18.0	mg/L	0.10	0.57%
Sn 189.927†	-100.9	-0.0277	mg/L	0.00237	-0.0277	mg/L	0.00237	8.54%
Ti 334.940†	-1297.3	0.00132	mg/L	0.000300	0.00132	mg/L	0.000300	22.72%
Tl 190.801†	-13.4	-0.0119	mg/L	0.00373	-0.0119	mg/L	0.00373	31.28%
V 290.880†	699.4	0.00082	mg/L	0.002310	0.00082	mg/L	0.002310	280.17%
Zn 206.200†	201.1	0.0109	mg/L	0.00028	0.0109	mg/L	0.00028	2.52%
K 766.490†	888.1	0.680	mg/L	0.0283	0.680	mg/L	0.0283	4.16%
Na 589.592†	537867.4	62.7	mg/L	0.46	62.7	mg/L	0.46	0.74%
Sr 407.771†	119024.5	0.138	mg/L	0.0071	0.138	mg/L	0.0071	5.14%
Li 670.784†	629.5	0.0127	mg/L	0.00014	0.0127	mg/L	0.00014	1.14%
P 214.914†	295.5	0.494	mg/L	0.0142	0.494	mg/L	0.0142	2.88%

Approved: November 06, 2013

Kim H. Rhoden

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Sequence No.: 5
Sample ID: L1310186703MS WG451280-05
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 19
Date Collected: 11/5/2013 10:24:23 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186703MS WG451280-05

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1310186703MS WG451280-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1920500.5						27522.55	1.43%
YRADIAL	132560.4						2237.93	1.69%
Ga 417.206	673949.4						15168.09	2.25%
GaRADIAL	37864.8						526.93	1.39%
Ag 328.068†	32320.1	0.200	mg/L	0.0029	0.200	mg/L	0.0029	1.42%
Al 396.153†	12327.4	5.10	mg/L	0.038	5.10	mg/L	0.038	0.74%
As 188.979†	194.3	0.197	mg/L	0.0066	0.197	mg/L	0.0066	3.34%
Ba 233.527†	26182.9	0.510	mg/L	0.0028	0.510	mg/L	0.0028	0.56%
Be 234.861†	11394.1	0.0249	mg/L	0.00030	0.0249	mg/L	0.00030	1.19%
B 249.677†	39544.5	1.08	mg/L	0.014	1.08	mg/L	0.014	1.34%
Ca 227.546†	2941.6	23.7	mg/L	0.56	23.7	mg/L	0.56	2.38%
Cd 228.802†	407.4	0.0233	mg/L	0.00085	0.0233	mg/L	0.00085	3.65%
Co 228.616†	1433.7	0.103	mg/L	0.0015	0.103	mg/L	0.0015	1.44%
Cr 267.716†	15920.3	0.247	mg/L	0.0004	0.247	mg/L	0.0004	0.15%
Cu 327.393†	31097.4	0.247	mg/L	0.0034	0.247	mg/L	0.0034	1.39%
Fe 239.562†	23503.8	10.2	mg/L	0.03	10.2	mg/L	0.03	0.31%
Mg 279.077†	6884.6	7.96	mg/L	0.045	7.96	mg/L	0.045	0.57%
Mn 257.610†	108559.1	0.290	mg/L	0.0014	0.290	mg/L	0.0014	0.49%
Mo 202.031†	5590.2	0.510	mg/L	0.0077	0.510	mg/L	0.0077	1.51%
Ni 231.604†	5808.8	0.255	mg/L	0.0030	0.255	mg/L	0.0030	1.18%
Pb 220.353†	962.3	0.248	mg/L	0.0044	0.248	mg/L	0.0044	1.78%
Sb 206.836†	710.4	0.580	mg/L	0.0152	0.580	mg/L	0.0152	2.62%
Se 196.026†	92.1	0.197	mg/L	0.0149	0.197	mg/L	0.0149	7.55%
Si 251.611†	413251.5	19.9	mg/L	0.08	19.9	mg/L	0.08	0.42%
Sn 189.927†	2029.2	0.554	mg/L	0.0047	0.554	mg/L	0.0047	0.84%
Ti 334.940†	267423.4	0.495	mg/L	0.0050	0.495	mg/L	0.0050	1.01%
Tl 190.801†	270.3	0.249	mg/L	0.0010	0.249	mg/L	0.0010	0.39%
V 290.880†	60563.5	0.494	mg/L	0.0033	0.494	mg/L	0.0033	0.66%
Zn 206.200†	8298.8	0.509	mg/L	0.0022	0.509	mg/L	0.0022	0.44%
K 766.490†	29823.9	26.0	mg/L	0.30	26.0	mg/L	0.30	1.15%
Na 589.592†	751781.2	88.1	mg/L	2.15	88.1	mg/L	2.15	2.44%
Sr 407.771†	539570.7	0.638	mg/L	0.0184	0.638	mg/L	0.0184	2.88%
Li 670.784†	29296.2	0.515	mg/L	0.0026	0.515	mg/L	0.0026	0.50%
P 214.914†	187.5	0.310	mg/L	0.0332	0.310	mg/L	0.0332	10.73%

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Sequence No.: 6
Sample ID: L1310186704SD WG451280-06
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 20
Date Collected: 11/5/2013 10:26:27 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186704SD WG451280-06

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186704SD WG451280-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1891346.1						61921.91	3.27%
YRADIAL	125525.9						762.59	0.61%
Ga 417.206	665264.4						34170.11	5.14%
GaRADIAL	37034.6						402.65	1.09%

Approved: November 06, 2013

Kim H. Rhoden

Ag 328.068†	34154.2	0.211	mg/L	0.0106	0.211	mg/L	0.0106	5.02%
Al 396.153†	12581.4	5.21	mg/L	0.214	5.21	mg/L	0.214	4.11%
As 188.979†	201.8	0.205	mg/L	0.0017	0.205	mg/L	0.0017	0.83%
Ba 233.527†	27579.7	0.537	mg/L	0.0188	0.537	mg/L	0.0188	3.50%
Be 234.861†	11907.5	0.0260	mg/L	0.00140	0.0260	mg/L	0.00140	5.39%
B 249.677†	42230.2	1.15	mg/L	0.059	1.15	mg/L	0.059	5.14%
Ca 227.546†	3123.7	25.2	mg/L	1.07	25.2	mg/L	1.07	4.26%
Cd 228.802†	436.1	0.0249	mg/L	0.00161	0.0249	mg/L	0.00161	6.47%
Co 228.616†	1512.2	0.109	mg/L	0.0026	0.109	mg/L	0.0026	2.42%
Cr 267.716†	16656.8	0.259	mg/L	0.0094	0.259	mg/L	0.0094	3.62%
Cu 327.393†	32637.8	0.259	mg/L	0.0133	0.259	mg/L	0.0133	5.16%
Fe 239.562†	24173.9	10.5	mg/L	0.51	10.5	mg/L	0.51	4.87%
Mg 279.077†	7170.8	8.29	mg/L	0.354	8.29	mg/L	0.354	4.27%
Mn 257.610†	114307.3	0.305	mg/L	0.0103	0.305	mg/L	0.0103	3.38%
Mo 202.031†	5900.0	0.538	mg/L	0.0137	0.538	mg/L	0.0137	2.55%
Ni 231.604†	6027.9	0.265	mg/L	0.0084	0.265	mg/L	0.0084	3.17%
Pb 220.353†	1011.3	0.261	mg/L	0.0048	0.261	mg/L	0.0048	1.85%
Sb 206.836†	747.8	0.611	mg/L	0.0310	0.611	mg/L	0.0310	5.08%
Se 196.026†	98.9	0.210	mg/L	0.0138	0.210	mg/L	0.0138	6.56%
Si 251.611†	421014.8	20.2	mg/L	0.28	20.2	mg/L	0.28	1.40%
Sn 189.927†	2118.4	0.578	mg/L	0.0135	0.578	mg/L	0.0135	2.33%
Ti 334.940†	273521.4	0.506	mg/L	0.0052	0.506	mg/L	0.0052	1.02%
Tl 190.801†	281.0	0.258	mg/L	0.0093	0.258	mg/L	0.0093	3.58%
V 290.880†	63749.0	0.521	mg/L	0.0167	0.521	mg/L	0.0167	3.21%
Zn 206.200†	8700.6	0.534	mg/L	0.0195	0.534	mg/L	0.0195	3.66%
K 766.490†	30217.9	26.3	mg/L	1.01	26.3	mg/L	1.01	3.85%
Na 589.592†	743427.8	87.1	mg/L	0.39	87.1	mg/L	0.39	0.45%
Sr 407.771†	550637.7	0.651	mg/L	0.0058	0.651	mg/L	0.0058	0.88%
Li 670.784†	29673.1	0.521	mg/L	0.0221	0.521	mg/L	0.0221	4.25%
P 214.914†	203.8	0.337	mg/L	0.0102	0.337	mg/L	0.0102	3.02%

Sequence No.: 7
Sample ID: L1311005801
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 21
Date Collected: 11/5/2013 10:28:32 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311005801

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1953550.7						74191.24	3.80%
YRADIAL	149986.0						3603.22	2.40%
Ga 417.206	708933.2						34889.71	4.92%
GaRADIAL	42616.7						79.19	0.19%
Ag 328.068†	283.3	0.00082	mg/L	0.000570	0.00082	mg/L	0.000570	69.55%
Al 396.153†	7.4	0.0227	mg/L	0.00100	0.0227	mg/L	0.00100	4.40%
As 188.979†	-11.6	-0.00888	mg/L	0.002469	-0.00888	mg/L	0.002469	27.79%
Ba 233.527†	583.7	0.00993	mg/L	0.000455	0.00993	mg/L	0.000455	4.58%
Be 234.861†	139.4	0.00028	mg/L	0.000133	0.00028	mg/L	0.000133	47.15%
B 249.677†	751.2	0.0272	mg/L	0.00279	0.0272	mg/L	0.00279	10.28%
Ca 227.546†	5906.4	46.8	mg/L	2.35	46.8	mg/L	2.35	5.01%
Cd 228.802†	1.4	0.00022	mg/L	0.000209	0.00022	mg/L	0.000209	93.21%
Co 228.616†	-5.6	-0.00073	mg/L	0.000130	-0.00073	mg/L	0.000130	17.92%
Cr 267.716†	40.5	-0.00005	mg/L	0.000357	-0.00005	mg/L	0.000357	733.60%
Cu 327.393†	170.5	0.00099	mg/L	0.001187	0.00099	mg/L	0.001187	119.59%
Fe 239.562†	122.9	0.0646	mg/L	0.00188	0.0646	mg/L	0.00188	2.91%
Mg 279.077†	6025.6	6.97	mg/L	0.102	6.97	mg/L	0.102	1.46%
Mn 257.610†	46790.9	0.124	mg/L	0.0028	0.124	mg/L	0.0028	2.25%
Mo 202.031†	28.6	0.00346	mg/L	0.000428	0.00346	mg/L	0.000428	12.40%
Ni 231.604†	12.0	-0.00031	mg/L	0.000865	-0.00031	mg/L	0.000865	275.99%
Pb 220.353†	16.9	0.00177	mg/L	0.001952	0.00177	mg/L	0.001952	110.53%
Sb 206.836†	-1.8	-0.00221	mg/L	0.000791	-0.00221	mg/L	0.000791	35.86%
Se 196.026†	-6.1	-0.00042	mg/L	0.008772	-0.00042	mg/L	0.008772	>999.9%
Si 251.611†	63115.0	3.03	mg/L	0.056	3.03	mg/L	0.056	1.86%
Sn 189.927†	-173.3	-0.0475	mg/L	0.00211	-0.0475	mg/L	0.00211	4.43%

Approved: November 06, 2013

Ti 334.940†	-4263.5	0.00016	mg/L	0.000407	0.00016	mg/L	0.000407 248.06%
Tl 190.801†	-15.6	-0.0141	mg/L	0.00624	-0.0141	mg/L	0.00624 44.38%
V 290.880†	235.9	-0.00219	mg/L	0.001945	-0.00219	mg/L	0.001945 88.87%
Zn 206.200†	87.7	0.00385	mg/L	0.000556	0.00385	mg/L	0.000556 14.44%
K 766.490†	841.1	0.698	mg/L	0.0229	0.698	mg/L	0.0229 3.28%
Na 589.592†	25841.8	2.96	mg/L	0.046	2.96	mg/L	0.046 1.55%
Sr 407.771†	46580.3	0.0509	mg/L	0.00191	0.0509	mg/L	0.00191 3.74%
Li 670.784†	-2.2	0.00161	mg/L	0.000853	0.00161	mg/L	0.000853 52.90%
P 214.914†	16.5	0.0181	mg/L	0.02071	0.0181	mg/L	0.02071 114.70%

Sequence No.: 8 **Autosampler Location: 22**
Sample ID: L1311005802 **Date Collected: 11/5/2013 10:31:33 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005802

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005802

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1852034.6						31729.87	1.71%
YRADIAL	130126.2						2526.43	1.94%
Ga 417.206	646890.4						10964.93	1.70%
GaRADIAL	37945.8						112.48	0.30%
Ag 328.068†	258.8	0.00075	mg/L	0.000277	0.00075	mg/L	0.000277	36.82%
Al 396.153†	0.7	0.0200	mg/L	0.00340	0.0200	mg/L	0.00340	17.01%
As 188.979†	-11.0	-0.00809	mg/L	0.005925	-0.00809	mg/L	0.005925	73.20%
Ba 233.527†	598.6	0.0102	mg/L	0.00055	0.0102	mg/L	0.00055	5.33%
Be 234.861†	46.3	0.00002	mg/L	0.000053	0.00002	mg/L	0.000053	238.03%
B 249.677†	443.1	0.0187	mg/L	0.00105	0.0187	mg/L	0.00105	5.63%
Ca 227.546†	6287.5	49.8	mg/L	1.44	49.8	mg/L	1.44	2.89%
Cd 228.802†	-0.1	0.00013	mg/L	0.000187	0.00013	mg/L	0.000187	138.52%
Co 228.616†	4.4	-0.00001	mg/L	0.000470	-0.00001	mg/L	0.000470	>999.9%
Cr 267.716†	48.6	0.00006	mg/L	0.000257	0.00006	mg/L	0.000257	397.03%
Cu 327.393†	16.0	-0.00022	mg/L	0.000350	-0.00022	mg/L	0.000350	160.92%
Fe 239.562†	497.5	0.227	mg/L	0.0058	0.227	mg/L	0.0058	2.56%
Mg 279.077†	5777.7	6.68	mg/L	0.185	6.68	mg/L	0.185	2.76%
Mn 257.610†	46873.2	0.125	mg/L	0.0019	0.125	mg/L	0.0019	1.51%
Mo 202.031†	28.6	0.00346	mg/L	0.000839	0.00346	mg/L	0.000839	24.28%
Ni 231.604†	6.9	-0.00054	mg/L	0.000145	-0.00054	mg/L	0.000145	26.85%
Pb 220.353†	20.3	0.00265	mg/L	0.001554	0.00265	mg/L	0.001554	58.57%
Sb 206.836†	-3.0	-0.00317	mg/L	0.002214	-0.00317	mg/L	0.002214	69.96%
Se 196.026†	-4.9	0.00197	mg/L	0.005167	0.00197	mg/L	0.005167	261.80%
Si 251.611†	65917.3	3.16	mg/L	0.049	3.16	mg/L	0.049	1.55%
Sn 189.927†	-176.2	-0.0483	mg/L	0.00270	-0.0483	mg/L	0.00270	5.60%
Ti 334.940†	-4273.5	0.00060	mg/L	0.000475	0.00060	mg/L	0.000475	79.38%
Tl 190.801†	-15.2	-0.0137	mg/L	0.00638	-0.0137	mg/L	0.00638	46.60%
V 290.880†	420.0	-0.00068	mg/L	0.001121	-0.00068	mg/L	0.001121	165.18%
Zn 206.200†	145.0	0.00736	mg/L	0.000251	0.00736	mg/L	0.000251	3.41%
K 766.490†	740.1	0.609	mg/L	0.0279	0.609	mg/L	0.0279	4.58%
Na 589.592†	24434.6	2.80	mg/L	0.042	2.80	mg/L	0.042	1.49%
Sr 407.771†	45902.2	0.0500	mg/L	0.00201	0.0500	mg/L	0.00201	4.02%
Li 670.784†	63.5	0.00276	mg/L	0.001657	0.00276	mg/L	0.001657	59.96%
P 214.914†	16.6	0.0182	mg/L	0.01188	0.0182	mg/L	0.01188	65.30%

Sequence No.: 9 **Autosampler Location: 23**
Sample ID: L1311005802PS WG451450-01 **Date Collected: 11/5/2013 10:34:34 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005802PS WG451450-01

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Approved: November 06, 2013

Kim H. Rhoden

Mean Data: L1311005802PS WG451450-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1844400.8						49127.10	2.66%
YRADIAL	127889.3						3568.53	2.79%
Ga 417.206	640206.2						15665.19	2.45%
GaRADIAL	37500.2						815.10	2.17%
Ag 328.068†	35598.1	0.216	mg/L	0.0051	0.216	mg/L	0.0051	2.36%
Al 396.153†	12247.3	5.07	mg/L	0.138	5.07	mg/L	0.138	2.71%
As 188.979†	196.3	0.198	mg/L	0.0091	0.198	mg/L	0.0091	4.58%
Ba 233.527†	27306.3	0.532	mg/L	0.0100	0.532	mg/L	0.0100	1.88%
Be 234.861†	10987.1	0.0258	mg/L	0.00036	0.0258	mg/L	0.00036	1.40%
B 249.677†	38989.9	1.07	mg/L	0.017	1.07	mg/L	0.017	1.55%
Ca 227.546†	6482.0	51.6	mg/L	1.50	51.6	mg/L	1.50	2.90%
Cd 228.802†	432.3	0.0247	mg/L	0.00092	0.0247	mg/L	0.00092	3.71%
Co 228.616†	1419.8	0.102	mg/L	0.0032	0.102	mg/L	0.0032	3.12%
Cr 267.716†	16831.9	0.262	mg/L	0.0063	0.262	mg/L	0.0063	2.40%
Cu 327.393†	32872.8	0.260	mg/L	0.0070	0.260	mg/L	0.0070	2.69%
Fe 239.562†	5144.8	2.24	mg/L	0.071	2.24	mg/L	0.071	3.16%
Mg 279.077†	9688.7	11.2	mg/L	0.42	11.2	mg/L	0.42	3.76%
Mn 257.610†	142932.4	0.381	mg/L	0.0062	0.381	mg/L	0.0062	1.63%
Mo 202.031†	5930.5	0.541	mg/L	0.0189	0.541	mg/L	0.0189	3.49%
Ni 231.604†	5899.1	0.259	mg/L	0.0046	0.259	mg/L	0.0046	1.79%
Pb 220.353†	1007.1	0.260	mg/L	0.0102	0.260	mg/L	0.0102	3.94%
Sb 206.836†	757.7	0.618	mg/L	0.0164	0.618	mg/L	0.0164	2.65%
Se 196.026†	101.0	0.213	mg/L	0.0029	0.213	mg/L	0.0029	1.37%
Si 251.611†	115983.1	5.56	mg/L	0.140	5.56	mg/L	0.140	2.51%
Sn 189.927†	1900.4	0.518	mg/L	0.0196	0.518	mg/L	0.0196	3.78%
Ti 334.940†	271415.6	0.507	mg/L	0.0013	0.507	mg/L	0.0013	0.25%
Tl 190.801†	273.1	0.251	mg/L	0.0058	0.251	mg/L	0.0058	2.32%
V 290.880†	64213.8	0.525	mg/L	0.0064	0.525	mg/L	0.0064	1.22%
Zn 206.200†	8469.3	0.519	mg/L	0.0085	0.519	mg/L	0.0085	1.63%
K 766.490†	30363.7	26.5	mg/L	0.74	26.5	mg/L	0.74	2.80%
Na 589.592†	246194.1	28.5	mg/L	0.07	28.5	mg/L	0.07	0.26%
Sr 407.771†	490675.6	0.579	mg/L	0.0039	0.579	mg/L	0.0039	0.67%
Li 670.784†	28922.6	0.508	mg/L	0.0152	0.508	mg/L	0.0152	2.99%
P 214.914†	-72.8	-0.134	mg/L	0.0502	-0.134	mg/L	0.0502	37.41%

Sequence No.: 10 **Autosampler Location: 24**
Sample ID: L1311005802DL WG451450-02 **Date Collected: 11/5/2013 10:36:37 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005802DL WG451450-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005802DL WG451450-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1962393.6						30695.37	1.56%
YRADIAL	131560.4						2107.72	1.60%
Ga 417.206	673557.0						13912.94	2.07%
GaRADIAL	37059.6						1104.87	2.98%
Ag 328.068†	168.6	0.00014	mg/L	0.000307	0.00014	mg/L	0.000307	213.92%
Al 396.153†	-1.4	0.0192	mg/L	0.00243	0.0192	mg/L	0.00243	12.65%
As 188.979†	-5.2	-0.00326	mg/L	0.002654	-0.00326	mg/L	0.002654	81.40%
Ba 233.527†	107.7	0.00063	mg/L	0.000097	0.00063	mg/L	0.000097	15.45%
Be 234.861†	101.3	0.00018	mg/L	0.000040	0.00018	mg/L	0.000040	21.80%
B 249.677†	436.9	0.0186	mg/L	0.00175	0.0186	mg/L	0.00175	9.38%
Ca 227.546†	1189.2	9.43	mg/L	0.033	9.43	mg/L	0.033	0.35%
Cd 228.802†	-2.9	-0.00006	mg/L	0.000240	-0.00006	mg/L	0.000240	414.40%
Co 228.616†	0.6	-0.00030	mg/L	0.000551	-0.00030	mg/L	0.000551	185.69%
Cr 267.716†	6.8	-0.00057	mg/L	0.000235	-0.00057	mg/L	0.000235	40.86%
Cu 327.393†	220.4	0.00139	mg/L	0.000360	0.00139	mg/L	0.000360	25.89%
Fe 239.562†	107.2	0.0579	mg/L	0.00174	0.0579	mg/L	0.00174	3.01%

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Mg 279.077†	1176.1	1.38	mg/L	0.015	1.38	mg/L	0.015	1.10%
Mn 257.610†	8944.7	0.0235	mg/L	0.00008	0.0235	mg/L	0.00008	0.33%
Mo 202.031†	0.3	0.00086	mg/L	0.000440	0.00086	mg/L	0.000440	51.23%
Ni 231.604†	15.0	-0.00018	mg/L	0.000246	-0.00018	mg/L	0.000246	134.01%
Pb 220.353†	8.9	-0.00025	mg/L	0.001930	-0.00025	mg/L	0.001930	768.27%
Sb 206.836†	1.1	0.00016	mg/L	0.001268	0.00016	mg/L	0.001268	787.56%
Se 196.026†	-6.1	-0.00044	mg/L	0.005498	-0.00044	mg/L	0.005498	>999.9%
Si 251.611†	12678.7	0.600	mg/L	0.0031	0.600	mg/L	0.0031	0.52%
Sn 189.927†	-55.7	-0.0154	mg/L	0.00135	-0.0154	mg/L	0.00135	8.79%
Ti 334.940†	-848.6	0.00083	mg/L	0.000194	0.00083	mg/L	0.000194	23.51%
Tl 190.801†	-10.0	-0.00887	mg/L	0.004069	-0.00887	mg/L	0.004069	45.88%
V 290.880†	122.5	-0.00298	mg/L	0.000802	-0.00298	mg/L	0.000802	26.94%
Zn 206.200†	55.5	0.00188	mg/L	0.000308	0.00188	mg/L	0.000308	16.40%
K 766.490†	166.6	0.103	mg/L	0.0687	0.103	mg/L	0.0687	66.49%
Na 589.592†	5048.7	0.566	mg/L	0.0035	0.566	mg/L	0.0035	0.61%
Sr 407.771†	9254.6	0.00772	mg/L	0.000332	0.00772	mg/L	0.000332	4.31%
Li 670.784†	1.1	0.00167	mg/L	0.000841	0.00167	mg/L	0.000841	50.38%
P 214.914†	12.0	0.0104	mg/L	0.02001	0.0104	mg/L	0.02001	193.31%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 10:39:37 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1963508.5						8513.75	0.43%
YRADIAL	139268.0						7330.64	5.26%
Ga 417.206	684272.2						10370.88	1.52%
GaRADIAL	39808.9						1924.41	4.83%
Ag 328.068†	68367.1	0.416	mg/L	0.0130	0.416	mg/L	0.0130	3.13%
QC value within limits for Ag 328.068 Recovery = 104.01%								
Al 396.153†	24626.8	10.2	mg/L	0.03	10.2	mg/L	0.03	0.26%
QC value within limits for Al 396.153 Recovery = 101.75%								
As 188.979†	400.2	0.399	mg/L	0.0091	0.399	mg/L	0.0091	2.28%
QC value within limits for As 188.979 Recovery = 99.87%								
Ba 233.527†	52898.9	1.03	mg/L	0.023	1.03	mg/L	0.023	2.19%
QC value within limits for Ba 233.527 Recovery = 103.27%								
Be 234.861†	21576.3	0.0508	mg/L	0.00142	0.0508	mg/L	0.00142	2.80%
QC value within limits for Be 234.861 Recovery = 101.62%								
B 249.677†	18671.8	0.511	mg/L	0.0169	0.511	mg/L	0.0169	3.30%
QC value within limits for B 249.677 Recovery = 102.21%								
Ca 227.546†	1258.6	10.5	mg/L	0.25	10.5	mg/L	0.25	2.35%
QC value within limits for Ca 227.546 Recovery = 104.53%								
Cd 228.802†	855.5	0.0487	mg/L	0.00121	0.0487	mg/L	0.00121	2.48%
QC value within limits for Cd 228.802 Recovery = 97.45%								
Co 228.616†	2804.1	0.202	mg/L	0.0014	0.202	mg/L	0.0014	0.69%
QC value within limits for Co 228.616 Recovery = 100.88%								
Cr 267.716†	32966.9	0.514	mg/L	0.0113	0.514	mg/L	0.0113	2.19%
QC value within limits for Cr 267.716 Recovery = 102.79%								
Cu 327.393†	65606.1	0.519	mg/L	0.0181	0.519	mg/L	0.0181	3.48%
QC value within limits for Cu 327.393 Recovery = 103.88%								
Fe 239.562†	9422.4	4.09	mg/L	0.037	4.09	mg/L	0.037	0.90%
QC value within limits for Fe 239.562 Recovery = 102.31%								
Mg 279.077†	8851.8	10.2	mg/L	0.08	10.2	mg/L	0.08	0.81%
QC value within limits for Mg 279.077 Recovery = 102.39%								
Mn 257.610†	190106.0	0.507	mg/L	0.0028	0.507	mg/L	0.0028	0.55%
QC value within limits for Mn 257.610 Recovery = 101.43%								
Mo 202.031†	11120.6	1.01	mg/L	0.023	1.01	mg/L	0.023	2.25%
QC value within limits for Mo 202.031 Recovery = 101.39%								
Ni 231.604†	11699.0	0.514	mg/L	0.0096	0.514	mg/L	0.0096	1.86%
QC value within limits for Ni 231.604 Recovery = 102.88%								
Pb 220.353†	1975.9	0.512	mg/L	0.0053	0.512	mg/L	0.0053	1.03%

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   QC value within limits for Pb 220.353  Recovery = 102.41%
Sb 206.836†            1460.9        1.19 mg/L        0.023        1.19 mg/L        0.023   1.97%
   QC value within limits for Sb 206.836  Recovery = 99.38%
Se 196.026†             195.8       0.402 mg/L       0.0096       0.402 mg/L       0.0096   2.40%
   QC value within limits for Se 196.026  Recovery = 100.39%
Si 251.611†          107722.3        5.16 mg/L        0.161        5.16 mg/L        0.161   3.13%
   QC value within limits for Si 251.611  Recovery = 103.19%
Sn 189.927†            3757.8        1.03 mg/L        0.012        1.03 mg/L        0.012   1.21%
   QC value within limits for Sn 189.927  Recovery = 102.53%
Ti 334.940†          545450.6        1.00 mg/L        0.005        1.00 mg/L        0.005   0.47%
   QC value within limits for Ti 334.940  Recovery = 100.30%
Tl 190.801†             571.0       0.525 mg/L       0.0042       0.525 mg/L       0.0042   0.79%
   QC value within limits for Tl 190.801  Recovery = 104.93%
V 290.880†           126046.8        1.04 mg/L        0.028        1.04 mg/L        0.028   2.69%
   QC value within limits for V 290.880  Recovery = 103.52%
Zn 206.200†           16943.5        1.04 mg/L        0.022        1.04 mg/L        0.022   2.11%
   QC value within limits for Zn 206.200  Recovery = 104.02%
K 766.490†            59931.6        51.8 mg/L         0.26        51.8 mg/L         0.26   0.51%
   QC value within limits for K 766.490  Recovery = 103.69%
Na 589.592†          437268.8        50.8 mg/L         1.40        50.8 mg/L         1.40   2.76%
   QC value within limits for Na 589.592  Recovery = 101.62%
Sr 407.771†          864162.3        1.02 mg/L        0.032        1.02 mg/L        0.032   3.12%
   QC value within limits for Sr 407.771  Recovery = 102.43%
Li 670.784†           58434.5        1.02 mg/L        0.005        1.02 mg/L        0.005   0.49%
   QC value within limits for Li 670.784  Recovery = 102.47%
P 214.914†             5888.7        10.0 mg/L         0.10        10.0 mg/L         0.10   1.02%
   QC value within limits for P 214.914  Recovery = 100.29%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/5/2013 10:41:42 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure     Flow
All                     179.0 kPa         0.47 L/min

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Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029           1890685.6                                                      27284.64   1.44%
YRADIAL              129923.4                                                       6546.59   5.04%
Ga 417.206           632434.9                                                      11151.20   1.76%
GaRADIAL              37134.9                                                        989.91   2.67%
Ag 328.068†              46.9    -0.00060 mg/L      0.000482    -0.00060 mg/L      0.000482  79.88%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               8.7      0.0234 mg/L       0.00358      0.0234 mg/L       0.00358  15.32%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†              -2.2    -0.00044 mg/L      0.000937    -0.00044 mg/L      0.000937 211.30%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†             -11.4    -0.00170 mg/L      0.000042    -0.00170 mg/L      0.000042   2.48%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              28.1     0.00002 mg/L      0.000062     0.00002 mg/L      0.000062 373.28%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              225.6      0.0129 mg/L       0.00213      0.0129 mg/L       0.00213  16.55%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              10.5      0.0952 mg/L       0.04018      0.0952 mg/L       0.04018  42.20%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -0.7     0.00005 mg/L      0.000208     0.00005 mg/L      0.000208 384.51%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -3.5    -0.00059 mg/L      0.000471    -0.00059 mg/L      0.000471  80.07%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -2.1    -0.00071 mg/L      0.000224    -0.00071 mg/L      0.000224  31.53%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              -5.2    -0.00039 mg/L      0.001051    -0.00039 mg/L      0.001051 269.15%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               5.9      0.0141 mg/L       0.00217      0.0141 mg/L       0.00217  15.38%
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   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              10.2      0.0312 mg/L       0.01137      0.0312 mg/L       0.01137  36.46%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              15.1    -0.00027 mg/L      0.000050    -0.00027 mg/L      0.000050  18.49%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              10.2     0.00175 mg/L      0.000398     0.00175 mg/L      0.000398  22.71%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               2.4    -0.00074 mg/L      0.000221    -0.00074 mg/L      0.000221  29.80%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               6.2    -0.00094 mg/L      0.000860    -0.00094 mg/L      0.000860  91.89%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               1.4     0.00041 mg/L      0.001712     0.00041 mg/L      0.001712 414.81%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -2.5     0.00675 mg/L      0.007339     0.00675 mg/L      0.007339 108.66%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              45.7    -0.00743 mg/L      0.001288    -0.00743 mg/L      0.001288  17.33%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               2.8     0.00057 mg/L      0.001844     0.00057 mg/L      0.001844 322.25%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             144.0     0.00125 mg/L      0.000076     0.00125 mg/L      0.000076   6.11%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               0.6     0.00065 mg/L      0.011057     0.00065 mg/L      0.011057 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               347.9    -0.00108 mg/L      0.001600    -0.00108 mg/L      0.001600 148.17%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               4.2    -0.00127 mg/L      0.000492    -0.00127 mg/L      0.000492  38.79%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               24.3     -0.0222 mg/L       0.04922     -0.0222 mg/L       0.04922 221.39%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              10.9     -0.0135 mg/L       0.01110     -0.0135 mg/L       0.01110  81.96%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             -59.8    -0.00306 mg/L      0.000104    -0.00306 mg/L      0.000104   3.39%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              15.5     0.00192 mg/L      0.001688     0.00192 mg/L      0.001688  87.80%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†               13.5      0.0128 mg/L       0.01794      0.0128 mg/L       0.01794 139.78%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 13                                    Autosampler Location: 25
Sample ID: L1310181001                              Date Collected: 11/5/2013 10:44:41 AM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: L1310181001
Analyte                 Back Pressure    Flow
All                    178.0 kPa        0.47 L/min

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Mean Data: L1310181001
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            2033185.1                                                    39332.63   1.93%
YRADIAL               145078.7                                                     3487.73   2.40%
Ga 417.206            775069.0                                                    16789.67   2.17%
GaRADIAL               42652.0                                                     1452.54   3.41%
Ag 328.068†              356.1     0.00130 mg/L      0.000861     0.00130 mg/L      0.000861  66.23%
Al 396.153†              516.4       0.234 mg/L        0.0069       0.234 mg/L        0.0069   2.95%
As 188.979†               -8.3    -0.00438 mg/L      0.002014    -0.00438 mg/L      0.002014  45.99%
Ba 233.527†             2866.9      0.0545 mg/L       0.00115      0.0545 mg/L       0.00115   2.11%
Be 234.861†              308.9     0.00059 mg/L      0.000053     0.00059 mg/L      0.000053   9.07%
B 249.677†               413.0      0.0178 mg/L       0.00046      0.0178 mg/L       0.00046   2.56%
Ca 227.546†            11918.9        94.4 mg/L          1.59        94.4 mg/L          1.59   1.68%
Cd 228.802†               -5.0    -0.00017 mg/L      0.000242    -0.00017 mg/L      0.000242 143.64%
Co 228.616†                0.5    -0.00030 mg/L      0.000353    -0.00030 mg/L      0.000353 116.97%
Cr 267.716†              173.5     0.00200 mg/L      0.000127     0.00200 mg/L      0.000127   6.33%
Cu 327.393†                3.9    -0.00030 mg/L      0.001086    -0.00030 mg/L      0.001086 356.08%
Fe 239.562†             1026.0       0.455 mg/L        0.0102       0.455 mg/L        0.0102   2.23%
Mg 279.077†            33981.3        39.2 mg/L          0.77        39.2 mg/L          0.77   1.96%
```

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Mn 257.610†	24380.6	0.0647 mg/L	0.00086	0.0647 mg/L	0.00086	1.33%
Mo 202.031†	45.4	0.00499 mg/L	0.000562	0.00499 mg/L	0.000562	11.27%
Ni 231.604†	83.6	0.00284 mg/L	0.000697	0.00284 mg/L	0.000697	24.50%
Pb 220.353†	20.8	0.00283 mg/L	0.003390	0.00283 mg/L	0.003390	119.87%
Sb 206.836†	-2.6	-0.00282 mg/L	0.001943	-0.00282 mg/L	0.001943	68.84%
Se 196.026†	-4.3	0.00317 mg/L	0.002699	0.00317 mg/L	0.002699	85.24%
Si 251.611†	307964.1	14.8 mg/L	0.08	14.8 mg/L	0.08	0.51%
Sn 189.927†	-224.1	-0.0613 mg/L	0.00134	-0.0613 mg/L	0.00134	2.19%
Ti 334.940†	-5806.4	0.00448 mg/L	0.000873	0.00448 mg/L	0.000873	19.52%
Tl 190.801†	-15.0	-0.0134 mg/L	0.00770	-0.0134 mg/L	0.00770	57.31%
V 290.880†	1155.2	0.00452 mg/L	0.001739	0.00452 mg/L	0.001739	38.49%
Zn 206.200†	165.5	0.00863 mg/L	0.000140	0.00863 mg/L	0.000140	1.62%
K 766.490†	2488.4	1.92 mg/L	0.028	1.92 mg/L	0.028	1.48%
Na 589.592†	2005055.1	243 mg/L	5.2	243 mg/L	5.2	2.13%
Sr 407.771†	747280.3	0.883 mg/L	0.0432	0.883 mg/L	0.0432	4.89%
Li 670.784†	1646.0	0.0305 mg/L	0.00070	0.0305 mg/L	0.00070	2.28%
P 214.914†	84.2	0.133 mg/L	0.0215	0.133 mg/L	0.0215	16.16%

Sequence No.: 14 **Autosampler Location: 26**
Sample ID: L1310181002 **Date Collected: 11/5/2013 10:47:45 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310181002

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310181002

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1853842.5						19590.21	1.06%
YRADIAL	130582.2						1309.65	1.00%
Ga 417.206	680206.2						7625.39	1.12%
GaRADIAL	39465.6						286.58	0.73%
Ag 328.068†	449.9	0.00166	mg/L	0.000494	0.00166	mg/L	0.000494	29.64%
Al 396.153†	1.4	0.0201	mg/L	0.00086	0.0201	mg/L	0.00086	4.26%
As 188.979†	-8.7	-0.00476	mg/L	0.002956	-0.00476	mg/L	0.002956	62.15%
Ba 233.527†	2759.4	0.0525	mg/L	0.00037	0.0525	mg/L	0.00037	0.70%
Be 234.861†	149.9	0.00031	mg/L	0.000028	0.00031	mg/L	0.000028	8.92%
B 249.677†	357.3	0.0165	mg/L	0.00034	0.0165	mg/L	0.00034	2.07%
Ca 227.546†	12627.1	100	mg/L	0.8	100	mg/L	0.8	0.84%
Cd 228.802†	-2.7	-0.00003	mg/L	0.000366	-0.00003	mg/L	0.000366	>999.9%
Co 228.616†	-7.4	-0.00085	mg/L	0.000200	-0.00085	mg/L	0.000200	23.50%
Cr 267.716†	148.1	0.00164	mg/L	0.000127	0.00164	mg/L	0.000127	7.73%
Cu 327.393†	-99.2	-0.00115	mg/L	0.000963	-0.00115	mg/L	0.000963	83.75%
Fe 239.562†	34.4	0.0256	mg/L	0.00064	0.0256	mg/L	0.00064	2.51%
Mg 279.077†	34998.6	40.4	mg/L	0.39	40.4	mg/L	0.39	0.97%
Mn 257.610†	20579.7	0.0546	mg/L	0.00086	0.0546	mg/L	0.00086	1.57%
Mo 202.031†	44.0	0.00485	mg/L	0.000345	0.00485	mg/L	0.000345	7.12%
Ni 231.604†	60.5	0.00182	mg/L	0.000208	0.00182	mg/L	0.000208	11.42%
Pb 220.353†	24.6	0.00381	mg/L	0.000758	0.00381	mg/L	0.000758	19.89%
Sb 206.836†	-1.5	-0.00190	mg/L	0.003175	-0.00190	mg/L	0.003175	166.77%
Se 196.026†	-8.2	-0.00462	mg/L	0.005575	-0.00462	mg/L	0.005575	120.59%
Si 251.611†	309494.8	14.9	mg/L	0.04	14.9	mg/L	0.04	0.30%
Sn 189.927†	-236.2	-0.0646	mg/L	0.00257	-0.0646	mg/L	0.00257	3.97%
Ti 334.940†	-9046.6	-0.00063	mg/L	0.000533	-0.00063	mg/L	0.000533	84.94%
Tl 190.801†	-15.7	-0.0141	mg/L	0.00151	-0.0141	mg/L	0.00151	10.72%
V 290.880†	1374.6	0.00634	mg/L	0.002767	0.00634	mg/L	0.002767	43.63%
Zn 206.200†	86.7	0.00381	mg/L	0.000350	0.00381	mg/L	0.000350	9.19%
K 766.490†	2537.1	1.96	mg/L	0.062	1.96	mg/L	0.062	3.18%
Na 589.592†	2026895.8	246	mg/L	1.7	246	mg/L	1.7	0.67%
Sr 407.771†	770092.3	0.910	mg/L	0.0204	0.910	mg/L	0.0204	2.25%
Li 670.784†	1610.9	0.0299	mg/L	0.00044	0.0299	mg/L	0.00044	1.46%
P 214.914†	82.6	0.131	mg/L	0.0205	0.131	mg/L	0.0205	15.65%

Sequence No.: 15 **Autosampler Location: 27**
Sample ID: L1310181004 **Date Collected: 11/5/2013 10:50:49 AM**

Approved: November 06, 2013

Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310181004

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310181004

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1769694.6						49939.14	2.82%
YRADIAL	125982.9						1220.49	0.97%
Ga 417.206	674678.1						22487.53	3.33%
GaRADIAL	38117.0						620.02	1.63%
Ag 328.068†	1368.7	0.00661	mg/L	0.000293	0.00661	mg/L	0.000293	4.44%
Al 396.153†	-29.1	0.00730	mg/L	0.003556	0.00730	mg/L	0.003556	48.74%
As 188.979†	-16.7	-0.00681	mg/L	0.002813	-0.00681	mg/L	0.002813	41.31%
Ba 233.527†	40020.5	0.781	mg/L	0.0172	0.781	mg/L	0.0172	2.20%
Be 234.861†	163.1	0.00037	mg/L	0.000070	0.00037	mg/L	0.000070	19.10%
B 249.677†	528.6	0.0211	mg/L	0.00077	0.0211	mg/L	0.00077	3.63%
Ca 227.546†	47454.1	376	mg/L	9.4	376	mg/L	9.4	2.51%
Cd 228.802†	3.5	0.00037	mg/L	0.000571	0.00037	mg/L	0.000571	152.88%
Co 228.616†	21.8	0.00112	mg/L	0.000351	0.00112	mg/L	0.000351	31.36%
Cr 267.716†	228.5	0.00290	mg/L	0.000124	0.00290	mg/L	0.000124	4.27%
Cu 327.393†	-306.6	-0.00284	mg/L	0.000183	-0.00284	mg/L	0.000183	6.44%
Fe 239.562†	31.6	0.0222	mg/L	0.00220	0.0222	mg/L	0.00220	9.88%
Mg 279.077†	128869.1	149	mg/L	2.2	149	mg/L	2.2	1.47%
Mn 257.610†	117118.1	0.312	mg/L	0.0066	0.312	mg/L	0.0066	2.10%
Mo 202.031†	71.2	0.00738	mg/L	0.000343	0.00738	mg/L	0.000343	4.65%
Ni 231.604†	365.4	0.0153	mg/L	0.00042	0.0153	mg/L	0.00042	2.73%
Pb 220.353†	26.6	0.00416	mg/L	0.003709	0.00416	mg/L	0.003709	89.07%
Sb 206.836†	-7.0	-0.00640	mg/L	0.002637	-0.00640	mg/L	0.002637	41.22%
Se 196.026†	-3.7	0.00412	mg/L	0.007161	0.00412	mg/L	0.007161	173.89%
Si 251.611†	369896.8	17.8	mg/L	0.46	17.8	mg/L	0.46	2.60%
Sn 189.927†	-329.0	-0.0900	mg/L	0.00433	-0.0900	mg/L	0.00433	4.81%
Ti 334.940†	-33328.0	-0.00380	mg/L	0.000342	-0.00380	mg/L	0.000342	8.99%
Tl 190.801†	-23.9	-0.0222	mg/L	0.00632	-0.0222	mg/L	0.00632	28.42%
V 290.880†	2263.9	0.0108	mg/L	0.00234	0.0108	mg/L	0.00234	21.62%
Zn 206.200†	112.9	0.00542	mg/L	0.000825	0.00542	mg/L	0.000825	15.23%
K 766.490†	5357.4	4.27	mg/L	0.092	4.27	mg/L	0.092	2.16%
Na 589.592†	3376812.3	427	mg/L	6.3	427	mg/L	6.3	1.47%
Sr 407.771†	3245772.7	3.84	mg/L	0.062	3.84	mg/L	0.062	1.62%
Li 670.784†	4084.6	0.0732	mg/L	0.00138	0.0732	mg/L	0.00138	1.88%
P 214.914†	51.6	0.0778	mg/L	0.00248	0.0778	mg/L	0.00248	3.19%

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Sequence No.: 16 **Autosampler Location: 28**
Sample ID: L1310181005 **Date Collected: 11/5/2013 10:53:55 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310181005

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310181005

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1800041.9						7003.26	0.39%
YRADIAL	126759.9						2410.98	1.90%
Ga 417.206	672895.6						5896.85	0.88%
GaRADIAL	38474.2						368.42	0.96%
Ag 328.068†	1334.9	0.00643	mg/L	0.000572	0.00643	mg/L	0.000572	8.89%
Al 396.153†	-20.2	0.0110	mg/L	0.00487	0.0110	mg/L	0.00487	44.24%
As 188.979†	-16.1	-0.00652	mg/L	0.003369	-0.00652	mg/L	0.003369	51.70%
Ba 233.527†	37913.3	0.739	mg/L	0.0065	0.739	mg/L	0.0065	0.87%

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Be 234.861†	155.8	0.00035 mg/L	0.000049	0.00035 mg/L	0.000049	14.04%
B 249.677†	458.7	0.0192 mg/L	0.00011	0.0192 mg/L	0.00011	0.57%
Ca 227.546†	45304.7	359 mg/L	3.4	359 mg/L	3.4	0.95%
Cd 228.802†	3.1	0.00035 mg/L	0.000325	0.00035 mg/L	0.000325	93.03%
Co 228.616†	19.8	0.00098 mg/L	0.000316	0.00098 mg/L	0.000316	32.28%
Cr 267.716†	217.0	0.00271 mg/L	0.000128	0.00271 mg/L	0.000128	4.72%
Cu 327.393†	-297.9	-0.00277 mg/L	0.000415	-0.00277 mg/L	0.000415	14.98%
Fe 239.562†	13.8	0.0147 mg/L	0.00260	0.0147 mg/L	0.00260	17.76%
Mg 279.077†	123507.7	142 mg/L	2.3	142 mg/L	2.3	1.62%
Mn 257.610†	109777.2	0.292 mg/L	0.0019	0.292 mg/L	0.0019	0.66%
Mo 202.031†	64.8	0.00679 mg/L	0.000468	0.00679 mg/L	0.000468	6.89%
Ni 231.604†	359.0	0.0150 mg/L	0.00034	0.0150 mg/L	0.00034	2.25%
Pb 220.353†	25.4	0.00389 mg/L	0.000863	0.00389 mg/L	0.000863	22.22%
Sb 206.836†	-7.0	-0.00645 mg/L	0.004727	-0.00645 mg/L	0.004727	73.29%
Se 196.026†	-3.4	0.00476 mg/L	0.001235	0.00476 mg/L	0.001235	25.94%
Si 251.611†	349242.6	16.8 mg/L	0.20	16.8 mg/L	0.20	1.18%
Sn 189.927†	-325.2	-0.0889 mg/L	0.00196	-0.0889 mg/L	0.00196	2.20%
Ti 334.940†	-31255.7	-0.00256 mg/L	0.000804	-0.00256 mg/L	0.000804	31.48%
Tl 190.801†	-28.0	-0.0258 mg/L	0.00155	-0.0258 mg/L	0.00155	6.01%
V 290.880†	2009.7	0.00890 mg/L	0.001750	0.00890 mg/L	0.001750	19.65%
Zn 206.200†	101.5	0.00472 mg/L	0.000282	0.00472 mg/L	0.000282	5.98%
K 766.490†	5033.1	4.00 mg/L	0.010	4.00 mg/L	0.010	0.26%
Na 589.592†	3227445.9	406 mg/L	8.1	406 mg/L	8.1	1.99%
Sr 407.771†	3127805.3	3.70 mg/L	0.212	3.70 mg/L	0.212	5.72%
Li 670.784†	3941.0	0.0706 mg/L	0.00133	0.0706 mg/L	0.00133	1.88%
P 214.914†	45.0	0.0666 mg/L	0.01237	0.0666 mg/L	0.01237	18.57%

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Sequence No.: 17 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 10:56:57 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1926178.1						51001.46	2.65%
YRADIAL	134648.0						2047.54	1.52%
Ga 417.206	668754.9						16918.51	2.53%
GaRADIAL	38966.2						682.80	1.75%
Ag 328.068†	69208.6	0.421	mg/L	0.0045	0.421	mg/L	0.0045	1.08%
QC value within limits for Ag 328.068 Recovery = 105.29%								
Al 396.153†	24632.4	10.2	mg/L	0.06	10.2	mg/L	0.06	0.55%
QC value within limits for Al 396.153 Recovery = 101.76%								
As 188.979†	405.8	0.405	mg/L	0.0092	0.405	mg/L	0.0092	2.28%
QC value within limits for As 188.979 Recovery = 101.24%								
Ba 233.527†	53542.1	1.05	mg/L	0.014	1.05	mg/L	0.014	1.30%
QC value within limits for Ba 233.527 Recovery = 104.53%								
Be 234.861†	21944.0	0.0517	mg/L	0.00049	0.0517	mg/L	0.00049	0.94%
QC value within limits for Be 234.861 Recovery = 103.37%								
B 249.677†	18606.4	0.509	mg/L	0.0089	0.509	mg/L	0.0089	1.74%
QC value within limits for B 249.677 Recovery = 101.85%								
Ca 227.546†	1267.1	10.5	mg/L	0.28	10.5	mg/L	0.28	2.62%
QC value within limits for Ca 227.546 Recovery = 105.28%								
Cd 228.802†	863.4	0.0492	mg/L	0.00118	0.0492	mg/L	0.00118	2.41%
QC value within limits for Cd 228.802 Recovery = 98.33%								
Co 228.616†	2816.4	0.203	mg/L	0.0045	0.203	mg/L	0.0045	2.20%
QC value within limits for Co 228.616 Recovery = 101.34%								
Cr 267.716†	33268.4	0.519	mg/L	0.0048	0.519	mg/L	0.0048	0.93%
QC value within limits for Cr 267.716 Recovery = 103.73%								
Cu 327.393†	66272.1	0.525	mg/L	0.0043	0.525	mg/L	0.0043	0.82%
QC value within limits for Cu 327.393 Recovery = 104.93%								
Fe 239.562†	9486.5	4.12	mg/L	0.018	4.12	mg/L	0.018	0.44%
QC value within limits for Fe 239.562 Recovery = 103.00%								
Mg 279.077†	9069.4	10.5	mg/L	0.07	10.5	mg/L	0.07	0.66%

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   QC value within limits for Mg 279.077  Recovery = 104.90%
Mn 257.610†          190286.7       0.508 mg/L        0.0010       0.508 mg/L        0.0010   0.19%
   QC value within limits for Mn 257.610  Recovery = 101.53%
Mo 202.031†           11322.3        1.03 mg/L         0.009        1.03 mg/L         0.009   0.92%
   QC value within limits for Mo 202.031  Recovery = 103.23%
Ni 231.604†           11906.9       0.524 mg/L        0.0057       0.524 mg/L        0.0057   1.09%
   QC value within limits for Ni 231.604  Recovery = 104.72%
Pb 220.353†            1987.6       0.515 mg/L        0.0092       0.515 mg/L        0.0092   1.79%
   QC value within limits for Pb 220.353  Recovery = 103.02%
Sb 206.836†            1478.2        1.21 mg/L         0.032        1.21 mg/L         0.032   2.65%
   QC value within limits for Sb 206.836  Recovery = 100.56%
Se 196.026†             202.7       0.415 mg/L        0.0176       0.415 mg/L        0.0176   4.23%
   QC value within limits for Se 196.026  Recovery = 103.83%
Si 251.611†          109838.2        5.26 mg/L         0.046        5.26 mg/L         0.046   0.88%
   QC value within limits for Si 251.611  Recovery = 105.22%
Sn 189.927†            3777.3        1.03 mg/L         0.024        1.03 mg/L         0.024   2.35%
   QC value within limits for Sn 189.927  Recovery = 103.07%
Ti 334.940†          544333.1        1.00 mg/L         0.004        1.00 mg/L         0.004   0.38%
   QC value within limits for Ti 334.940  Recovery = 100.10%
Tl 190.801†             581.8       0.534 mg/L        0.0126       0.534 mg/L        0.0126   2.36%
   QC value within limits for Tl 190.801  Recovery = 106.86%
V 290.880†           127650.0        1.05 mg/L         0.019        1.05 mg/L         0.019   1.82%
   QC value within limits for V 290.880  Recovery = 104.85%
Zn 206.200†           17201.3        1.06 mg/L         0.010        1.06 mg/L         0.010   0.96%
   QC value within limits for Zn 206.200  Recovery = 105.60%
K 766.490†            60112.8        52.0 mg/L          0.12        52.0 mg/L          0.12   0.24%
   QC value within limits for K 766.490  Recovery = 103.99%
Na 589.592†          435096.7        50.6 mg/L          1.03        50.6 mg/L          1.03   2.04%
   QC value within limits for Na 589.592  Recovery = 101.11%
Sr 407.771†          873841.6        1.04 mg/L         0.016        1.04 mg/L         0.016   1.52%
   QC value within limits for Sr 407.771  Recovery = 103.58%
Li 670.784†           58428.7        1.02 mg/L         0.004        1.02 mg/L         0.004   0.39%
   QC value within limits for Li 670.784  Recovery = 102.46%
P 214.914†             5938.8        10.1 mg/L          0.23        10.1 mg/L          0.23   2.24%
   QC value within limits for P 214.914  Recovery = 101.15%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 18                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/5/2013 10:59:02 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    178.0 kPa        0.47 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            1920721.4                                                     7727.66   0.40%
YRADIAL               127976.1                                                      706.63   0.55%
Ga 417.206            657398.9                                                     3666.04   0.56%
GaRADIAL               36705.4                                                      548.10   1.49%
Ag 328.068†              162.6     0.00010 mg/L      0.000599     0.00010 mg/L      0.000599 617.74%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               10.6      0.0241 mg/L       0.00232      0.0241 mg/L       0.00232   9.59%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               -2.6    -0.00088 mg/L      0.004549    -0.00088 mg/L      0.004549 516.65%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -3.9    -0.00155 mg/L      0.000019    -0.00155 mg/L      0.000019   1.22%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               55.2     0.00008 mg/L      0.000053     0.00008 mg/L      0.000053  65.52%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               -22.6     0.00611 mg/L      0.001472     0.00611 mg/L      0.001472  24.09%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               10.9      0.0991 mg/L       0.06792      0.0991 mg/L       0.06792  68.52%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -2.7    -0.00006 mg/L      0.000029    -0.00006 mg/L      0.000029  46.99%
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   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                 2.2    -0.00018 mg/L      0.000173    -0.00018 mg/L      0.000173  96.01%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                -1.5    -0.00070 mg/L      0.000156    -0.00070 mg/L      0.000156  22.31%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              106.7     0.00049 mg/L      0.000404     0.00049 mg/L      0.000404  81.80%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                 7.2      0.0146 mg/L       0.00088      0.0146 mg/L       0.00088   6.02%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               40.2      0.0657 mg/L       0.00876      0.0657 mg/L       0.00876  13.32%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               29.8    -0.00023 mg/L      0.000027    -0.00023 mg/L      0.000027  11.93%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               14.0     0.00210 mg/L      0.000320     0.00210 mg/L      0.000320  15.24%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               10.0    -0.00040 mg/L      0.000344    -0.00040 mg/L      0.000344  85.23%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               -4.0    -0.00360 mg/L      0.001612    -0.00360 mg/L      0.001612  44.80%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                2.7     0.00150 mg/L      0.001947     0.00150 mg/L      0.001947 130.20%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -4.8     0.00212 mg/L      0.005078     0.00212 mg/L      0.005078 239.37%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              117.5    -0.00399 mg/L      0.000981    -0.00399 mg/L      0.000981  24.61%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                1.5     0.00021 mg/L      0.002469     0.00021 mg/L      0.002469 >999.9%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               82.2     0.00113 mg/L      0.000064     0.00113 mg/L      0.000064   5.67%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -2.5    -0.00209 mg/L      0.002646    -0.00209 mg/L      0.002646 126.42%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               389.1    -0.00074 mg/L      0.000276    -0.00074 mg/L      0.000276  37.29%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               -0.2    -0.00154 mg/L      0.000221    -0.00154 mg/L      0.000221  14.39%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                15.2     -0.0304 mg/L       0.06122     -0.0304 mg/L       0.06122 201.46%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              506.5      0.0434 mg/L       0.03706      0.0434 mg/L       0.03706  85.30%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†               53.9    -0.00293 mg/L      0.000130    -0.00293 mg/L      0.000130   4.45%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†                6.1     0.00176 mg/L      0.001565     0.00176 mg/L      0.001565  88.96%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                11.9      0.0101 mg/L       0.01353      0.0101 mg/L       0.01353 133.75%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 19                                    Autosampler Location: 29
Sample ID: LLCCV                                    Date Collected: 11/5/2013 11:02:02 AM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: LLCCV
Analyte                 Back Pressure    Flow
All                   179.0 kPa         0.47 L/min

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Mean Data: LLCCV
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029           1917544.4                                                      44839.21   2.34%
YRADIAL              127821.9                                                       5855.78   4.58%
Ga 417.206           650935.1                                                      14516.21   2.23%
GaRADIAL              36221.1                                                       1317.52   3.64%
Ag 328.068†               27.7    -0.00069 mg/L      0.000659    -0.00069 mg/L      0.000659  96.11%
Al 396.153†              408.8       0.190 mg/L        0.0064       0.190 mg/L        0.0064   3.40%
As 188.979†               -1.6     0.00021 mg/L      0.002814     0.00021 mg/L      0.002814 >999.9%
Ba 233.527†              -23.2    -0.00193 mg/L      0.000239    -0.00193 mg/L      0.000239  12.41%
Be 234.861†              756.2     0.00173 mg/L      0.000038     0.00173 mg/L      0.000038   2.19%
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B 249.677†	-181.8	0.00175	mg/L	0.000654	0.00175	mg/L	0.000654	37.43%
Ca 227.546†	60.7	0.496	mg/L	0.0295	0.496	mg/L	0.0295	5.95%
Cd 228.802†	-2.9	-0.00008	mg/L	0.000113	-0.00008	mg/L	0.000113	140.00%
Co 228.616†	-1.5	-0.00045	mg/L	0.000329	-0.00045	mg/L	0.000329	72.74%
Cr 267.716†	-10.1	-0.00084	mg/L	0.000226	-0.00084	mg/L	0.000226	27.07%
Cu 327.393†	2.6	-0.00032	mg/L	0.000694	-0.00032	mg/L	0.000694	213.74%
Fe 239.562†	183.9	0.0912	mg/L	0.00431	0.0912	mg/L	0.00431	4.73%
Mg 279.077†	399.3	0.480	mg/L	0.0158	0.480	mg/L	0.0158	3.29%
Mn 257.610†	8.5	-0.00028	mg/L	0.000020	-0.00028	mg/L	0.000020	6.97%
Mo 202.031†	-1.3	0.00071	mg/L	0.000381	0.00071	mg/L	0.000381	53.65%
Ni 231.604†	8.6	-0.00047	mg/L	0.000208	-0.00047	mg/L	0.000208	44.72%
Pb 220.353†	6.7	-0.00078	mg/L	0.001910	-0.00078	mg/L	0.001910	244.16%
Sb 206.836†	-5.4	-0.00508	mg/L	0.001490	-0.00508	mg/L	0.001490	29.33%
Se 196.026†	-2.8	0.00615	mg/L	0.006410	0.00615	mg/L	0.006410	104.17%
Si 251.611†	163.0	-0.00178	mg/L	0.003026	-0.00178	mg/L	0.003026	169.98%
Sn 189.927†	1436.7	0.392	mg/L	0.0065	0.392	mg/L	0.0065	1.65%
Ti 334.940†	-15.8	0.00101	mg/L	0.000047	0.00101	mg/L	0.000047	4.61%
Tl 190.801†	-0.9	-0.00074	mg/L	0.002399	-0.00074	mg/L	0.002399	324.72%
V 290.880†	184.8	-0.00245	mg/L	0.001872	-0.00245	mg/L	0.001872	76.57%
Zn 206.200†	21.7	-0.00019	mg/L	0.000157	-0.00019	mg/L	0.000157	81.08%
K 766.490†	1005.1	0.846	mg/L	0.0377	0.846	mg/L	0.0377	4.46%
Na 589.592†	3893.0	0.433	mg/L	0.0075	0.433	mg/L	0.0075	1.73%
Sr 407.771†	-26.2	-0.00303	mg/L	0.000092	-0.00303	mg/L	0.000092	3.05%
Li 670.784†	-104.1	-0.00017	mg/L	0.001223	-0.00017	mg/L	0.001223	716.73%
P 214.914†	13.7	0.0132	mg/L	0.00994	0.0132	mg/L	0.00994	75.16%

Sequence No.: 20
Sample ID: L1310183501
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 30
Date Collected: 11/5/2013 11:05:02 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310183501

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310183501

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1742733.4						42737.68	2.45%
YRADIAL	126108.7						5379.01	4.27%
Ga 417.206	656255.6						20100.75	3.06%
GaRADIAL	37900.1						783.12	2.07%
Ag 328.068†	342.8	0.00128	mg/L	0.000498	0.00128	mg/L	0.000498	38.83%
Al 396.153†	417.6	0.192	mg/L	0.0036	0.192	mg/L	0.0036	1.87%
As 188.979†	-6.0	-0.00264	mg/L	0.001047	-0.00264	mg/L	0.001047	39.62%
Ba 233.527†	2497.7	0.0473	mg/L	0.00109	0.0473	mg/L	0.00109	2.31%
Be 234.861†	125.2	0.00020	mg/L	0.000078	0.00020	mg/L	0.000078	38.55%
B 249.677†	17581.2	0.485	mg/L	0.0107	0.485	mg/L	0.0107	2.20%
Ca 227.546†	9667.3	76.6	mg/L	1.89	76.6	mg/L	1.89	2.47%
Cd 228.802†	-6.8	-0.00029	mg/L	0.000075	-0.00029	mg/L	0.000075	26.10%
Co 228.616†	1.9	-0.00016	mg/L	0.000694	-0.00016	mg/L	0.000694	426.71%
Cr 267.716†	210.7	0.00260	mg/L	0.001173	0.00260	mg/L	0.001173	45.05%
Cu 327.393†	274.1	0.00184	mg/L	0.000517	0.00184	mg/L	0.000517	28.16%
Fe 239.562†	650.2	0.289	mg/L	0.0109	0.289	mg/L	0.0109	3.75%
Mg 279.077†	161499.2	186	mg/L	2.2	186	mg/L	2.2	1.18%
Mn 257.610†	46847.8	0.125	mg/L	0.0025	0.125	mg/L	0.0025	1.99%
Mo 202.031†	267.8	0.0253	mg/L	0.00093	0.0253	mg/L	0.00093	3.67%
Ni 231.604†	105.0	0.00379	mg/L	0.000239	0.00379	mg/L	0.000239	6.33%
Pb 220.353†	33.9	0.00621	mg/L	0.000612	0.00621	mg/L	0.000612	9.85%
Sb 206.836†	2.1	0.00104	mg/L	0.003338	0.00104	mg/L	0.003338	320.39%
Se 196.026†	-0.8	0.0100	mg/L	0.01334	0.0100	mg/L	0.01334	132.80%
Si 251.611†	85961.7	4.12	mg/L	0.105	4.12	mg/L	0.105	2.55%
Sn 189.927†	-206.1	-0.0564	mg/L	0.00200	-0.0564	mg/L	0.00200	3.55%
Ti 334.940†	-4090.7	0.00495	mg/L	0.000730	0.00495	mg/L	0.000730	14.74%
Tl 190.801†	-18.6	-0.0166	mg/L	0.01047	-0.0166	mg/L	0.01047	62.99%
V 290.880†	3144.1	0.0171	mg/L	0.00366	0.0171	mg/L	0.00366	21.35%
Zn 206.200†	1037.7	0.0620	mg/L	0.00119	0.0620	mg/L	0.00119	1.92%
K 766.490†	112397.3	95.6	mg/L	1.15	95.6	mg/L	1.15	1.20%

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Na 589.592†	Saturated2						
Sr 407.771†	270823.2	0.317	mg/L	0.0079	0.317	mg/L	0.0079	2.50%
Li 670.784†	1303.6	0.0245	mg/L	0.00026	0.0245	mg/L	0.00026	1.04%
P 214.914†	112.0	0.181	mg/L	0.0086	0.181	mg/L	0.0086	4.74%

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Sequence No.: 21 **Autosampler Location: 31**
Sample ID: L1310183502 **Date Collected: 11/5/2013 11:08:02 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310183502

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310183502

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1765648.2						16853.65	0.95%
YRADIAL	124473.5						4567.22	3.67%
Ga 417.206	672195.0						5076.79	0.76%
GaRADIAL	37346.1						354.59	0.95%
Ag 328.068†	279.6	0.00085	mg/L	0.000248	0.00085	mg/L	0.000248	29.13%
Al 396.153†	316.1	0.149	mg/L	0.0042	0.149	mg/L	0.0042	2.79%
As 188.979†	-4.2	-0.00084	mg/L	0.008980	-0.00084	mg/L	0.008980	>999.9%
Ba 233.527†	2330.0	0.0441	mg/L	0.00069	0.0441	mg/L	0.00069	1.56%
Be 234.861†	158.9	0.00030	mg/L	0.000015	0.00030	mg/L	0.000015	5.11%
B 249.677†	17328.8	0.478	mg/L	0.0050	0.478	mg/L	0.0050	1.04%
Ca 227.546†	9561.7	75.7	mg/L	0.90	75.7	mg/L	0.90	1.19%
Cd 228.802†	-6.3	-0.00027	mg/L	0.000284	-0.00027	mg/L	0.000284	106.01%
Co 228.616†	-7.1	-0.00080	mg/L	0.000276	-0.00080	mg/L	0.000276	34.29%
Cr 267.716†	294.6	0.00392	mg/L	0.000254	0.00392	mg/L	0.000254	6.49%
Cu 327.393†	111.0	0.00054	mg/L	0.000435	0.00054	mg/L	0.000435	80.66%
Fe 239.562†	417.6	0.189	mg/L	0.0091	0.189	mg/L	0.0091	4.84%
Mg 279.077†	154168.4	178	mg/L	3.1	178	mg/L	3.1	1.72%
Mn 257.610†	26239.6	0.0697	mg/L	0.00084	0.0697	mg/L	0.00084	1.20%
Mo 202.031†	277.4	0.0261	mg/L	0.00054	0.0261	mg/L	0.00054	2.05%
Ni 231.604†	89.2	0.00309	mg/L	0.000192	0.00309	mg/L	0.000192	6.20%
Pb 220.353†	23.7	0.00360	mg/L	0.002567	0.00360	mg/L	0.002567	71.30%
Sb 206.836†	-0.1	-0.00076	mg/L	0.001266	-0.00076	mg/L	0.001266	167.36%
Se 196.026†	-6.6	-0.00138	mg/L	0.013961	-0.00138	mg/L	0.013961	>999.9%
Si 251.611†	82648.8	3.96	mg/L	0.016	3.96	mg/L	0.016	0.40%
Sn 189.927†	-208.6	-0.0571	mg/L	0.00241	-0.0571	mg/L	0.00241	4.23%
Ti 334.940†	-4573.1	0.00394	mg/L	0.000304	0.00394	mg/L	0.000304	7.72%
Tl 190.801†	-18.8	-0.0168	mg/L	0.00520	-0.0168	mg/L	0.00520	30.86%
V 290.880†	2391.1	0.0111	mg/L	0.00184	0.0111	mg/L	0.00184	16.55%
Zn 206.200†	1065.9	0.0637	mg/L	0.00125	0.0637	mg/L	0.00125	1.96%
K 766.490†	109215.4	93.0	mg/L	2.41	93.0	mg/L	2.41	2.59%
Na 589.592†	Saturated2							
Sr 407.771†	256354.2	0.299	mg/L	0.0109	0.299	mg/L	0.0109	3.65%
Li 670.784†	1138.0	0.0216	mg/L	0.00033	0.0216	mg/L	0.00033	1.54%
P 214.914†	109.6	0.177	mg/L	0.0191	0.177	mg/L	0.0191	10.80%

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Sequence No.: 22 **Autosampler Location: 32**
Sample ID: L1310183503 **Date Collected: 11/5/2013 11:11:00 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310183503

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310183503

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD

Approved: November 06, 2013

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Y 371.029	1890356.5					21474.84	1.14%
YRADIAL	132902.7					3316.22	2.50%
Ga 417.206	689675.5					7531.76	1.09%
GaRADIAL	39521.7					456.54	1.16%
Ag 328.068†	391.2	0.00153	mg/L	0.000307	0.00153 mg/L	0.000307	19.99%
Al 396.153†	1123.5	0.484	mg/L	0.0117	0.484 mg/L	0.0117	2.41%
As 188.979†	-8.2	-0.00503	mg/L	0.005910	-0.00503 mg/L	0.005910	117.59%
Ba 233.527†	2166.8	0.0409	mg/L	0.00041	0.0409 mg/L	0.00041	1.01%
Be 234.861†	144.8	0.00027	mg/L	0.000034	0.00027 mg/L	0.000034	12.81%
B 249.677†	20009.4	0.551	mg/L	0.0142	0.551 mg/L	0.0142	2.58%
Ca 227.546†	8912.5	70.6	mg/L	1.58	70.6 mg/L	1.58	2.24%
Cd 228.802†	-4.3	-0.00013	mg/L	0.000085	-0.00013 mg/L	0.000085	65.03%
Co 228.616†	1.7	-0.00019	mg/L	0.000394	-0.00019 mg/L	0.000394	206.40%
Cr 267.716†	249.9	0.00322	mg/L	0.000042	0.00322 mg/L	0.000042	1.32%
Cu 327.393†	415.0	0.00296	mg/L	0.000405	0.00296 mg/L	0.000405	13.68%
Fe 239.562†	593.9	0.266	mg/L	0.0061	0.266 mg/L	0.0061	2.30%
Mg 279.077†	110773.2	128	mg/L	2.4	128 mg/L	2.4	1.91%
Mn 257.610†	82890.3	0.221	mg/L	0.0039	0.221 mg/L	0.0039	1.75%
Mo 202.031†	334.4	0.0313	mg/L	0.00075	0.0313 mg/L	0.00075	2.40%
Ni 231.604†	87.7	0.00302	mg/L	0.000141	0.00302 mg/L	0.000141	4.66%
Pb 220.353†	29.0	0.00490	mg/L	0.001091	0.00490 mg/L	0.001091	22.25%
Sb 206.836†	0.1	-0.00061	mg/L	0.001431	-0.00061 mg/L	0.001431	233.33%
Se 196.026†	-3.7	0.00422	mg/L	0.009304	0.00422 mg/L	0.009304	220.54%
Si 251.611†	87475.3	4.20	mg/L	0.095	4.20 mg/L	0.095	2.26%
Sn 189.927†	-204.0	-0.0559	mg/L	0.00021	-0.0559 mg/L	0.00021	0.37%
Ti 334.940†	2680.7	0.0165	mg/L	0.00236	0.0165 mg/L	0.00236	14.32%
Tl 190.801†	-13.4	-0.0120	mg/L	0.00291	-0.0120 mg/L	0.00291	24.24%
V 290.880†	2158.7	0.0105	mg/L	0.00323	0.0105 mg/L	0.00323	30.77%
Zn 206.200†	1551.5	0.0934	mg/L	0.00051	0.0934 mg/L	0.00051	0.55%
K 766.490†	84026.4	72.0	mg/L	2.15	72.0 mg/L	2.15	2.99%
Na 589.592†	1269695.5	151	mg/L	3.3	151 mg/L	3.3	2.19%
Sr 407.771†	274177.8	0.321	mg/L	0.0150	0.321 mg/L	0.0150	4.68%
Li 670.784†	1312.4	0.0246	mg/L	0.00086	0.0246 mg/L	0.00086	3.49%
P 214.914†	193.1	0.319	mg/L	0.0119	0.319 mg/L	0.0119	3.75%

Sequence No.: 23 **Autosampler Location: 33**
Sample ID: L1310186601 **Date Collected: 11/5/2013 11:14:04 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186601

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1968628.9						48879.82	2.48%
YRADIAL	134081.3						3230.41	2.41%
Ga 417.206	694367.7						17661.85	2.54%
GaRADIAL	39197.3						79.57	0.20%
Ag 328.068†	64.7	-0.00037	mg/L	0.000633	-0.00037	mg/L	0.000633	173.12%
Al 396.153†	199.7	0.103	mg/L	0.0051	0.103	mg/L	0.0051	5.00%
As 188.979†	-5.9	-0.00406	mg/L	0.004872	-0.00406	mg/L	0.004872	119.90%
Ba 233.527†	859.3	0.0153	mg/L	0.00051	0.0153	mg/L	0.00051	3.36%
Be 234.861†	170.5	0.00029	mg/L	0.000062	0.00029	mg/L	0.000062	21.55%
B 249.677†	989.7	0.0336	mg/L	0.00253	0.0336	mg/L	0.00253	7.54%
Ca 227.546†	273.6	2.19	mg/L	0.051	2.19	mg/L	0.051	2.32%
Cd 228.802†	-5.2	-0.00019	mg/L	0.000123	-0.00019	mg/L	0.000123	64.32%
Co 228.616†	-5.8	-0.00077	mg/L	0.000143	-0.00077	mg/L	0.000143	18.56%
Cr 267.716†	23.9	-0.00032	mg/L	0.000158	-0.00032	mg/L	0.000158	48.94%
Cu 327.393†	94.3	0.00041	mg/L	0.000781	0.00041	mg/L	0.000781	188.64%
Fe 239.562†	649.8	0.293	mg/L	0.0087	0.293	mg/L	0.0087	2.97%
Mg 279.077†	497.8	0.593	mg/L	0.0197	0.593	mg/L	0.0197	3.32%
Mn 257.610†	1595.7	0.00396	mg/L	0.000107	0.00396	mg/L	0.000107	2.69%
Mo 202.031†	-5.8	0.00030	mg/L	0.000497	0.00030	mg/L	0.000497	165.19%
Ni 231.604†	3.7	-0.00068	mg/L	0.000371	-0.00068	mg/L	0.000371	54.55%
Pb 220.353†	6.8	-0.00078	mg/L	0.001736	-0.00078	mg/L	0.001736	223.31%

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Sb 206.836†	-0.6	-0.00120	mg/L	0.001121	-0.00120	mg/L	0.001121	93.08%
Se 196.026†	-6.1	-0.00049	mg/L	0.009756	-0.00049	mg/L	0.009756	>999.9%
Si 251.611†	102404.1	4.91	mg/L	0.158	4.91	mg/L	0.158	3.21%
Sn 189.927†	-19.1	-0.00541	mg/L	0.001647	-0.00541	mg/L	0.001647	30.46%
Ti 334.940†	542.3	0.00229	mg/L	0.000043	0.00229	mg/L	0.000043	1.86%
Tl 190.801†	-3.6	-0.00313	mg/L	0.001175	-0.00313	mg/L	0.001175	37.53%
V 290.880†	518.1	0.00028	mg/L	0.001596	0.00028	mg/L	0.001596	566.84%
Zn 206.200†	73.3	0.00297	mg/L	0.000490	0.00297	mg/L	0.000490	16.47%
K 766.490†	727.1	0.595	mg/L	0.0420	0.595	mg/L	0.0420	7.05%
Na 589.592†	45199.7	5.19	mg/L	0.044	5.19	mg/L	0.044	0.85%
Sr 407.771†	11726.9	0.0109	mg/L	0.00049	0.0109	mg/L	0.00049	4.52%
Li 670.784†	16.3	0.00194	mg/L	0.001603	0.00194	mg/L	0.001603	82.78%
P 214.914†	115.9	0.188	mg/L	0.0048	0.188	mg/L	0.0048	2.56%

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Sequence No.: 24 **Autosampler Location: 34**
Sample ID: L1310186701 **Date Collected: 11/5/2013 11:17:05 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186701

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186701

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1892366.8						33380.61	1.76%
YRADIAL	129904.6						4602.29	3.54%
Ga 417.206	686336.2						11791.86	1.72%
GaRADIAL	38997.8						1057.79	2.71%
Ag 328.068†	147.5	0.00015	mg/L	0.000594	0.00015	mg/L	0.000594	409.23%
Al 396.153†	217.3	0.110	mg/L	0.0022	0.110	mg/L	0.0022	2.01%
As 188.979†	-4.0	-0.00175	mg/L	0.002283	-0.00175	mg/L	0.002283	130.18%
Ba 233.527†	1345.5	0.0248	mg/L	0.00054	0.0248	mg/L	0.00054	2.16%
Be 234.861†	615.2	0.00133	mg/L	0.000043	0.00133	mg/L	0.000043	3.20%
B 249.677†	1280.8	0.0414	mg/L	0.00015	0.0414	mg/L	0.00015	0.36%
Ca 227.546†	2129.6	16.9	mg/L	0.30	16.9	mg/L	0.30	1.80%
Cd 228.802†	-4.9	-0.00017	mg/L	0.000176	-0.00017	mg/L	0.000176	106.48%
Co 228.616†	58.5	0.00389	mg/L	0.000346	0.00389	mg/L	0.000346	8.90%
Cr 267.716†	31.6	-0.00021	mg/L	0.000120	-0.00021	mg/L	0.000120	58.09%
Cu 327.393†	47.0	0.00004	mg/L	0.000066	0.00004	mg/L	0.000066	174.93%
Fe 239.562†	823.6	0.368	mg/L	0.0099	0.368	mg/L	0.0099	2.69%
Mg 279.077†	2359.9	2.74	mg/L	0.063	2.74	mg/L	0.063	2.30%
Mn 257.610†	4438.8	0.0115	mg/L	0.00029	0.0115	mg/L	0.00029	2.54%
Mo 202.031†	7.6	0.00152	mg/L	0.000453	0.00152	mg/L	0.000453	29.74%
Ni 231.604†	63.3	0.00194	mg/L	0.000090	0.00194	mg/L	0.000090	4.64%
Pb 220.353†	24.6	0.00382	mg/L	0.001329	0.00382	mg/L	0.001329	34.80%
Sb 206.836†	-0.5	-0.00112	mg/L	0.004766	-0.00112	mg/L	0.004766	427.36%
Se 196.026†	-3.0	0.00576	mg/L	0.005590	0.00576	mg/L	0.005590	97.01%
Si 251.611†	316106.4	15.2	mg/L	0.06	15.2	mg/L	0.06	0.40%
Sn 189.927†	-94.3	-0.0259	mg/L	0.00208	-0.0259	mg/L	0.00208	8.03%
Ti 334.940†	-1466.5	0.00081	mg/L	0.000290	0.00081	mg/L	0.000290	35.89%
Tl 190.801†	-11.4	-0.0101	mg/L	0.00261	-0.0101	mg/L	0.00261	25.73%
V 290.880†	675.2	0.00151	mg/L	0.000263	0.00151	mg/L	0.000263	17.36%
Zn 206.200†	214.5	0.0116	mg/L	0.00028	0.0116	mg/L	0.00028	2.40%
K 766.490†	1031.7	0.839	mg/L	0.0276	0.839	mg/L	0.0276	3.29%
Na 589.592†	272086.5	31.5	mg/L	0.16	31.5	mg/L	0.16	0.51%
Sr 407.771†	122922.6	0.143	mg/L	0.0048	0.143	mg/L	0.0048	3.34%
Li 670.784†	838.5	0.0163	mg/L	0.00022	0.0163	mg/L	0.00022	1.37%
P 214.914†	79.5	0.125	mg/L	0.0066	0.125	mg/L	0.0066	5.27%

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Sequence No.: 25 **Autosampler Location: 35**
Sample ID: L1310186705 **Date Collected: 11/5/2013 11:20:06 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Nebulizer Parameters: L1310186705

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1310186705

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1916753.1						16437.94	0.86%
YRADIAL	133949.2						4066.82	3.04%
Ga 417.206	699604.3						7213.87	1.03%
GaRADIAL	40025.6						552.81	1.38%
Ag 328.068†	117.6	0.00013	mg/L	0.000267	0.00013	mg/L	0.000267	202.25%
Al 396.153†	532.1	0.241	mg/L	0.0084	0.241	mg/L	0.0084	3.49%
As 188.979†	-5.7	-0.00286	mg/L	0.005601	-0.00286	mg/L	0.005601	196.03%
Ba 233.527†	807.6	0.0143	mg/L	0.00041	0.0143	mg/L	0.00041	2.89%
Be 234.861†	688.2	0.00142	mg/L	0.000105	0.00142	mg/L	0.000105	7.40%
B 249.677†	11273.1	0.313	mg/L	0.0043	0.313	mg/L	0.0043	1.37%
Ca 227.546†	5379.7	42.6	mg/L	0.79	42.6	mg/L	0.79	1.85%
Cd 228.802†	-6.8	-0.00025	mg/L	0.000272	-0.00025	mg/L	0.000272	108.93%
Co 228.616†	128.5	0.00895	mg/L	0.000542	0.00895	mg/L	0.000542	6.05%
Cr 267.716†	69.4	0.00035	mg/L	0.000380	0.00035	mg/L	0.000380	107.56%
Cu 327.393†	-7.5	-0.00037	mg/L	0.000561	-0.00037	mg/L	0.000561	150.69%
Fe 239.562†	1757.4	0.772	mg/L	0.0214	0.772	mg/L	0.0214	2.77%
Mg 279.077†	18672.7	21.5	mg/L	0.76	21.5	mg/L	0.76	3.52%
Mn 257.610†	45196.7	0.120	mg/L	0.0020	0.120	mg/L	0.0020	1.63%
Mo 202.031†	21.0	0.00278	mg/L	0.000385	0.00278	mg/L	0.000385	13.85%
Ni 231.604†	95.1	0.00334	mg/L	0.000316	0.00334	mg/L	0.000316	9.46%
Pb 220.353†	22.1	0.00311	mg/L	0.002087	0.00311	mg/L	0.002087	67.08%
Sb 206.836†	1.2	0.00032	mg/L	0.003655	0.00032	mg/L	0.003655	>999.9%
Se 196.026†	-8.2	-0.00450	mg/L	0.003616	-0.00450	mg/L	0.003616	80.42%
Si 251.611†	207285.7	9.96	mg/L	0.082	9.96	mg/L	0.082	0.83%
Sn 189.927†	-167.3	-0.0458	mg/L	0.00100	-0.0458	mg/L	0.00100	2.17%
Ti 334.940†	-3955.7	0.00010	mg/L	0.000423	0.00010	mg/L	0.000423	411.17%
Tl 190.801†	-14.8	-0.0133	mg/L	0.00696	-0.0133	mg/L	0.00696	52.39%
V 290.880†	941.6	0.00318	mg/L	0.001466	0.00318	mg/L	0.001466	46.08%
Zn 206.200†	237.7	0.0130	mg/L	0.00020	0.0130	mg/L	0.00020	1.50%
K 766.490†	1994.1	1.59	mg/L	0.068	1.59	mg/L	0.068	4.30%
Na 589.592†	1099279.0	130	mg/L	1.4	130	mg/L	1.4	1.07%
Sr 407.771†	177840.9	0.207	mg/L	0.0064	0.207	mg/L	0.0064	3.09%
Li 670.784†	490.6	0.0102	mg/L	0.00038	0.0102	mg/L	0.00038	3.70%
P 214.914†	24.4	0.0315	mg/L	0.01191	0.0315	mg/L	0.01191	37.81%

Sequence No.: 26
Sample ID: L1310186706
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 36
Date Collected: 11/5/2013 11:23:07 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186706

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1310186706

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1926896.1						9186.67	0.48%
YRADIAL	128221.6						2913.76	2.27%
Ga 417.206	703012.8						2460.60	0.35%
GaRADIAL	38543.4						620.88	1.61%
Ag 328.068†	187.7	0.00053	mg/L	0.000287	0.00053	mg/L	0.000287	54.05%
Al 396.153†	536.9	0.243	mg/L	0.0045	0.243	mg/L	0.0045	1.84%
As 188.979†	-6.7	-0.00391	mg/L	0.005569	-0.00391	mg/L	0.005569	142.50%
Ba 233.527†	801.8	0.0142	mg/L	0.00010	0.0142	mg/L	0.00010	0.68%
Be 234.861†	704.0	0.00147	mg/L	0.000062	0.00147	mg/L	0.000062	4.22%
B 249.677†	11279.1	0.313	mg/L	0.0069	0.313	mg/L	0.0069	2.20%
Ca 227.546†	5365.5	42.5	mg/L	0.25	42.5	mg/L	0.25	0.60%
Cd 228.802†	-3.8	-0.00007	mg/L	0.000320	-0.00007	mg/L	0.000320	443.59%

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Co 228.616†	125.0	0.00870 mg/L	0.000258	0.00870 mg/L	0.000258	2.97%
Cr 267.716†	67.0	0.00032 mg/L	0.000095	0.00032 mg/L	0.000095	29.59%
Cu 327.393†	-39.0	-0.00063 mg/L	0.000821	-0.00063 mg/L	0.000821	131.27%
Fe 239.562†	1642.6	0.723 mg/L	0.0137	0.723 mg/L	0.0137	1.89%
Mg 279.077†	19379.6	22.4 mg/L	0.43	22.4 mg/L	0.43	1.93%
Mn 257.610†	44776.0	0.119 mg/L	0.0020	0.119 mg/L	0.0020	1.67%
Mo 202.031†	15.4	0.00227 mg/L	0.000942	0.00227 mg/L	0.000942	41.57%
Ni 231.604†	96.4	0.00339 mg/L	0.000557	0.00339 mg/L	0.000557	16.41%
Pb 220.353†	17.6	0.00196 mg/L	0.001727	0.00196 mg/L	0.001727	88.15%
Sb 206.836†	-0.9	-0.00142 mg/L	0.001134	-0.00142 mg/L	0.001134	79.78%
Se 196.026†	-4.9	0.00200 mg/L	0.006806	0.00200 mg/L	0.006806	340.24%
Si 251.611†	204665.7	9.83 mg/L	0.061	9.83 mg/L	0.061	0.62%
Sn 189.927†	-162.5	-0.0445 mg/L	0.00067	-0.0445 mg/L	0.00067	1.51%
Ti 334.940†	-3972.9	0.00005 mg/L	0.000304	0.00005 mg/L	0.000304	556.98%
Tl 190.801†	-10.7	-0.00969 mg/L	0.003287	-0.00969 mg/L	0.003287	33.92%
V 290.880†	869.4	0.00257 mg/L	0.001319	0.00257 mg/L	0.001319	51.33%
Zn 206.200†	271.8	0.0151 mg/L	0.00037	0.0151 mg/L	0.00037	2.45%
K 766.490†	2036.2	1.63 mg/L	0.025	1.63 mg/L	0.025	1.50%
Na 589.592†	1102869.6	130 mg/L	0.5	130 mg/L	0.5	0.38%
Sr 407.771†	180739.1	0.211 mg/L	0.0074	0.211 mg/L	0.0074	3.52%
Li 670.784†	506.4	0.0105 mg/L	0.00006	0.0105 mg/L	0.00006	0.57%
P 214.914†	21.4	0.0264 mg/L	0.00828	0.0264 mg/L	0.00828	31.37%

Sequence No.: 27
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 11/5/2013 11:26:08 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1958606.5						21896.64	1.12%
YRADIAL	136345.4						3551.62	2.60%
Ga 417.206	681393.9						10667.77	1.57%
GaRADIAL	38931.5						917.48	2.36%
Ag 328.068†	67653.7	0.412	mg/L	0.0037	0.412	mg/L	0.0037	0.90%
QC value within limits for Ag 328.068 Recovery = 102.92%								
Al 396.153†	24176.7	9.99	mg/L	0.025	9.99	mg/L	0.025	0.25%
QC value within limits for Al 396.153 Recovery = 99.88%								
As 188.979†	396.6	0.396	mg/L	0.0010	0.396	mg/L	0.0010	0.25%
QC value within limits for As 188.979 Recovery = 98.95%								
Ba 233.527†	52485.2	1.02	mg/L	0.019	1.02	mg/L	0.019	1.82%
QC value within limits for Ba 233.527 Recovery = 102.46%								
Be 234.861†	21358.4	0.0503	mg/L	0.00066	0.0503	mg/L	0.00066	1.31%
QC value within limits for Be 234.861 Recovery = 100.60%								
B 249.677†	18712.4	0.512	mg/L	0.0096	0.512	mg/L	0.0096	1.87%
QC value within limits for B 249.677 Recovery = 102.43%								
Ca 227.546†	1246.5	10.4	mg/L	0.10	10.4	mg/L	0.10	0.93%
QC value within limits for Ca 227.546 Recovery = 103.52%								
Cd 228.802†	855.4	0.0487	mg/L	0.00088	0.0487	mg/L	0.00088	1.81%
QC value within limits for Cd 228.802 Recovery = 97.47%								
Co 228.616†	2807.0	0.202	mg/L	0.0014	0.202	mg/L	0.0014	0.68%
QC value within limits for Co 228.616 Recovery = 101.00%								
Cr 267.716†	32771.5	0.511	mg/L	0.0064	0.511	mg/L	0.0064	1.26%
QC value within limits for Cr 267.716 Recovery = 102.18%								
Cu 327.393†	64468.7	0.510	mg/L	0.0057	0.510	mg/L	0.0057	1.12%
QC value within limits for Cu 327.393 Recovery = 102.08%								
Fe 239.562†	9294.3	4.04	mg/L	0.023	4.04	mg/L	0.023	0.57%
QC value within limits for Fe 239.562 Recovery = 100.92%								
Mg 279.077†	8784.5	10.2	mg/L	0.02	10.2	mg/L	0.02	0.15%
QC value within limits for Mg 279.077 Recovery = 101.62%								
Mn 257.610†	188595.4	0.503	mg/L	0.0046	0.503	mg/L	0.0046	0.91%
QC value within limits for Mn 257.610 Recovery = 100.63%								
Mo 202.031†	11068.3	1.01	mg/L	0.027	1.01	mg/L	0.027	2.66%

Approved: November 06, 2013

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   QC value within limits for Mo 202.031  Recovery = 100.92%
Ni 231.604†          11617.7       0.511 mg/L        0.0080       0.511 mg/L        0.0080   1.56%
   QC value within limits for Ni 231.604  Recovery = 102.17%
Pb 220.353†           1982.8       0.514 mg/L        0.0043       0.514 mg/L        0.0043   0.83%
   QC value within limits for Pb 220.353  Recovery = 102.77%
Sb 206.836†           1463.0        1.19 mg/L         0.013        1.19 mg/L         0.013   1.09%
   QC value within limits for Sb 206.836  Recovery = 99.53%
Se 196.026†            199.1       0.408 mg/L        0.0082       0.408 mg/L        0.0082   2.02%
   QC value within limits for Se 196.026  Recovery = 102.06%
Si 251.611†         107730.8        5.16 mg/L         0.061        5.16 mg/L         0.061   1.18%
   QC value within limits for Si 251.611  Recovery = 103.20%
Sn 189.927†           3768.8        1.03 mg/L         0.012        1.03 mg/L         0.012   1.17%
   QC value within limits for Sn 189.927  Recovery = 102.83%
Ti 334.940†         538590.6       0.990 mg/L        0.0053       0.990 mg/L        0.0053   0.54%
   QC value within limits for Ti 334.940  Recovery = 99.04%
Tl 190.801†            578.7       0.531 mg/L        0.0051       0.531 mg/L        0.0051   0.96%
   QC value within limits for Tl 190.801  Recovery = 106.26%
V 290.880†          125136.4        1.03 mg/L         0.026        1.03 mg/L         0.026   2.49%
   QC value within limits for V 290.880  Recovery = 102.77%
Zn 206.200†          16909.5        1.04 mg/L         0.020        1.04 mg/L         0.020   1.97%
   QC value within limits for Zn 206.200  Recovery = 103.81%
K 766.490†           59238.4        51.3 mg/L          0.14        51.3 mg/L          0.14   0.28%
   QC value within limits for K 766.490  Recovery = 102.51%
Na 589.592†         438948.7        51.0 mg/L          1.45        51.0 mg/L          1.45   2.84%
   QC value within limits for Na 589.592  Recovery = 102.02%
Sr 407.771†         872356.6        1.03 mg/L         0.030        1.03 mg/L         0.030   2.87%
   QC value within limits for Sr 407.771  Recovery = 103.40%
Li 670.784†          57277.9        1.00 mg/L         0.004        1.00 mg/L         0.004   0.43%
   QC value within limits for Li 670.784  Recovery = 100.44%
P 214.914†            5929.0        10.1 mg/L          0.10        10.1 mg/L          0.10   0.95%
   QC value within limits for P 214.914  Recovery = 100.98%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 28                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/5/2013 11:28:13 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     178.0 kPa        0.47 L/min

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Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029           1889126.4                                                    23901.72   1.27%
YRADIAL              127779.0                                                     5953.60   4.66%
Ga 417.206           647169.3                                                     7655.63   1.18%
GaRADIAL              36909.5                                                     1084.64   2.94%
Ag 328.068†              82.5    -0.00039 mg/L      0.000320    -0.00039 mg/L      0.000320  82.48%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†              -2.8      0.0186 mg/L       0.00194      0.0186 mg/L       0.00194  10.42%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†              -2.7    -0.00095 mg/L      0.000884    -0.00095 mg/L      0.000884  93.49%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†             -16.7    -0.00180 mg/L      0.000126    -0.00180 mg/L      0.000126   6.98%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              28.1     0.00002 mg/L      0.000060     0.00002 mg/L      0.000060 362.12%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              207.5      0.0124 mg/L       0.00162      0.0124 mg/L       0.00162  13.09%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              10.3      0.0938 mg/L       0.04784      0.0938 mg/L       0.04784  51.02%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -0.9     0.00004 mg/L      0.000160     0.00004 mg/L      0.000160 358.93%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -5.8    -0.00076 mg/L      0.000151    -0.00076 mg/L      0.000151  19.91%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               4.9    -0.00060 mg/L      0.000093    -0.00060 mg/L      0.000093  15.55%
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   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†                1.6    -0.00034 mg/L      0.000342    -0.00034 mg/L      0.000342 101.62%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                3.6      0.0131 mg/L       0.00127      0.0131 mg/L       0.00127   9.70%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               19.5      0.0419 mg/L       0.01067      0.0419 mg/L       0.01067  25.48%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               17.1    -0.00026 mg/L      0.000030    -0.00026 mg/L      0.000030  11.32%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                3.8     0.00117 mg/L      0.000218     0.00117 mg/L      0.000218  18.62%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -1.6    -0.00092 mg/L      0.000418    -0.00092 mg/L      0.000418  45.67%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                9.8    -0.00001 mg/L      0.001854    -0.00001 mg/L      0.001854 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                1.7     0.00066 mg/L      0.002889     0.00066 mg/L      0.002889 439.17%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -2.7     0.00635 mg/L      0.005933     0.00635 mg/L      0.005933  93.47%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              133.0    -0.00323 mg/L      0.002177    -0.00323 mg/L      0.002177  67.45%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               -3.7    -0.00119 mg/L      0.001770    -0.00119 mg/L      0.001770 149.29%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†                5.6     0.00099 mg/L      0.000171     0.00099 mg/L      0.000171  17.20%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -1.0    -0.00083 mg/L      0.002130    -0.00083 mg/L      0.002130 258.11%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               409.3    -0.00057 mg/L      0.001319    -0.00057 mg/L      0.001319 230.30%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               -1.7    -0.00163 mg/L      0.000288    -0.00163 mg/L      0.000288  17.70%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                 6.8     -0.0378 mg/L       0.04746     -0.0378 mg/L       0.04746 125.51%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              514.7      0.0444 mg/L       0.01191      0.0444 mg/L       0.01191  26.84%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              -57.8    -0.00306 mg/L      0.000062    -0.00306 mg/L      0.000062   2.03%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              -16.1     0.00137 mg/L      0.000763     0.00137 mg/L      0.000763  55.69%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                18.2      0.0210 mg/L       0.00484      0.0210 mg/L       0.00484  23.10%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 29                                    Autosampler Location: 37
Sample ID: L1310186801                              Date Collected: 11/5/2013 11:31:13 AM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: L1310186801
Analyte                 Back Pressure    Flow
All                    178.0 kPa         0.47 L/min

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Mean Data: L1310186801
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1923941.9                                                     25881.79   1.35%
YRADIAL               130449.1                                                      2070.86   1.59%
Ga 417.206            701629.6                                                      8739.42   1.25%
GaRADIAL               39277.6                                                       565.73   1.44%
Ag 328.068†              252.0     0.00062 mg/L      0.000920     0.00062 mg/L      0.000920 149.29%
Al 396.153†               69.7      0.0485 mg/L       0.00212      0.0485 mg/L       0.00212   4.37%
As 188.979†               -8.7    -0.00620 mg/L      0.002585    -0.00620 mg/L      0.002585  41.68%
Ba 233.527†             4310.8      0.0828 mg/L       0.00234      0.0828 mg/L       0.00234   2.83%
Be 234.861†              150.9     0.00029 mg/L      0.000054     0.00029 mg/L      0.000054  18.62%
B 249.677†               580.7      0.0225 mg/L       0.00050      0.0225 mg/L       0.00050   2.23%
Ca 227.546†             4627.4        36.7 mg/L          0.97        36.7 mg/L          0.97   2.66%
Cd 228.802†               -6.9    -0.00028 mg/L      0.000296    -0.00028 mg/L      0.000296 107.30%
Co 228.616†               -5.1    -0.00071 mg/L      0.000228    -0.00071 mg/L      0.000228  31.96%
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Cr 267.716†	161.6	0.00184	mg/L	0.000134	0.00184	mg/L	0.000134	7.26%
Cu 327.393†	102.7	0.00046	mg/L	0.000294	0.00046	mg/L	0.000294	63.64%
Fe 239.562†	196.1	0.0964	mg/L	0.00338	0.0964	mg/L	0.00338	3.51%
Mg 279.077†	5140.2	5.94	mg/L	0.125	5.94	mg/L	0.125	2.10%
Mn 257.610†	381.8	0.00072	mg/L	0.000066	0.00072	mg/L	0.000066	9.17%
Mo 202.031†	47.5	0.00515	mg/L	0.000628	0.00515	mg/L	0.000628	12.20%
Ni 231.604†	1.1	-0.00080	mg/L	0.000187	-0.00080	mg/L	0.000187	23.50%
Pb 220.353†	19.3	0.00248	mg/L	0.002527	0.00248	mg/L	0.002527	102.05%
Sb 206.836†	0.5	-0.00032	mg/L	0.003563	-0.00032	mg/L	0.003563	>999.9%
Se 196.026†	-6.0	-0.00028	mg/L	0.006359	-0.00028	mg/L	0.006359	>999.9%
Si 251.611†	291888.1	14.0	mg/L	0.06	14.0	mg/L	0.06	0.42%
Sn 189.927†	-151.9	-0.0416	mg/L	0.00117	-0.0416	mg/L	0.00117	2.80%
Ti 334.940†	-3017.6	0.00093	mg/L	0.000099	0.00093	mg/L	0.000099	10.61%
Tl 190.801†	-8.6	-0.00762	mg/L	0.004025	-0.00762	mg/L	0.004025	52.83%
V 290.880†	883.8	0.00318	mg/L	0.002192	0.00318	mg/L	0.002192	68.98%
Zn 206.200†	61.5	0.00226	mg/L	0.000197	0.00226	mg/L	0.000197	8.70%
K 766.490†	2265.5	1.94	mg/L	0.073	1.94	mg/L	0.073	3.77%
Na 589.592†	157318.1	18.1	mg/L	0.01	18.1	mg/L	0.01	0.08%
Sr 407.771†	283399.6	0.333	mg/L	0.0107	0.333	mg/L	0.0107	3.22%
Li 670.784†	343.6	0.00767	mg/L	0.001269	0.00767	mg/L	0.001269	16.56%
P 214.914†	26.0	0.0342	mg/L	0.00934	0.0342	mg/L	0.00934	27.33%

Sequence No.: 30
Sample ID: L1310186802
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 38
Date Collected: 11/5/2013 11:34:13 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186802

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186802

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1942394.4						33044.83	1.70%
YRADIAL	131147.0						8292.05	6.32%
Ga 417.206	715265.1						14230.60	1.99%
GaRADIAL	39578.6						1566.32	3.96%
Ag 328.068†	274.7	0.00076	mg/L	0.000896	0.00076	mg/L	0.000896	118.50%
Al 396.153†	86.4	0.0554	mg/L	0.00251	0.0554	mg/L	0.00251	4.54%
As 188.979†	-5.5	-0.00303	mg/L	0.006042	-0.00303	mg/L	0.006042	199.50%
Ba 233.527†	4070.0	0.0781	mg/L	0.00083	0.0781	mg/L	0.00083	1.06%
Be 234.861†	172.5	0.00034	mg/L	0.000066	0.00034	mg/L	0.000066	19.25%
B 249.677†	451.8	0.0190	mg/L	0.00079	0.0190	mg/L	0.00079	4.18%
Ca 227.546†	4349.8	34.5	mg/L	0.55	34.5	mg/L	0.55	1.59%
Cd 228.802†	-3.8	-0.00011	mg/L	0.000136	-0.00011	mg/L	0.000136	119.41%
Co 228.616†	-3.0	-0.00057	mg/L	0.000201	-0.00057	mg/L	0.000201	35.38%
Cr 267.716†	151.2	0.00168	mg/L	0.000134	0.00168	mg/L	0.000134	7.96%
Cu 327.393†	17.5	-0.00021	mg/L	0.000937	-0.00021	mg/L	0.000937	446.52%
Fe 239.562†	183.4	0.0909	mg/L	0.00326	0.0909	mg/L	0.00326	3.59%
Mg 279.077†	4816.7	5.57	mg/L	0.326	5.57	mg/L	0.326	5.85%
Mn 257.610†	357.0	0.00065	mg/L	0.000014	0.00065	mg/L	0.000014	2.15%
Mo 202.031†	47.5	0.00515	mg/L	0.000921	0.00515	mg/L	0.000921	17.88%
Ni 231.604†	13.1	-0.00027	mg/L	0.000570	-0.00027	mg/L	0.000570	213.63%
Pb 220.353†	25.4	0.00404	mg/L	0.004401	0.00404	mg/L	0.004401	108.81%
Sb 206.836†	-2.8	-0.00296	mg/L	0.001884	-0.00296	mg/L	0.001884	63.61%
Se 196.026†	-4.7	0.00233	mg/L	0.005658	0.00233	mg/L	0.005658	243.31%
Si 251.611†	278029.7	13.4	mg/L	0.11	13.4	mg/L	0.11	0.79%
Sn 189.927†	-152.7	-0.0419	mg/L	0.00183	-0.0419	mg/L	0.00183	4.38%
Ti 334.940†	-2692.4	0.00120	mg/L	0.000171	0.00120	mg/L	0.000171	14.28%
Tl 190.801†	-14.7	-0.0131	mg/L	0.00299	-0.0131	mg/L	0.00299	22.86%
V 290.880†	988.5	0.00405	mg/L	0.001098	0.00405	mg/L	0.001098	27.10%
Zn 206.200†	113.7	0.00545	mg/L	0.000335	0.00545	mg/L	0.000335	6.15%
K 766.490†	2182.2	1.87	mg/L	0.037	1.87	mg/L	0.037	1.95%
Na 589.592†	149174.1	17.2	mg/L	0.15	17.2	mg/L	0.15	0.87%
Sr 407.771†	268808.1	0.316	mg/L	0.0131	0.316	mg/L	0.0131	4.16%
Li 670.784†	339.1	0.00759	mg/L	0.001502	0.00759	mg/L	0.001502	19.79%
P 214.914†	21.5	0.0264	mg/L	0.01177	0.0264	mg/L	0.01177	44.52%

Approved: November 06, 2013

Kim H. Rhoden

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Sequence No.: 31 **Autosampler Location: 39**
Sample ID: L1310186803 **Date Collected: 11/5/2013 11:37:13 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186803

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186803

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1968569.0						46747.36	2.37%
YRADIAL	135674.2						2491.29	1.84%
Ga 417.206	727021.9						25821.18	3.55%
GaRADIAL	38847.9						491.44	1.27%
Ag 328.068†	-135.6	0.00059	mg/L	0.000470	0.00059	mg/L	0.000470	79.47%
Al 396.153†	14110.8	5.88	mg/L	0.050	5.88	mg/L	0.050	0.85%
As 188.979†	-6.4	-0.00303	mg/L	0.006024	-0.00303	mg/L	0.006024	198.83%
Ba 233.527†	6304.6	0.122	mg/L	0.0013	0.122	mg/L	0.0013	1.08%
Be 234.861†	810.3	0.00069	mg/L	0.000153	0.00069	mg/L	0.000153	22.12%
B 249.677†	596.1	0.0208	mg/L	0.00103	0.0208	mg/L	0.00103	4.95%
Ca 227.546†	4649.1	37.0	mg/L	1.18	37.0	mg/L	1.18	3.19%
Cd 228.802†	-4.1	-0.00011	mg/L	0.000277	-0.00011	mg/L	0.000277	261.05%
Co 228.616†	21.9	0.00089	mg/L	0.000410	0.00089	mg/L	0.000410	46.07%
Cr 267.716†	769.2	0.0111	mg/L	0.00007	0.0111	mg/L	0.00007	0.62%
Cu 327.393†	656.1	0.00523	mg/L	0.000393	0.00523	mg/L	0.000393	7.52%
Fe 239.562†	11565.3	5.02	mg/L	0.076	5.02	mg/L	0.076	1.51%
Mg 279.077†	6951.8	8.03	mg/L	0.049	8.03	mg/L	0.049	0.61%
Mn 257.610†	28408.2	0.0757	mg/L	0.00085	0.0757	mg/L	0.00085	1.13%
Mo 202.031†	41.3	0.00469	mg/L	0.000416	0.00469	mg/L	0.000416	8.88%
Ni 231.604†	109.1	0.00396	mg/L	0.000398	0.00396	mg/L	0.000398	10.05%
Pb 220.353†	33.1	0.00654	mg/L	0.001232	0.00654	mg/L	0.001232	18.85%
Sb 206.836†	-1.6	-0.00193	mg/L	0.002923	-0.00193	mg/L	0.002923	151.62%
Se 196.026†	-7.3	-0.00165	mg/L	0.007704	-0.00165	mg/L	0.007704	467.79%
Si 251.611†	564212.2	27.1	mg/L	0.16	27.1	mg/L	0.16	0.59%
Sn 189.927†	-144.6	-0.0396	mg/L	0.00295	-0.0396	mg/L	0.00295	7.43%
Ti 334.940†	47953.1	0.0945	mg/L	0.00155	0.0945	mg/L	0.00155	1.64%
Tl 190.801†	-12.0	-0.00943	mg/L	0.001554	-0.00943	mg/L	0.001554	16.49%
V 290.880†	1813.3	0.0103	mg/L	0.00035	0.0103	mg/L	0.00035	3.44%
Zn 206.200†	1149.3	0.0690	mg/L	0.00128	0.0690	mg/L	0.00128	1.86%
K 766.490†	3776.8	3.28	mg/L	0.051	3.28	mg/L	0.051	1.54%
Na 589.592†	168917.0	19.5	mg/L	0.25	19.5	mg/L	0.25	1.26%
Sr 407.771†	274654.9	0.322	mg/L	0.0025	0.322	mg/L	0.0025	0.79%
Li 670.784†	587.4	0.0119	mg/L	0.00020	0.0119	mg/L	0.00020	1.71%
P 214.914†	268.8	0.448	mg/L	0.0130	0.448	mg/L	0.0130	2.89%

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Sequence No.: 32 **Autosampler Location: 40**
Sample ID: L1310186804 **Date Collected: 11/5/2013 11:39:16 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186804

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186804

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1959461.1						24645.28	1.26%
YRADIAL	134074.5						3059.93	2.28%
Ga 417.206	713862.1						6699.24	0.94%
GaRADIAL	40306.5						523.40	1.30%

Approved: November 06, 2013

Kim H. Rhoden

Ag 328.068†	140.8	-0.00004	mg/L	0.000265	-0.00004	mg/L	0.000265	679.36%
Al 396.153†	71.8	0.0494	mg/L	0.00122	0.0494	mg/L	0.00122	2.46%
As 188.979†	-6.8	-0.00440	mg/L	0.005686	-0.00440	mg/L	0.005686	129.24%
Ba 233.527†	6061.2	0.117	mg/L	0.0025	0.117	mg/L	0.0025	2.16%
Be 234.861†	164.7	0.00032	mg/L	0.000022	0.00032	mg/L	0.000022	6.75%
B 249.677†	708.7	0.0260	mg/L	0.00010	0.0260	mg/L	0.00010	0.39%
Ca 227.546†	3525.2	27.9	mg/L	0.53	27.9	mg/L	0.53	1.92%
Cd 228.802†	-2.1	-0.00001	mg/L	0.000194	-0.00001	mg/L	0.000194	>999.9%
Co 228.616†	-11.3	-0.00118	mg/L	0.000466	-0.00118	mg/L	0.000466	39.40%
Cr 267.716†	214.0	0.00266	mg/L	0.000289	0.00266	mg/L	0.000289	10.87%
Cu 327.393†	36.0	-0.00006	mg/L	0.000142	-0.00006	mg/L	0.000142	234.86%
Fe 239.562†	195.8	0.0962	mg/L	0.00258	0.0962	mg/L	0.00258	2.68%
Mg 279.077†	4319.9	5.00	mg/L	0.159	5.00	mg/L	0.159	3.18%
Mn 257.610†	926.9	0.00217	mg/L	0.000090	0.00217	mg/L	0.000090	4.16%
Mo 202.031†	42.2	0.00467	mg/L	0.000514	0.00467	mg/L	0.000514	11.00%
Ni 231.604†	-4.4	-0.00104	mg/L	0.000458	-0.00104	mg/L	0.000458	44.20%
Pb 220.353†	11.5	0.00043	mg/L	0.001561	0.00043	mg/L	0.001561	365.99%
Sb 206.836†	0.1	-0.00067	mg/L	0.002806	-0.00067	mg/L	0.002806	417.24%
Se 196.026†	-2.6	0.00660	mg/L	0.003842	0.00660	mg/L	0.003842	58.16%
Si 251.611†	282570.2	13.6	mg/L	0.01	13.6	mg/L	0.01	0.08%
Sn 189.927†	-136.1	-0.0373	mg/L	0.00235	-0.0373	mg/L	0.00235	6.30%
Ti 334.940†	-1793.8	0.00187	mg/L	0.000235	0.00187	mg/L	0.000235	12.61%
Tl 190.801†	-8.0	-0.00705	mg/L	0.005535	-0.00705	mg/L	0.005535	78.53%
V 290.880†	1211.0	0.00590	mg/L	0.001471	0.00590	mg/L	0.001471	24.93%
Zn 206.200†	113.4	0.00545	mg/L	0.000304	0.00545	mg/L	0.000304	5.59%
K 766.490†	2077.6	1.78	mg/L	0.038	1.78	mg/L	0.038	2.12%
Na 589.592†	136035.5	15.7	mg/L	0.10	15.7	mg/L	0.10	0.66%
Sr 407.771†	234856.8	0.275	mg/L	0.0101	0.275	mg/L	0.0101	3.66%
Li 670.784†	424.6	0.00909	mg/L	0.000490	0.00909	mg/L	0.000490	5.39%
P 214.914†	25.5	0.0333	mg/L	0.00420	0.0333	mg/L	0.00420	12.61%

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Sequence No.: 33 **Autosampler Location: 41**
Sample ID: L1310186805 **Date Collected: 11/5/2013 11:42:17 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186805

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1310186805

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1969179.2						43018.08	2.18%
YRADIAL	132339.0						1549.25	1.17%
Ga 417.206	719972.9						18922.87	2.63%
GaRADIAL	39623.4						372.78	0.94%
Ag 328.068†	424.1	0.00164	mg/L	0.000256	0.00164	mg/L	0.000256	15.55%
Al 396.153†	54.9	0.0424	mg/L	0.00166	0.0424	mg/L	0.00166	3.92%
As 188.979†	-4.5	-0.00212	mg/L	0.003434	-0.00212	mg/L	0.003434	161.87%
Ba 233.527†	4971.9	0.0957	mg/L	0.00241	0.0957	mg/L	0.00241	2.51%
Be 234.861†	170.7	0.00035	mg/L	0.000087	0.00035	mg/L	0.000087	24.79%
B 249.677†	547.1	0.0216	mg/L	0.00089	0.0216	mg/L	0.00089	4.13%
Ca 227.546†	3418.3	27.1	mg/L	0.78	27.1	mg/L	0.78	2.88%
Cd 228.802†	-7.2	-0.00032	mg/L	0.000229	-0.00032	mg/L	0.000229	72.45%
Co 228.616†	-6.6	-0.00084	mg/L	0.000064	-0.00084	mg/L	0.000064	7.66%
Cr 267.716†	227.7	0.00288	mg/L	0.000298	0.00288	mg/L	0.000298	10.37%
Cu 327.393†	1.3	-0.00034	mg/L	0.000495	-0.00034	mg/L	0.000495	145.87%
Fe 239.562†	64.3	0.0393	mg/L	0.00120	0.0393	mg/L	0.00120	3.05%
Mg 279.077†	4574.8	5.29	mg/L	0.106	5.29	mg/L	0.106	2.01%
Mn 257.610†	1453.9	0.00357	mg/L	0.000128	0.00357	mg/L	0.000128	3.60%
Mo 202.031†	38.3	0.00432	mg/L	0.000084	0.00432	mg/L	0.000084	1.94%
Ni 231.604†	0.7	-0.00082	mg/L	0.000499	-0.00082	mg/L	0.000499	61.08%
Pb 220.353†	14.7	0.00126	mg/L	0.001645	0.00126	mg/L	0.001645	130.26%
Sb 206.836†	-2.2	-0.00250	mg/L	0.001727	-0.00250	mg/L	0.001727	69.23%
Se 196.026†	-2.9	0.00589	mg/L	0.005112	0.00589	mg/L	0.005112	86.77%
Si 251.611†	276963.4	13.3	mg/L	0.06	13.3	mg/L	0.06	0.46%
Sn 189.927†	-130.3	-0.0357	mg/L	0.00060	-0.0357	mg/L	0.00060	1.66%

Approved: November 06, 2013

Kim H. Rhoden

Ti 334.940†	-2197.2	0.00100 mg/L	0.000062	0.00100 mg/L	0.000062	6.24%
Tl 190.801†	-3.9	-0.00339 mg/L	0.007282	-0.00339 mg/L	0.007282	214.60%
V 290.880†	916.0	0.00347 mg/L	0.002783	0.00347 mg/L	0.002783	80.31%
Zn 206.200†	95.2	0.00433 mg/L	0.000508	0.00433 mg/L	0.000508	11.71%
K 766.490†	1796.4	1.53 mg/L	0.042	1.53 mg/L	0.042	2.75%
Na 589.592†	135378.0	15.6 mg/L	0.09	15.6 mg/L	0.09	0.58%
Sr 407.771†	220675.3	0.259 mg/L	0.0097	0.259 mg/L	0.0097	3.75%
Li 670.784†	304.1	0.00697 mg/L	0.001183	0.00697 mg/L	0.001183	16.97%
P 214.914†	28.2	0.0380 mg/L	0.00410	0.0380 mg/L	0.00410	10.79%

User canceled analysis.

Approved: November 06, 2013

Kim H. Rhoden

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Analysis Begun

Start Time: 11/5/2013 11:58:32 AM **Plasma On Time: 11/5/2013 6:44:41 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 110513H3R
Results Library: C:\pe\peicp2\Results\results1.mdb

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Sequence No.: 1 **Autosampler Location: 42**
Sample ID: L1310186702 WG451280-01 **Date Collected: 11/5/2013 11:58:34 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186702 WG451280-01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186702 WG451280-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1986060.6						26603.81	1.34%
YRADIAL	137786.2						3072.82	2.23%
Ga 417.206	685281.7						3589.61	0.52%
GaRADIAL	38697.4						1258.39	3.25%
Ag 328.068†	86.9	0.00003	mg/L	0.000396	0.00003	mg/L	0.000396	>999.9%
Al 396.153†	47.6	0.0398	mg/L	0.00249	0.0398	mg/L	0.00249	6.27%
As 188.979†	-1.8	0.00024	mg/L	0.001782	0.00024	mg/L	0.001782	755.74%
Ba 233.527†	80.5	0.00008	mg/L	0.000120	0.00008	mg/L	0.000120	151.40%
Be 234.861†	300.3	0.00046	mg/L	0.000099	0.00046	mg/L	0.000099	21.50%
B 249.677†	77.8	0.00847	mg/L	0.000319	0.00847	mg/L	0.000319	3.77%
Ca 227.546†	236.4	1.91	mg/L	0.027	1.91	mg/L	0.027	1.43%
Cd 228.802†	-2.3	-0.00004	mg/L	0.000208	-0.00004	mg/L	0.000208	547.00%
Co 228.616†	13.7	0.00063	mg/L	0.000300	0.00063	mg/L	0.000300	47.64%
Cr 267.716†	-7.3	-0.00086	mg/L	0.000093	-0.00086	mg/L	0.000093	10.87%
Cu 327.393†	-38.8	-0.00061	mg/L	0.000843	-0.00061	mg/L	0.000843	138.82%
Fe 239.562†	1988.0	0.873	mg/L	0.0111	0.873	mg/L	0.0111	1.27%
Mg 279.077†	291.6	0.355	mg/L	0.0042	0.355	mg/L	0.0042	1.19%
Mn 257.610†	1371.8	0.00339	mg/L	0.000080	0.00339	mg/L	0.000080	2.36%
Mo 202.031†	-14.3	-0.00046	mg/L	0.000106	-0.00046	mg/L	0.000106	22.88%
Ni 231.604†	21.0	0.00008	mg/L	0.000534	0.00008	mg/L	0.000534	711.48%
Pb 220.353†	-0.6	-0.00273	mg/L	0.003334	-0.00273	mg/L	0.003334	122.18%
Sb 206.836†	-3.9	-0.00390	mg/L	0.003882	-0.00390	mg/L	0.003882	99.58%
Se 196.026†	-6.4	-0.00079	mg/L	0.002371	-0.00079	mg/L	0.002371	301.80%
Si 251.611†	38678.8	1.85	mg/L	0.020	1.85	mg/L	0.020	1.08%
Sn 189.927†	-25.2	-0.00706	mg/L	0.001118	-0.00706	mg/L	0.001118	15.83%
Ti 334.940†	-89.4	0.00109	mg/L	0.000343	0.00109	mg/L	0.000343	31.60%
Tl 190.801†	6.5	0.00591	mg/L	0.001752	0.00591	mg/L	0.001752	29.63%
V 290.880†	-223.9	-0.00590	mg/L	0.003223	-0.00590	mg/L	0.003223	54.66%
Zn 206.200†	31.6	0.00042	mg/L	0.000091	0.00042	mg/L	0.000091	21.40%
K 766.490†	13.4	-0.0384	mg/L	0.05858	-0.0384	mg/L	0.05858	152.44%
Na 589.592†	56852.6	6.53	mg/L	0.196	6.53	mg/L	0.196	2.99%
Sr 407.771†	11284.0	0.0104	mg/L	0.00062	0.0104	mg/L	0.00062	5.99%
Li 670.784†	-42.0	0.00092	mg/L	0.000316	0.00092	mg/L	0.000316	34.43%
P 214.914†	17.6	0.0198	mg/L	0.01273	0.0198	mg/L	0.01273	64.36%

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Sequence No.: 2 **Autosampler Location: 43**
Sample ID: L1310186703MS WG451280-05 **Date Collected: 11/5/2013 12:01:35 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Nebulizer Parameters: L1310186703MS WG451280-05

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1310186703MS WG451280-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2001771.2						34241.97	1.71%
YRADIAL	132325.0						2508.92	1.90%
Ga 417.206	717191.7						11449.36	1.60%
GaRADIAL	39369.3						1005.37	2.55%
Ag 328.068†	3239.1	0.0193	mg/L	0.00108	0.0193	mg/L	0.00108	5.58%
Al 396.153†	1260.8	0.540	mg/L	0.0089	0.540	mg/L	0.0089	1.64%
As 188.979†	18.4	0.0203	mg/L	0.00227	0.0203	mg/L	0.00227	11.19%
Ba 233.527†	2692.8	0.0511	mg/L	0.00065	0.0511	mg/L	0.00065	1.28%
Be 234.861†	1375.3	0.00299	mg/L	0.000124	0.00299	mg/L	0.000124	4.13%
B 249.677†	3646.7	0.105	mg/L	0.0059	0.105	mg/L	0.0059	5.57%
Ca 227.546†	296.5	2.41	mg/L	0.029	2.41	mg/L	0.029	1.19%
Cd 228.802†	32.3	0.00191	mg/L	0.000192	0.00191	mg/L	0.000192	10.06%
Co 228.616†	142.2	0.00988	mg/L	0.000246	0.00988	mg/L	0.000246	2.49%
Cr 267.716†	1646.3	0.0250	mg/L	0.00047	0.0250	mg/L	0.00047	1.87%
Cu 327.393†	2907.3	0.0227	mg/L	0.00119	0.0227	mg/L	0.00119	5.24%
Fe 239.562†	2447.6	1.07	mg/L	0.021	1.07	mg/L	0.021	1.94%
Mg 279.077†	738.5	0.871	mg/L	0.0138	0.871	mg/L	0.0138	1.59%
Mn 257.610†	10623.9	0.0281	mg/L	0.00121	0.0281	mg/L	0.00121	4.29%
Mo 202.031†	482.0	0.0448	mg/L	0.00135	0.0448	mg/L	0.00135	3.02%
Ni 231.604†	621.8	0.0265	mg/L	0.00030	0.0265	mg/L	0.00030	1.14%
Pb 220.353†	107.5	0.0254	mg/L	0.00080	0.0254	mg/L	0.00080	3.14%
Sb 206.836†	69.5	0.0561	mg/L	0.00346	0.0561	mg/L	0.00346	6.16%
Se 196.026†	0.1	0.0122	mg/L	0.00937	0.0122	mg/L	0.00937	76.88%
Si 251.611†	41175.0	1.97	mg/L	0.082	1.97	mg/L	0.082	4.18%
Sn 189.927†	190.3	0.0518	mg/L	0.00296	0.0518	mg/L	0.00296	5.72%
Ti 334.940†	25915.3	0.0489	mg/L	0.00199	0.0489	mg/L	0.00199	4.07%
Tl 190.801†	32.7	0.0300	mg/L	0.00639	0.0300	mg/L	0.00639	21.31%
V 290.880†	6161.9	0.0468	mg/L	0.00467	0.0468	mg/L	0.00467	9.98%
Zn 206.200†	902.2	0.0539	mg/L	0.00132	0.0539	mg/L	0.00132	2.44%
K 766.490†	3195.6	2.78	mg/L	0.049	2.78	mg/L	0.049	1.77%
Na 589.592†	74981.8	8.62	mg/L	0.092	8.62	mg/L	0.092	1.07%
Sr 407.771†	56332.1	0.0639	mg/L	0.00261	0.0639	mg/L	0.00261	4.09%
Li 670.784†	2895.3	0.0523	mg/L	0.00123	0.0523	mg/L	0.00123	2.35%
P 214.914†	27.5	0.0368	mg/L	0.01940	0.0368	mg/L	0.01940	52.70%

Sequence No.: 3
Sample ID: L1310186704SD WG451280-06
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 44
Date Collected: 11/5/2013 12:04:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186704SD WG451280-06

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186704SD WG451280-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1976298.6						47338.08	2.40%
YRADIAL	135532.7						2572.65	1.90%
Ga 417.206	706997.5						24542.49	3.47%
GaRADIAL	40341.5						638.73	1.58%
Ag 328.068†	3443.1	0.0205	mg/L	0.00064	0.0205	mg/L	0.00064	3.11%
Al 396.153†	1291.7	0.553	mg/L	0.0098	0.553	mg/L	0.0098	1.78%
As 188.979†	16.7	0.0186	mg/L	0.00422	0.0186	mg/L	0.00422	22.68%
Ba 233.527†	2813.2	0.0535	mg/L	0.00158	0.0535	mg/L	0.00158	2.96%
Be 234.861†	1402.8	0.00306	mg/L	0.000142	0.00306	mg/L	0.000142	4.64%
B 249.677†	4006.3	0.115	mg/L	0.0053	0.115	mg/L	0.0053	4.57%
Ca 227.546†	309.5	2.51	mg/L	0.060	2.51	mg/L	0.060	2.40%
Cd 228.802†	34.4	0.00205	mg/L	0.000173	0.00205	mg/L	0.000173	8.45%
Co 228.616†	154.5	0.0108	mg/L	0.00028	0.0108	mg/L	0.00028	2.63%

Approved: November 06, 2013

Cr 267.716†	1731.9	0.0263	mg/L	0.00085	0.0263	mg/L	0.00085	3.23%
Cu 327.393†	3173.6	0.0248	mg/L	0.00151	0.0248	mg/L	0.00151	6.08%
Fe 239.562†	2464.3	1.08	mg/L	0.004	1.08	mg/L	0.004	0.40%
Mg 279.077†	757.6	0.893	mg/L	0.0059	0.893	mg/L	0.0059	0.66%
Mn 257.610†	11390.2	0.0301	mg/L	0.00127	0.0301	mg/L	0.00127	4.22%
Mo 202.031†	534.2	0.0495	mg/L	0.00122	0.0495	mg/L	0.00122	2.46%
Ni 231.604†	645.1	0.0276	mg/L	0.00080	0.0276	mg/L	0.00080	2.90%
Pb 220.353†	114.7	0.0273	mg/L	0.00234	0.0273	mg/L	0.00234	8.58%
Sb 206.836†	73.8	0.0596	mg/L	0.00465	0.0596	mg/L	0.00465	7.81%
Se 196.026†	3.1	0.0180	mg/L	0.00112	0.0180	mg/L	0.00112	6.24%
Si 251.611†	43893.2	2.10	mg/L	0.098	2.10	mg/L	0.098	4.64%
Sn 189.927†	200.7	0.0546	mg/L	0.00242	0.0546	mg/L	0.00242	4.43%
Ti 334.940†	27796.2	0.0523	mg/L	0.00177	0.0523	mg/L	0.00177	3.39%
Tl 190.801†	33.7	0.0310	mg/L	0.00295	0.0310	mg/L	0.00295	9.52%
V 290.880†	6675.4	0.0510	mg/L	0.00438	0.0510	mg/L	0.00438	8.58%
Zn 206.200†	947.0	0.0567	mg/L	0.00154	0.0567	mg/L	0.00154	2.71%
K 766.490†	3285.5	2.86	mg/L	0.032	2.86	mg/L	0.032	1.14%
Na 589.592†	76804.5	8.83	mg/L	0.142	8.83	mg/L	0.142	1.60%
Sr 407.771†	58881.4	0.0670	mg/L	0.00175	0.0670	mg/L	0.00175	2.62%
Li 670.784†	2993.1	0.0541	mg/L	0.00063	0.0541	mg/L	0.00063	1.17%
P 214.914†	34.7	0.0490	mg/L	0.01007	0.0490	mg/L	0.01007	20.54%

Sequence No.: 4
Sample ID: L1310186705 0.1
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 45
Date Collected: 11/5/2013 12:07:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186705 0.1

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1310186705 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2001364.4						30507.17	1.52%
YRADIAL	136205.6						4548.18	3.34%
Ga 417.206	720210.9						11276.47	1.57%
GaRADIAL	40241.9						739.10	1.84%
Ag 328.068†	151.0	0.00005	mg/L	0.000340	0.00005	mg/L	0.000340	625.95%
Al 396.153†	53.8	0.0421	mg/L	0.00094	0.0421	mg/L	0.00094	2.24%
As 188.979†	0.8	0.00265	mg/L	0.003950	0.00265	mg/L	0.003950	148.92%
Ba 233.527†	75.9	0.00001	mg/L	0.000036	0.00001	mg/L	0.000036	447.76%
Be 234.861†	271.2	0.00058	mg/L	0.000065	0.00058	mg/L	0.000065	11.26%
B 249.677†	1028.8	0.0347	mg/L	0.00137	0.0347	mg/L	0.00137	3.95%
Ca 227.546†	535.3	4.25	mg/L	0.034	4.25	mg/L	0.034	0.80%
Cd 228.802†	-5.7	-0.00025	mg/L	0.000052	-0.00025	mg/L	0.000052	20.42%
Co 228.616†	13.1	0.00061	mg/L	0.000558	0.00061	mg/L	0.000558	91.22%
Cr 267.716†	0.3	-0.00068	mg/L	0.000046	-0.00068	mg/L	0.000046	6.78%
Cu 327.393†	-33.3	-0.00061	mg/L	0.000401	-0.00061	mg/L	0.000401	65.79%
Fe 239.562†	186.3	0.0922	mg/L	0.00091	0.0922	mg/L	0.00091	0.99%
Mg 279.077†	1984.5	2.31	mg/L	0.040	2.31	mg/L	0.040	1.73%
Mn 257.610†	4786.4	0.0125	mg/L	0.00018	0.0125	mg/L	0.00018	1.43%
Mo 202.031†	-0.4	0.00079	mg/L	0.000110	0.00079	mg/L	0.000110	13.94%
Ni 231.604†	24.0	0.00021	mg/L	0.000038	0.00021	mg/L	0.000038	18.43%
Pb 220.353†	7.9	-0.00051	mg/L	0.001454	-0.00051	mg/L	0.001454	286.83%
Sb 206.836†	-2.0	-0.00235	mg/L	0.001252	-0.00235	mg/L	0.001252	53.29%
Se 196.026†	-5.1	0.00154	mg/L	0.003444	0.00154	mg/L	0.003444	222.95%
Si 251.611†	20845.9	0.993	mg/L	0.0136	0.993	mg/L	0.0136	1.37%
Sn 189.927†	-38.5	-0.0107	mg/L	0.00173	-0.0107	mg/L	0.00173	16.15%
Ti 334.940†	-455.9	0.00077	mg/L	0.000253	0.00077	mg/L	0.000253	32.89%
Tl 190.801†	-0.2	-0.00009	mg/L	0.002891	-0.00009	mg/L	0.002891	>999.9%
V 290.880†	222.8	-0.00218	mg/L	0.001563	-0.00218	mg/L	0.001563	71.71%
Zn 206.200†	41.5	0.00102	mg/L	0.000300	0.00102	mg/L	0.000300	29.56%
K 766.490†	186.1	0.108	mg/L	0.0460	0.108	mg/L	0.0460	42.60%
Na 589.592†	115308.3	13.3	mg/L	0.05	13.3	mg/L	0.05	0.40%
Sr 407.771†	18276.4	0.0186	mg/L	0.00111	0.0186	mg/L	0.00111	5.95%
Li 670.784†	3.3	0.00171	mg/L	0.000750	0.00171	mg/L	0.000750	43.85%
P 214.914†	12.3	0.0109	mg/L	0.00588	0.0109	mg/L	0.00588	53.90%

Approved: November 06, 2013

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Sequence No.: 5 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 12:10:38 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1936177.9						39001.51	2.01%
YRADIAL	134526.0						3060.54	2.28%
Ga 417.206	677447.1						22124.07	3.27%
GaRADIAL	38580.6						706.81	1.83%
Ag 328.068†	68672.6	0.418	mg/L	0.0092	0.418	mg/L	0.0092	2.21%
QC value within limits for Ag 328.068 Recovery = 104.48%								
Al 396.153†	24344.1	10.1	mg/L	0.01	10.1	mg/L	0.01	0.13%
QC value within limits for Al 396.153 Recovery = 100.55%								
As 188.979†	410.6	0.410	mg/L	0.0125	0.410	mg/L	0.0125	3.05%
QC value within limits for As 188.979 Recovery = 102.43%								
Ba 233.527†	53983.4	1.05	mg/L	0.007	1.05	mg/L	0.007	0.63%
QC value within limits for Ba 233.527 Recovery = 105.39%								
Be 234.861†	21792.0	0.0513	mg/L	0.00113	0.0513	mg/L	0.00113	2.20%
QC value within limits for Be 234.861 Recovery = 102.66%								
B 249.677†	18584.4	0.509	mg/L	0.0044	0.509	mg/L	0.0044	0.86%
QC value within limits for B 249.677 Recovery = 101.72%								
Ca 227.546†	1279.9	10.6	mg/L	0.23	10.6	mg/L	0.23	2.18%
QC value within limits for Ca 227.546 Recovery = 106.30%								
Cd 228.802†	871.9	0.0497	mg/L	0.00154	0.0497	mg/L	0.00154	3.11%
QC value within limits for Cd 228.802 Recovery = 99.30%								
Co 228.616†	2886.0	0.208	mg/L	0.0038	0.208	mg/L	0.0038	1.85%
QC value within limits for Co 228.616 Recovery = 103.86%								
Cr 267.716†	33528.7	0.523	mg/L	0.0022	0.523	mg/L	0.0022	0.43%
QC value within limits for Cr 267.716 Recovery = 104.54%								
Cu 327.393†	65335.5	0.517	mg/L	0.0110	0.517	mg/L	0.0110	2.14%
QC value within limits for Cu 327.393 Recovery = 103.46%								
Fe 239.562†	9452.0	4.11	mg/L	0.015	4.11	mg/L	0.015	0.36%
QC value within limits for Fe 239.562 Recovery = 102.63%								
Mg 279.077†	8800.0	10.2	mg/L	0.10	10.2	mg/L	0.10	0.96%
QC value within limits for Mg 279.077 Recovery = 101.80%								
Mn 257.610†	191074.2	0.510	mg/L	0.0072	0.510	mg/L	0.0072	1.41%
QC value within limits for Mn 257.610 Recovery = 101.95%								
Mo 202.031†	11390.8	1.04	mg/L	0.006	1.04	mg/L	0.006	0.55%
QC value within limits for Mo 202.031 Recovery = 103.86%								
Ni 231.604†	11959.1	0.526	mg/L	0.0042	0.526	mg/L	0.0042	0.81%
QC value within limits for Ni 231.604 Recovery = 105.17%								
Pb 220.353†	2037.2	0.528	mg/L	0.0081	0.528	mg/L	0.0081	1.54%
QC value within limits for Pb 220.353 Recovery = 105.60%								
Sb 206.836†	1500.1	1.22	mg/L	0.033	1.22	mg/L	0.033	2.67%
QC value within limits for Sb 206.836 Recovery = 102.05%								
Se 196.026†	205.9	0.422	mg/L	0.0203	0.422	mg/L	0.0203	4.81%
QC value within limits for Se 196.026 Recovery = 105.44%								
Si 251.611†	109511.2	5.25	mg/L	0.098	5.25	mg/L	0.098	1.88%
QC value within limits for Si 251.611 Recovery = 104.90%								
Sn 189.927†	3888.6	1.06	mg/L	0.016	1.06	mg/L	0.016	1.52%
QC value within limits for Sn 189.927 Recovery = 106.10%								
Ti 334.940†	544971.1	1.00	mg/L	0.007	1.00	mg/L	0.007	0.69%
QC value within limits for Ti 334.940 Recovery = 100.22%								
Tl 190.801†	585.8	0.538	mg/L	0.0095	0.538	mg/L	0.0095	1.77%
QC value within limits for Tl 190.801 Recovery = 107.57%								
V 290.880†	128620.2	1.06	mg/L	0.012	1.06	mg/L	0.012	1.09%
QC value within limits for V 290.880 Recovery = 105.65%								
Zn 206.200†	17450.2	1.07	mg/L	0.003	1.07	mg/L	0.003	0.30%
QC value within limits for Zn 206.200 Recovery = 107.13%								
K 766.490†	59852.9	51.8	mg/L	0.18	51.8	mg/L	0.18	0.35%

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   QC value within limits for K 766.490  Recovery = 103.55%
Na 589.592†          436428.1        50.7 mg/L          1.57        50.7 mg/L          1.57   3.10%
   QC value within limits for Na 589.592  Recovery = 101.42%
Sr 407.771†          871764.9        1.03 mg/L         0.041        1.03 mg/L         0.041   3.97%
   QC value within limits for Sr 407.771  Recovery = 103.33%
Li 670.784†           57527.6        1.01 mg/L         0.004        1.01 mg/L         0.004   0.37%
   QC value within limits for Li 670.784  Recovery = 100.88%
P 214.914†             6103.8        10.4 mg/L          0.19        10.4 mg/L          0.19   1.80%
   QC value within limits for P 214.914  Recovery = 103.96%
All analyte(s) passed QC.
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Sequence No.: 6 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/5/2013 12:12:43 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1940585.6						22243.65	1.15%
YRADIAL	133195.8						8468.18	6.36%
Ga 417.206	655484.8						4376.30	0.67%
GaRADIAL	38258.9						1718.41	4.49%
Ag 328.068†	77.8	-0.00042	mg/L	0.000587	-0.00042	mg/L	0.000587	139.94%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	8.3	0.0232	mg/L	0.00161	0.0232	mg/L	0.00161	6.96%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-1.2	0.00055	mg/L	0.004013	0.00055	mg/L	0.004013	732.60%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-21.8	-0.00190	mg/L	0.000143	-0.00190	mg/L	0.000143	7.54%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	66.4	0.00011	mg/L	0.000019	0.00011	mg/L	0.000019	17.33%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	-9.4	0.00647	mg/L	0.001180	0.00647	mg/L	0.001180	18.23%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	10.6	0.0964	mg/L	0.03234	0.0964	mg/L	0.03234	33.54%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-0.9	0.00003	mg/L	0.000214	0.00003	mg/L	0.000214	643.18%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-5.9	-0.00076	mg/L	0.000266	-0.00076	mg/L	0.000266	34.89%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-10.2	-0.00084	mg/L	0.000303	-0.00084	mg/L	0.000303	36.30%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	72.1	0.00022	mg/L	0.000377	0.00022	mg/L	0.000377	171.21%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	2.1	0.0124	mg/L	0.00218	0.0124	mg/L	0.00218	17.56%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	9.0	0.0298	mg/L	0.00973	0.0298	mg/L	0.00973	32.67%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	4.9	-0.00030	mg/L	0.000016	-0.00030	mg/L	0.000016	5.49%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	7.1	0.00147	mg/L	0.000408	0.00147	mg/L	0.000408	27.71%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	6.7	-0.00055	mg/L	0.000262	-0.00055	mg/L	0.000262	47.53%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	23.9	0.00367	mg/L	0.001149	0.00367	mg/L	0.001149	31.32%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	1.9	0.00084	mg/L	0.002383	0.00084	mg/L	0.002383	283.54%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-5.9	-0.00010	mg/L	0.005584	-0.00010	mg/L	0.005584	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	50.6	-0.00720	mg/L	0.000257	-0.00720	mg/L	0.000257	3.56%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	1.9	0.00034	mg/L	0.002902	0.00034	mg/L	0.002902	853.32%

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   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              25.2     0.00103 mg/L      0.000102     0.00103 mg/L      0.000102   9.90%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -3.0    -0.00256 mg/L      0.005795    -0.00256 mg/L      0.005795 226.12%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              242.5    -0.00195 mg/L      0.000603    -0.00195 mg/L      0.000603  30.96%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               0.6    -0.00149 mg/L      0.000330    -0.00149 mg/L      0.000330  22.18%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†              -50.0     -0.0881 mg/L       0.02883     -0.0881 mg/L       0.02883  32.73%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             147.4     0.00216 mg/L      0.007009     0.00216 mg/L      0.007009 324.79%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†            -106.8    -0.00312 mg/L      0.000050    -0.00312 mg/L      0.000050   1.60%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              -3.3     0.00159 mg/L      0.000624     0.00159 mg/L      0.000624  39.16%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†               19.7      0.0235 mg/L       0.00491      0.0235 mg/L       0.00491  20.88%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

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Sequence No.: 7                                    Autosampler Location: 46
Sample ID: L1310186706 0.1                         Date Collected: 11/5/2013 12:15:42 PM
Analyst: KHR                                       Data Type: Original
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

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Nebulizer Parameters: L1310186706 0.1
Analyte                  Back Pressure    Flow
All                    178.0 kPa         0.47 L/min

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Mean Data: L1310186706 0.1
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1999359.1                                                    72907.77   3.65%
YRADIAL               134730.1                                                     3328.72   2.47%
Ga 417.206            719321.5                                                    33526.38   4.66%
GaRADIAL               40352.1                                                     1168.77   2.90%
Ag 328.068†              140.2    -0.00001 mg/L      0.000912    -0.00001 mg/L      0.000912 >999.9%
Al 396.153†               53.3      0.0420 mg/L       0.00167      0.0420 mg/L       0.00167   3.98%
As 188.979†               -0.2     0.00174 mg/L      0.004953     0.00174 mg/L      0.004953 285.36%
Ba 233.527†               69.0    -0.00013 mg/L      0.000094    -0.00013 mg/L      0.000094  74.14%
Be 234.861†              264.9     0.00056 mg/L      0.000157     0.00056 mg/L      0.000157  27.85%
B 249.677†              1040.3      0.0350 mg/L       0.00162      0.0350 mg/L       0.00162   4.63%
Ca 227.546†              526.0        4.18 mg/L         0.195        4.18 mg/L         0.195   4.67%
Cd 228.802†              -10.4    -0.00052 mg/L      0.000150    -0.00052 mg/L      0.000150  28.83%
Co 228.616†                6.3     0.00012 mg/L      0.000427     0.00012 mg/L      0.000427 363.80%
Cr 267.716†               -6.3    -0.00078 mg/L      0.000233    -0.00078 mg/L      0.000233  29.91%
Cu 327.393†               -5.2    -0.00039 mg/L      0.000613    -0.00039 mg/L      0.000613 158.43%
Fe 239.562†              165.8      0.0833 mg/L       0.00233      0.0833 mg/L       0.00233   2.79%
Mg 279.077†             1925.5        2.24 mg/L         0.080        2.24 mg/L         0.080   3.59%
Mn 257.610†             4515.7      0.0117 mg/L       0.00049      0.0117 mg/L       0.00049   4.15%
Mo 202.031†               -7.4     0.00016 mg/L      0.000376     0.00016 mg/L      0.000376 238.79%
Ni 231.604†               23.6     0.00019 mg/L      0.000587     0.00019 mg/L      0.000587 309.55%
Pb 220.353†               11.2     0.00034 mg/L      0.001475     0.00034 mg/L      0.001475 433.88%
Sb 206.836†               -3.6    -0.00361 mg/L      0.002852    -0.00361 mg/L      0.002852  79.13%
Se 196.026†               -6.2    -0.00069 mg/L      0.001779    -0.00069 mg/L      0.001779 257.52%
Si 251.611†            21007.5        1.00 mg/L         0.046        1.00 mg/L         0.046   4.57%
Sn 189.927†              -36.9     -0.0103 mg/L       0.00095     -0.0103 mg/L       0.00095   9.27%
Ti 334.940†              -445.6     0.00078 mg/L      0.000085     0.00078 mg/L      0.000085  10.93%
Tl 190.801†                8.1     0.00733 mg/L      0.002749     0.00733 mg/L      0.002749  37.49%
V 290.880†               400.3    -0.00071 mg/L      0.002674    -0.00071 mg/L      0.002674 375.72%
Zn 206.200†               52.6     0.00169 mg/L      0.000358     0.00169 mg/L      0.000358  21.15%
K 766.490†               162.8      0.0878 mg/L       0.04056      0.0878 mg/L       0.04056  46.21%
Na 589.592†           110271.5        12.7 mg/L          0.19        12.7 mg/L          0.19   1.50%
Sr 407.771†            18188.4      0.0185 mg/L       0.00009      0.0185 mg/L       0.00009   0.49%
Li 670.784†              -34.0     0.00106 mg/L      0.000684     0.00106 mg/L      0.000684  64.76%
P 214.914†                22.5      0.0282 mg/L       0.01113      0.0282 mg/L       0.01113  39.42%
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Sequence No.: 8 **Autosampler Location: 47**
Sample ID: L1310186801 0.1 **Date Collected: 11/5/2013 12:18:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186801 0.1

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186801 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2013089.7						45091.61	2.24%
YRADIAL	141574.9						2154.71	1.52%
Ga 417.206	717343.0						24234.91	3.38%
GaRADIAL	40981.9						252.95	0.62%
Ag 328.068†	153.0	0.00003	mg/L	0.000128	0.00003	mg/L	0.000128	383.97%
Al 396.153†	11.9	0.0248	mg/L	0.00245	0.0248	mg/L	0.00245	9.87%
As 188.979†	-5.2	-0.00334	mg/L	0.004270	-0.00334	mg/L	0.004270	127.75%
Ba 233.527†	412.9	0.00660	mg/L	0.000198	0.00660	mg/L	0.000198	3.00%
Be 234.861†	207.4	0.00044	mg/L	0.000072	0.00044	mg/L	0.000072	16.35%
B 249.677†	-62.0	0.00505	mg/L	0.000577	0.00505	mg/L	0.000577	11.42%
Ca 227.546†	467.9	3.72	mg/L	0.147	3.72	mg/L	0.147	3.96%
Cd 228.802†	-10.9	-0.00053	mg/L	0.000179	-0.00053	mg/L	0.000179	33.85%
Co 228.616†	-3.0	-0.00056	mg/L	0.000318	-0.00056	mg/L	0.000318	56.61%
Cr 267.716†	-0.2	-0.00068	mg/L	0.000165	-0.00068	mg/L	0.000165	24.33%
Cu 327.393†	-10.5	-0.00043	mg/L	0.000501	-0.00043	mg/L	0.000501	115.89%
Fe 239.562†	20.8	0.0205	mg/L	0.00193	0.0205	mg/L	0.00193	9.40%
Mg 279.077†	492.9	0.588	mg/L	0.0112	0.588	mg/L	0.0112	1.90%
Mn 257.610†	30.8	-0.00023	mg/L	0.000028	-0.00023	mg/L	0.000028	12.48%
Mo 202.031†	-10.4	-0.00012	mg/L	0.000170	-0.00012	mg/L	0.000170	142.60%
Ni 231.604†	16.7	-0.00011	mg/L	0.000283	-0.00011	mg/L	0.000283	250.14%
Pb 220.353†	12.1	0.00059	mg/L	0.001524	0.00059	mg/L	0.001524	257.81%
Sb 206.836†	-2.6	-0.00283	mg/L	0.001115	-0.00283	mg/L	0.001115	39.41%
Se 196.026†	-5.8	0.00006	mg/L	0.003449	0.00006	mg/L	0.003449	>999.9%
Si 251.611†	30429.9	1.45	mg/L	0.054	1.45	mg/L	0.054	3.73%
Sn 189.927†	-32.8	-0.00915	mg/L	0.000807	-0.00915	mg/L	0.000807	8.83%
Ti 334.940†	-290.9	0.00099	mg/L	0.000113	0.00099	mg/L	0.000113	11.40%
Tl 190.801†	4.8	0.00439	mg/L	0.002434	0.00439	mg/L	0.002434	55.41%
V 290.880†	310.6	-0.00140	mg/L	0.000421	-0.00140	mg/L	0.000421	30.07%
Zn 206.200†	27.7	0.00017	mg/L	0.000140	0.00017	mg/L	0.000140	81.55%
K 766.490†	216.0	0.146	mg/L	0.0458	0.146	mg/L	0.0458	31.38%
Na 589.592†	16020.3	1.83	mg/L	0.007	1.83	mg/L	0.007	0.39%
Sr 407.771†	27690.4	0.0298	mg/L	0.00106	0.0298	mg/L	0.00106	3.54%
Li 670.784†	4.0	0.00172	mg/L	0.000577	0.00172	mg/L	0.000577	33.51%
P 214.914†	18.3	0.0211	mg/L	0.00986	0.0211	mg/L	0.00986	46.85%

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Sequence No.: 9 **Autosampler Location: 48**
Sample ID: L1310186802 0.1 **Date Collected: 11/5/2013 12:21:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186802 0.1

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186802 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2019266.7						15509.02	0.77%
YRADIAL	135661.7						1371.97	1.01%
Ga 417.206	716747.3						6355.33	0.89%
GaRADIAL	39587.3						957.49	2.42%
Ag 328.068†	79.9	-0.00041	mg/L	0.000481	-0.00041	mg/L	0.000481	117.71%

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Al 396.153†	10.4	0.0242	mg/L	0.00239	0.0242	mg/L	0.00239	9.88%
As 188.979†	-1.1	0.00075	mg/L	0.007038	0.00075	mg/L	0.007038	939.29%
Ba 233.527†	388.0	0.00611	mg/L	0.000088	0.00611	mg/L	0.000088	1.45%
Be 234.861†	217.7	0.00047	mg/L	0.000038	0.00047	mg/L	0.000038	8.24%
B 249.677†	-102.1	0.00396	mg/L	0.000315	0.00396	mg/L	0.000315	7.97%
Ca 227.546†	446.6	3.55	mg/L	0.102	3.55	mg/L	0.102	2.87%
Cd 228.802†	-8.2	-0.00039	mg/L	0.000164	-0.00039	mg/L	0.000164	42.14%
Co 228.616†	-3.5	-0.00060	mg/L	0.000301	-0.00060	mg/L	0.000301	50.57%
Cr 267.716†	-3.7	-0.00073	mg/L	0.000073	-0.00073	mg/L	0.000073	9.92%
Cu 327.393†	-86.6	-0.00103	mg/L	0.000814	-0.00103	mg/L	0.000814	78.81%
Fe 239.562†	15.7	0.0183	mg/L	0.00222	0.0183	mg/L	0.00222	12.11%
Mg 279.077†	501.0	0.597	mg/L	0.0191	0.597	mg/L	0.0191	3.20%
Mn 257.610†	8.1	-0.00029	mg/L	0.000016	-0.00029	mg/L	0.000016	5.53%
Mo 202.031†	-9.8	-0.00007	mg/L	0.000583	-0.00007	mg/L	0.000583	882.58%
Ni 231.604†	15.9	-0.00015	mg/L	0.000284	-0.00015	mg/L	0.000284	188.94%
Pb 220.353†	15.1	0.00137	mg/L	0.001830	0.00137	mg/L	0.001830	133.15%
Sb 206.836†	-3.0	-0.00315	mg/L	0.003269	-0.00315	mg/L	0.003269	103.66%
Se 196.026†	-7.5	-0.00329	mg/L	0.002409	-0.00329	mg/L	0.002409	73.32%
Si 251.611†	29039.9	1.39	mg/L	0.054	1.39	mg/L	0.054	3.87%
Sn 189.927†	-32.6	-0.00908	mg/L	0.001062	-0.00908	mg/L	0.001062	11.71%
Ti 334.940†	-407.3	0.00075	mg/L	0.000148	0.00075	mg/L	0.000148	19.60%
Tl 190.801†	5.5	0.00499	mg/L	0.002624	0.00499	mg/L	0.002624	52.57%
V 290.880†	331.3	-0.00123	mg/L	0.000868	-0.00123	mg/L	0.000868	70.52%
Zn 206.200†	29.3	0.00027	mg/L	0.000445	0.00027	mg/L	0.000445	166.01%
K 766.490†	199.0	0.131	mg/L	0.0452	0.131	mg/L	0.0452	34.57%
Na 589.592†	15458.6	1.76	mg/L	0.034	1.76	mg/L	0.034	1.94%
Sr 407.771†	26726.1	0.0287	mg/L	0.00082	0.0287	mg/L	0.00082	2.86%
Li 670.784†	-40.4	0.00094	mg/L	0.001787	0.00094	mg/L	0.001787	189.27%
P 214.914†	14.3	0.0142	mg/L	0.00473	0.0142	mg/L	0.00473	33.30%

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Sequence No.: 10
Sample ID: L1310186803 0.1
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 49
Date Collected: 11/5/2013 12:24:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186803 0.1

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186803 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1998768.4						32196.18	1.61%
YRADIAL	138751.4						2643.81	1.91%
Ga 417.206	713376.4						14341.46	2.01%
GaRADIAL	40693.8						298.58	0.73%
Ag 328.068†	71.6	-0.00022	mg/L	0.000714	-0.00022	mg/L	0.000714	324.46%
Al 396.153†	1415.1	0.607	mg/L	0.0153	0.607	mg/L	0.0153	2.52%
As 188.979†	-1.9	0.00005	mg/L	0.000796	0.00005	mg/L	0.000796	>999.9%
Ba 233.527†	627.7	0.0108	mg/L	0.00040	0.0108	mg/L	0.00040	3.69%
Be 234.861†	282.1	0.00050	mg/L	0.000039	0.00050	mg/L	0.000039	7.80%
B 249.677†	-121.2	0.00322	mg/L	0.000486	0.00322	mg/L	0.000486	15.12%
Ca 227.546†	479.1	3.82	mg/L	0.042	3.82	mg/L	0.042	1.09%
Cd 228.802†	-7.0	-0.00032	mg/L	0.000168	-0.00032	mg/L	0.000168	52.74%
Co 228.616†	0.1	-0.00037	mg/L	0.000516	-0.00037	mg/L	0.000516	140.42%
Cr 267.716†	66.1	0.00033	mg/L	0.000159	0.00033	mg/L	0.000159	48.08%
Cu 327.393†	101.6	0.00049	mg/L	0.000312	0.00049	mg/L	0.000312	63.36%
Fe 239.562†	1172.8	0.520	mg/L	0.0081	0.520	mg/L	0.0081	1.56%
Mg 279.077†	723.2	0.853	mg/L	0.0192	0.853	mg/L	0.0192	2.25%
Mn 257.610†	2949.8	0.00758	mg/L	0.000171	0.00758	mg/L	0.000171	2.26%
Mo 202.031†	-7.1	0.00018	mg/L	0.000358	0.00018	mg/L	0.000358	194.64%
Ni 231.604†	21.3	0.00009	mg/L	0.000501	0.00009	mg/L	0.000501	551.22%
Pb 220.353†	18.9	0.00242	mg/L	0.002513	0.00242	mg/L	0.002513	103.85%
Sb 206.836†	-2.8	-0.00294	mg/L	0.001826	-0.00294	mg/L	0.001826	62.08%
Se 196.026†	-4.6	0.00266	mg/L	0.004553	0.00266	mg/L	0.004553	171.46%
Si 251.611†	61796.9	2.96	mg/L	0.082	2.96	mg/L	0.082	2.77%
Sn 189.927†	-34.6	-0.00963	mg/L	0.000698	-0.00963	mg/L	0.000698	7.25%
Ti 334.940†	4603.7	0.00999	mg/L	0.000452	0.00999	mg/L	0.000452	4.53%

Approved: November 06, 2013

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Tl 190.801†	-1.0	-0.00066	mg/L	0.000911	-0.00066	mg/L	0.000911 137.53%
V 290.880†	613.5	0.00104	mg/L	0.002128	0.00104	mg/L	0.002128 205.09%
Zn 206.200†	150.6	0.00771	mg/L	0.000267	0.00771	mg/L	0.000267 3.46%
K 766.490†	367.0	0.280	mg/L	0.0405	0.280	mg/L	0.0405 14.49%
Na 589.592†	16390.3	1.87	mg/L	0.023	1.87	mg/L	0.023 1.21%
Sr 407.771†	27720.2	0.0299	mg/L	0.00064	0.0299	mg/L	0.00064 2.14%
Li 670.784†	17.7	0.00196	mg/L	0.000561	0.00196	mg/L	0.000561 28.62%
P 214.914†	48.6	0.0727	mg/L	0.01224	0.0727	mg/L	0.01224 16.83%

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Sequence No.: 11 **Autosampler Location: 50**
Sample ID: L1310186804 0.1 **Date Collected: 11/5/2013 12:27:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186804 0.1

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310186804 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2038090.0						50695.52	2.49%
YRADIAL	138141.0						4544.70	3.29%
Ga 417.206	729417.3						19735.23	2.71%
GaRADIAL	40371.7						1437.32	3.56%
Ag 328.068†	136.8	-0.00007	mg/L	0.000218	-0.00007	mg/L	0.000218	333.77%
Al 396.153†	3.0	0.0211	mg/L	0.00236	0.0211	mg/L	0.00236	11.17%
As 188.979†	-1.9	-0.00005	mg/L	0.003583	-0.00005	mg/L	0.003583	>999.9%
Ba 233.527†	582.8	0.00992	mg/L	0.000194	0.00992	mg/L	0.000194	1.96%
Be 234.861†	240.0	0.00052	mg/L	0.000063	0.00052	mg/L	0.000063	12.11%
B 249.677†	-109.9	0.00374	mg/L	0.000415	0.00374	mg/L	0.000415	11.11%
Ca 227.546†	361.4	2.88	mg/L	0.024	2.88	mg/L	0.024	0.84%
Cd 228.802†	-4.4	-0.00017	mg/L	0.000173	-0.00017	mg/L	0.000173	104.14%
Co 228.616†	-7.4	-0.00088	mg/L	0.000040	-0.00088	mg/L	0.000040	4.51%
Cr 267.716†	1.5	-0.00065	mg/L	0.000126	-0.00065	mg/L	0.000126	19.24%
Cu 327.393†	-14.5	-0.00046	mg/L	0.000574	-0.00046	mg/L	0.000574	123.71%
Fe 239.562†	20.1	0.0202	mg/L	0.00129	0.0202	mg/L	0.00129	6.37%
Mg 279.077†	435.9	0.522	mg/L	0.0225	0.522	mg/L	0.0225	4.32%
Mn 257.610†	57.6	-0.00016	mg/L	0.000058	-0.00016	mg/L	0.000058	37.13%
Mo 202.031†	-8.6	0.00004	mg/L	0.000286	0.00004	mg/L	0.000286	749.47%
Ni 231.604†	21.1	0.00008	mg/L	0.000195	0.00008	mg/L	0.000195	240.55%
Pb 220.353†	10.8	0.00024	mg/L	0.001329	0.00024	mg/L	0.001329	543.71%
Sb 206.836†	0.6	-0.00018	mg/L	0.001051	-0.00018	mg/L	0.001051	568.17%
Se 196.026†	-8.5	-0.00523	mg/L	0.011817	-0.00523	mg/L	0.011817	225.98%
Si 251.611†	29224.2	1.40	mg/L	0.005	1.40	mg/L	0.005	0.34%
Sn 189.927†	-30.9	-0.00862	mg/L	0.002185	-0.00862	mg/L	0.002185	25.36%
Ti 334.940†	-247.6	0.00094	mg/L	0.000406	0.00094	mg/L	0.000406	42.95%
Tl 190.801†	4.4	0.00406	mg/L	0.001105	0.00406	mg/L	0.001105	27.19%
V 290.880†	189.3	-0.00240	mg/L	0.000733	-0.00240	mg/L	0.000733	30.54%
Zn 206.200†	33.7	0.00054	mg/L	0.000133	0.00054	mg/L	0.000133	24.61%
K 766.490†	190.4	0.123	mg/L	0.0176	0.123	mg/L	0.0176	14.24%
Na 589.592†	13797.3	1.57	mg/L	0.026	1.57	mg/L	0.026	1.68%
Sr 407.771†	23019.7	0.0243	mg/L	0.00092	0.0243	mg/L	0.00092	3.78%
Li 670.784†	-95.8	-0.00003	mg/L	0.000430	-0.00003	mg/L	0.000430	>999.9%
P 214.914†	14.3	0.0143	mg/L	0.01744	0.0143	mg/L	0.01744	122.29%

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Sequence No.: 12 **Autosampler Location: 51**
Sample ID: L1310186805 0.1 **Date Collected: 11/5/2013 12:30:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186805 0.1

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Approved: November 06, 2013

Kim H. Rhoden

Mean Data: L1310186805 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2049490.5						14741.01	0.72%
YRADIAL	135301.9						3416.36	2.52%
Ga 417.206	730660.8						10048.57	1.38%
GaRADIAL	39654.0						918.03	2.32%
Ag 328.068†	202.9	0.00033	mg/L	0.000620	0.00033	mg/L	0.000620	187.52%
Al 396.153†	3.8	0.0215	mg/L	0.00176	0.0215	mg/L	0.00176	8.18%
As 188.979†	-3.4	-0.00157	mg/L	0.002367	-0.00157	mg/L	0.002367	150.96%
Ba 233.527†	473.7	0.00778	mg/L	0.000246	0.00778	mg/L	0.000246	3.16%
Be 234.861†	236.5	0.00051	mg/L	0.000015	0.00051	mg/L	0.000015	2.92%
B 249.677†	-140.2	0.00292	mg/L	0.000291	0.00292	mg/L	0.000291	9.96%
Ca 227.546†	358.7	2.85	mg/L	0.077	2.85	mg/L	0.077	2.69%
Cd 228.802†	-9.0	-0.00043	mg/L	0.000091	-0.00043	mg/L	0.000091	21.29%
Co 228.616†	-3.5	-0.00059	mg/L	0.000517	-0.00059	mg/L	0.000517	87.18%
Cr 267.716†	0.2	-0.00067	mg/L	0.000170	-0.00067	mg/L	0.000170	25.30%
Cu 327.393†	36.3	-0.00006	mg/L	0.000828	-0.00006	mg/L	0.000828	>999.9%
Fe 239.562†	2.1	0.0124	mg/L	0.00100	0.0124	mg/L	0.00100	8.04%
Mg 279.077†	486.3	0.580	mg/L	0.0140	0.580	mg/L	0.0140	2.42%
Mn 257.610†	108.5	-0.00002	mg/L	0.000038	-0.00002	mg/L	0.000038	189.35%
Mo 202.031†	-9.7	-0.00006	mg/L	0.000393	-0.00006	mg/L	0.000393	641.59%
Ni 231.604†	7.8	-0.00050	mg/L	0.000287	-0.00050	mg/L	0.000287	56.97%
Pb 220.353†	13.2	0.00087	mg/L	0.001021	0.00087	mg/L	0.001021	117.75%
Sb 206.836†	0.3	-0.00049	mg/L	0.001522	-0.00049	mg/L	0.001522	308.34%
Se 196.026†	-5.6	0.00052	mg/L	0.004078	0.00052	mg/L	0.004078	777.01%
Si 251.611†	28702.8	1.37	mg/L	0.008	1.37	mg/L	0.008	0.58%
Sn 189.927†	-27.9	-0.00779	mg/L	0.000680	-0.00779	mg/L	0.000680	8.73%
Ti 334.940†	-347.8	0.00076	mg/L	0.000040	0.00076	mg/L	0.000040	5.25%
Tl 190.801†	2.6	0.00240	mg/L	0.002338	0.00240	mg/L	0.002338	97.21%
V 290.880†	219.9	-0.00215	mg/L	0.001106	-0.00215	mg/L	0.001106	51.46%
Zn 206.200†	28.0	0.00019	mg/L	0.000258	0.00019	mg/L	0.000258	135.08%
K 766.490†	199.1	0.131	mg/L	0.0036	0.131	mg/L	0.0036	2.72%
Na 589.592†	14018.7	1.60	mg/L	0.005	1.60	mg/L	0.005	0.29%
Sr 407.771†	22573.2	0.0238	mg/L	0.00109	0.0238	mg/L	0.00109	4.57%
Li 670.784†	-46.6	0.00084	mg/L	0.001301	0.00084	mg/L	0.001301	155.73%
P 214.914†	13.6	0.0131	mg/L	0.01953	0.0131	mg/L	0.01953	148.76%

Sequence No.: 13
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 11/5/2013 12:33:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1986183.7						56610.60	2.85%
YRADIAL	139116.0						3576.22	2.57%
Ga 417.206	711194.4						20787.56	2.92%
GaRADIAL	40028.5						776.92	1.94%
Ag 328.068†	65882.4	0.401	mg/L	0.0130	0.401	mg/L	0.0130	3.23%
QC value within limits for Ag 328.068 Recovery = 100.25%								
Al 396.153†	23854.4	9.85	mg/L	0.120	9.85	mg/L	0.120	1.21%
QC value within limits for Al 396.153 Recovery = 98.54%								
As 188.979†	390.1	0.389	mg/L	0.0079	0.389	mg/L	0.0079	2.03%
QC value within limits for As 188.979 Recovery = 97.29%								
Ba 233.527†	53065.6	1.04	mg/L	0.038	1.04	mg/L	0.038	3.66%
QC value within limits for Ba 233.527 Recovery = 103.59%								
Be 234.861†	20976.4	0.0494	mg/L	0.00160	0.0494	mg/L	0.00160	3.23%
QC value within limits for Be 234.861 Recovery = 98.82%								
B 249.677†	17748.3	0.486	mg/L	0.0193	0.486	mg/L	0.0193	3.98%
QC value within limits for B 249.677 Recovery = 97.20%								
Ca 227.546†	1221.9	10.2	mg/L	0.30	10.2	mg/L	0.30	2.97%

Approved: November 06, 2013

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   QC value within limits for Ca 227.546  Recovery = 101.64%
Cd 228.802†              821.8      0.0468 mg/L       0.00121      0.0468 mg/L       0.00121   2.59%
   QC value within limits for Cd 228.802  Recovery = 93.63%
Co 228.616†             2836.3       0.204 mg/L        0.0063       0.204 mg/L        0.0063   3.11%
   QC value within limits for Co 228.616  Recovery = 102.05%
Cr 267.716†            32959.9       0.514 mg/L        0.0157       0.514 mg/L        0.0157   3.06%
   QC value within limits for Cr 267.716  Recovery = 102.77%
Cu 327.393†            62835.8       0.498 mg/L        0.0166       0.498 mg/L        0.0166   3.34%
   QC value within limits for Cu 327.393  Recovery = 99.50%
Fe 239.562†             9168.5        3.98 mg/L         0.019        3.98 mg/L         0.019   0.47%
   QC value within limits for Fe 239.562  Recovery = 99.56%
Mg 279.077†             8633.6        9.99 mg/L         0.102        9.99 mg/L         0.102   1.02%
   QC value within limits for Mg 279.077  Recovery = 99.88%
Mn 257.610†           191278.7       0.510 mg/L        0.0057       0.510 mg/L        0.0057   1.11%
   QC value within limits for Mn 257.610  Recovery = 102.06%
Mo 202.031†            11168.2        1.02 mg/L         0.030        1.02 mg/L         0.030   2.98%
   QC value within limits for Mo 202.031  Recovery = 101.83%
Ni 231.604†            11829.2       0.520 mg/L        0.0153       0.520 mg/L        0.0153   2.94%
   QC value within limits for Ni 231.604  Recovery = 104.03%
Pb 220.353†             1995.7       0.517 mg/L        0.0145       0.517 mg/L        0.0145   2.80%
   QC value within limits for Pb 220.353  Recovery = 103.44%
Sb 206.836†             1430.9        1.17 mg/L         0.030        1.17 mg/L         0.030   2.60%
   QC value within limits for Sb 206.836  Recovery = 97.34%
Se 196.026†              194.4       0.399 mg/L        0.0141       0.399 mg/L        0.0141   3.53%
   QC value within limits for Se 196.026  Recovery = 99.70%
Si 251.611†           105447.3        5.05 mg/L         0.197        5.05 mg/L         0.197   3.90%
   QC value within limits for Si 251.611  Recovery = 101.00%
Sn 189.927†             3804.1        1.04 mg/L         0.035        1.04 mg/L         0.035   3.41%
   QC value within limits for Sn 189.927  Recovery = 103.80%
Ti 334.940†           543857.4        1.00 mg/L         0.007        1.00 mg/L         0.007   0.72%
   QC value within limits for Ti 334.940  Recovery = 100.01%
Tl 190.801†              574.8       0.528 mg/L        0.0141       0.528 mg/L        0.0141   2.67%
   QC value within limits for Tl 190.801  Recovery = 105.60%
V 290.880†            127180.2        1.04 mg/L         0.036        1.04 mg/L         0.036   3.48%
   QC value within limits for V 290.880  Recovery = 104.46%
Zn 206.200†            17242.2        1.06 mg/L         0.038        1.06 mg/L         0.038   3.56%
   QC value within limits for Zn 206.200  Recovery = 105.85%
K 766.490†             59408.0        51.4 mg/L          0.37        51.4 mg/L          0.37   0.72%
   QC value within limits for K 766.490  Recovery = 102.80%
Na 589.592†           425680.0        49.4 mg/L          0.23        49.4 mg/L          0.23   0.47%
   QC value within limits for Na 589.592  Recovery = 98.90%
Sr 407.771†           864923.3        1.03 mg/L         0.020        1.03 mg/L         0.020   1.96%
   QC value within limits for Sr 407.771  Recovery = 102.52%
Li 670.784†            56262.3       0.987 mg/L        0.0040       0.987 mg/L        0.0040   0.40%
   QC value within limits for Li 670.784  Recovery = 98.67%
P 214.914†              6005.6        10.2 mg/L          0.34        10.2 mg/L          0.34   3.34%
   QC value within limits for P 214.914  Recovery = 102.29%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 14                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/5/2013 12:35:48 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    179.0 kPa        0.47 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029           1953685.8                                                      71455.83   3.66%
YRADIAL              128893.9                                                       3702.10   2.87%
Ga 417.206           677667.5                                                      28346.61   4.18%
GaRADIAL              37321.5                                                        180.70   0.48%
Ag 328.068†             113.5    -0.00020 mg/L      0.000331    -0.00020 mg/L      0.000331 165.84%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†              10.4      0.0241 mg/L       0.00203      0.0241 mg/L       0.00203   8.44%
```

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Kim H. Rhoden

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   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                -0.6     0.00118 mg/L      0.000553     0.00118 mg/L      0.000553  46.78%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†               -17.8    -0.00182 mg/L      0.000257    -0.00182 mg/L      0.000257  14.11%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†                91.3     0.00017 mg/L      0.000133     0.00017 mg/L      0.000133  79.61%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†                -87.2     0.00436 mg/L      0.001169     0.00436 mg/L      0.001169  26.81%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                12.9       0.115 mg/L        0.0511       0.115 mg/L        0.0511  44.52%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†                -6.7    -0.00030 mg/L      0.000177    -0.00030 mg/L      0.000177  58.30%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†                -3.1    -0.00056 mg/L      0.000263    -0.00056 mg/L      0.000263  46.58%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               -14.0    -0.00089 mg/L      0.000151    -0.00089 mg/L      0.000151  16.86%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               -18.1    -0.00049 mg/L      0.000299    -0.00049 mg/L      0.000299  60.84%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                 6.1      0.0142 mg/L       0.00279      0.0142 mg/L       0.00279  19.65%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                 7.9      0.0285 mg/L       0.00830      0.0285 mg/L       0.00830  29.13%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†                16.1    -0.00027 mg/L      0.000035    -0.00027 mg/L      0.000035  13.23%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                 7.9     0.00155 mg/L      0.000444     0.00155 mg/L      0.000444  28.72%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†                 0.5    -0.00083 mg/L      0.000296    -0.00083 mg/L      0.000296  35.74%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                 6.5    -0.00087 mg/L      0.001655    -0.00087 mg/L      0.001655 190.71%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                -1.6    -0.00204 mg/L      0.002157    -0.00204 mg/L      0.002157 105.95%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                -3.2     0.00531 mg/L      0.007512     0.00531 mg/L      0.007512 141.45%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†                37.2    -0.00784 mg/L      0.001589    -0.00784 mg/L      0.001589  20.26%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                 4.6     0.00108 mg/L      0.001600     0.00108 mg/L      0.001600 148.14%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†                67.5     0.00111 mg/L      0.000148     0.00111 mg/L      0.000148  13.32%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                 1.8     0.00175 mg/L      0.002021     0.00175 mg/L      0.002021 115.39%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†                412.2    -0.00055 mg/L      0.002435    -0.00055 mg/L      0.002435 443.69%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                 3.4    -0.00132 mg/L      0.000082    -0.00132 mg/L      0.000082   6.20%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                 47.0    -0.00216 mg/L      0.049611    -0.00216 mg/L      0.049611 >999.9%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               165.2     0.00420 mg/L      0.016636     0.00420 mg/L      0.016636 396.27%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†                73.5    -0.00290 mg/L      0.000386    -0.00290 mg/L      0.000386  13.28%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†                 3.0     0.00170 mg/L      0.001954     0.00170 mg/L      0.001954 114.63%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                 25.5      0.0333 mg/L       0.00950      0.0333 mg/L       0.00950  28.54%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
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Approved: November 06, 2013

Kim H. Rhoden

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Analysis Begun

Start Time: 11/5/2013 12:59:15 PM **Plasma On Time: 11/5/2013 6:44:41 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 110513H3R
Results Library: C:\pe\peicp2\Results\results1.mdb

==========

Method Loaded
Method Name: 200.7-6010-3015 ASX **Method Last Saved: 11/5/2013 10:16:18 AM**
IEC File: PLUS-P.iec **SMF File:**
Method Description: STANDARD

==========

Sequence No.: 1 **Autosampler Location: 52**
Sample ID: LLCCV **Date Collected: 11/5/2013 12:59:17 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLCCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: LLCCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2032150.4						40775.09	2.01%
YRADIAL	138256.6						6080.21	4.40%
Ga 417.206	683261.9						18760.51	2.75%
GaRADIAL	37137.3						876.37	2.36%
Ag 328.068†	1276.0	0.00687	mg/L	0.001298	0.00687	mg/L	0.001298	18.88%
Al 396.153†	402.7	0.186	mg/L	0.0043	0.186	mg/L	0.0043	2.31%
As 188.979†	1.8	0.00352	mg/L	0.003794	0.00352	mg/L	0.003794	107.93%
Ba 233.527†	863.9	0.0154	mg/L	0.00031	0.0154	mg/L	0.00031	2.03%
Be 234.861†	485.9	0.00110	mg/L	0.000052	0.00110	mg/L	0.000052	4.77%
B 249.677†	-24.9	0.00599	mg/L	0.000662	0.00599	mg/L	0.000662	11.06%
Ca 227.546†	30.1	0.259	mg/L	0.0236	0.259	mg/L	0.0236	9.12%
Cd 228.802†	9.5	0.00064	mg/L	0.000230	0.00064	mg/L	0.000230	36.16%
Co 228.616†	45.4	0.00293	mg/L	0.000160	0.00293	mg/L	0.000160	5.47%
Cr 267.716†	520.3	0.00744	mg/L	0.000240	0.00744	mg/L	0.000240	3.22%
Cu 327.393†	1029.2	0.00780	mg/L	0.000670	0.00780	mg/L	0.000670	8.59%
Fe 239.562†	157.9	0.0799	mg/L	0.00145	0.0799	mg/L	0.00145	1.81%
Mg 279.077†	146.0	0.188	mg/L	0.0028	0.188	mg/L	0.0028	1.47%
Mn 257.610†	3293.4	0.00848	mg/L	0.000187	0.00848	mg/L	0.000187	2.20%
Mo 202.031†	170.0	0.0163	mg/L	0.00058	0.0163	mg/L	0.00058	3.56%
Ni 231.604†	212.1	0.00849	mg/L	0.000577	0.00849	mg/L	0.000577	6.80%
Pb 220.353†	35.3	0.00663	mg/L	0.000762	0.00663	mg/L	0.000762	11.49%
Sb 206.836†	22.5	0.0177	mg/L	0.00235	0.0177	mg/L	0.00235	13.27%
Se 196.026†	-2.7	0.00629	mg/L	0.004572	0.00629	mg/L	0.004572	72.64%
Si 251.611†	1780.4	0.0758	mg/L	0.00406	0.0758	mg/L	0.00406	5.36%
Sn 189.927†	51.1	0.0138	mg/L	0.00079	0.0138	mg/L	0.00079	5.72%
Ti 334.940†	8647.9	0.0169	mg/L	0.00087	0.0169	mg/L	0.00087	5.18%
Tl 190.801†	17.4	0.0158	mg/L	0.00453	0.0158	mg/L	0.00453	28.67%
V 290.880†	1712.7	0.0102	mg/L	0.00366	0.0102	mg/L	0.00366	36.03%
Zn 206.200†	296.3	0.0167	mg/L	0.00026	0.0167	mg/L	0.00026	1.54%
K 766.490†	953.3	0.800	mg/L	0.0445	0.800	mg/L	0.0445	5.56%
Na 589.592†	7496.7	0.847	mg/L	0.0145	0.847	mg/L	0.0145	1.71%
Sr 407.771†	13460.2	0.0130	mg/L	0.00122	0.0130	mg/L	0.00122	9.38%
Li 670.784†	943.0	0.0182	mg/L	0.00095	0.0182	mg/L	0.00095	5.23%
P 214.914†	96.0	0.154	mg/L	0.0163	0.154	mg/L	0.0163	10.64%

==========

Sequence No.: 2 **Autosampler Location: 53**

Approved: November 06, 2013

Kim H. Rhoden

Sample ID: PBW C6 WG451310-02
Analyst: KHR
Initial Sample Wt:
Dilution:

Date Collected: 11/5/2013 1:02:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: PBW C6 WG451310-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: PBW C6 WG451310-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1932447.0						13080.62	0.68%
YRADIAL	134992.9						5215.29	3.86%
Ga 417.206	667314.4						389.50	0.06%
GaRADIAL	38574.0						546.85	1.42%
Ag 328.068†	27.1	-0.00072	mg/L	0.000546	-0.00072	mg/L	0.000546	75.62%
Al 396.153†	3.6	0.0214	mg/L	0.00239	0.0214	mg/L	0.00239	11.16%
As 188.979†	-3.2	-0.00142	mg/L	0.005623	-0.00142	mg/L	0.005623	395.06%
Ba 233.527†	-21.3	-0.00189	mg/L	0.000087	-0.00189	mg/L	0.000087	4.60%
Be 234.861†	76.8	0.00013	mg/L	0.000037	0.00013	mg/L	0.000037	27.81%
B 249.677†	-354.6	-0.00293	mg/L	0.000369	-0.00293	mg/L	0.000369	12.61%
Ca 227.546†	13.6	0.121	mg/L	0.0108	0.121	mg/L	0.0108	8.94%
Cd 228.802†	-1.7	0.00000	mg/L	0.000255	0.00000	mg/L	0.000255	>999.9%
Co 228.616†	-1.8	-0.00047	mg/L	0.000127	-0.00047	mg/L	0.000127	26.82%
Cr 267.716†	-4.6	-0.00075	mg/L	0.000064	-0.00075	mg/L	0.000064	8.58%
Cu 327.393†	26.4	-0.00014	mg/L	0.000604	-0.00014	mg/L	0.000604	429.87%
Fe 239.562†	7.9	0.0149	mg/L	0.00123	0.0149	mg/L	0.00123	8.23%
Mg 279.077†	9.0	0.0297	mg/L	0.00744	0.0297	mg/L	0.00744	25.03%
Mn 257.610†	63.7	-0.00014	mg/L	0.000042	-0.00014	mg/L	0.000042	30.47%
Mo 202.031†	-9.7	-0.00006	mg/L	0.000798	-0.00006	mg/L	0.000798	>999.9%
Ni 231.604†	6.7	-0.00055	mg/L	0.000126	-0.00055	mg/L	0.000126	22.88%
Pb 220.353†	5.9	-0.00102	mg/L	0.003285	-0.00102	mg/L	0.003285	320.80%
Sb 206.836†	-0.4	-0.00099	mg/L	0.001378	-0.00099	mg/L	0.001378	139.42%
Se 196.026†	-6.2	-0.00056	mg/L	0.006284	-0.00056	mg/L	0.006284	>999.9%
Si 251.611†	-22.4	-0.0107	mg/L	0.00129	-0.0107	mg/L	0.00129	12.05%
Sn 189.927†	-8.4	-0.00247	mg/L	0.000520	-0.00247	mg/L	0.000520	21.06%
Ti 334.940†	-10.8	0.00097	mg/L	0.000175	0.00097	mg/L	0.000175	18.10%
Tl 190.801†	-1.2	-0.00093	mg/L	0.000951	-0.00093	mg/L	0.000951	102.59%
V 290.880†	431.7	-0.00039	mg/L	0.002091	-0.00039	mg/L	0.002091	539.42%
Zn 206.200†	32.4	0.00046	mg/L	0.000382	0.00046	mg/L	0.000382	83.45%
K 766.490†	4.3	-0.0399	mg/L	0.06226	-0.0399	mg/L	0.06226	155.85%
Na 589.592†	35.3	-0.0107	mg/L	0.00408	-0.0107	mg/L	0.00408	37.94%
Sr 407.771†	-138.3	-0.00315	mg/L	0.000042	-0.00315	mg/L	0.000042	1.32%
Li 670.784†	-13.6	0.00141	mg/L	0.000976	0.00141	mg/L	0.000976	69.00%
P 214.914†	13.2	0.0124	mg/L	0.01606	0.0124	mg/L	0.01606	130.02%

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Sequence No.: 3
Sample ID: LCSW C6 WG451310-03
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 54
Date Collected: 11/5/2013 1:05:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LCSW C6 WG451310-03

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: LCSW C6 WG451310-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1940609.3						81329.55	4.19%
YRADIAL	134792.0						1015.62	0.75%
Ga 417.206	675680.6						26479.13	3.92%
GaRADIAL	39049.9						542.44	1.39%
Ag 328.068†	33885.2	0.206	mg/L	0.0080	0.206	mg/L	0.0080	3.87%
Al 396.153†	11721.6	4.85	mg/L	0.041	4.85	mg/L	0.041	0.85%
As 188.979†	197.1	0.198	mg/L	0.0106	0.198	mg/L	0.0106	5.34%

Approved: November 06, 2013

Kim H. Rhoden

Ba 233.527†	26049.6	0.508	mg/L	0.0230	0.508	mg/L	0.0230	4.52%
Be 234.861†	10499.4	0.0247	mg/L	0.00087	0.0247	mg/L	0.00087	3.51%
B 249.677†	36520.7	0.999	mg/L	0.0496	0.999	mg/L	0.0496	4.97%
Ca 227.546†	627.1	5.21	mg/L	0.193	5.21	mg/L	0.193	3.70%
Cd 228.802†	424.1	0.0242	mg/L	0.00070	0.0242	mg/L	0.00070	2.89%
Co 228.616†	1421.4	0.102	mg/L	0.0044	0.102	mg/L	0.0044	4.33%
Cr 267.716†	16250.1	0.253	mg/L	0.0093	0.253	mg/L	0.0093	3.69%
Cu 327.393†	31818.4	0.252	mg/L	0.0096	0.252	mg/L	0.0096	3.81%
Fe 239.562†	4621.8	2.01	mg/L	0.056	2.01	mg/L	0.056	2.78%
Mg 279.077†	4328.8	5.02	mg/L	0.100	5.02	mg/L	0.100	1.99%
Mn 257.610†	96639.5	0.258	mg/L	0.0127	0.258	mg/L	0.0127	4.93%
Mo 202.031†	5740.3	0.524	mg/L	0.0206	0.524	mg/L	0.0206	3.94%
Ni 231.604†	5857.8	0.257	mg/L	0.0091	0.257	mg/L	0.0091	3.53%
Pb 220.353†	1003.6	0.259	mg/L	0.0111	0.259	mg/L	0.0111	4.30%
Sb 206.836†	737.4	0.602	mg/L	0.0205	0.602	mg/L	0.0205	3.41%
Se 196.026†	92.5	0.196	mg/L	0.0150	0.196	mg/L	0.0150	7.66%
Si 251.611†	53242.6	2.54	mg/L	0.106	2.54	mg/L	0.106	4.15%
Sn 189.927†	1692.4	0.462	mg/L	0.0181	0.462	mg/L	0.0181	3.91%
Ti 334.940†	264136.1	0.486	mg/L	0.0084	0.486	mg/L	0.0084	1.73%
Tl 190.801†	289.4	0.266	mg/L	0.0108	0.266	mg/L	0.0108	4.07%
V 290.880†	61424.2	0.502	mg/L	0.0288	0.502	mg/L	0.0288	5.73%
Zn 206.200†	8414.4	0.516	mg/L	0.0238	0.516	mg/L	0.0238	4.62%
K 766.490†	29008.2	25.4	mg/L	0.17	25.4	mg/L	0.17	0.69%
Na 589.592†	212525.5	24.5	mg/L	0.44	24.5	mg/L	0.44	1.80%
Sr 407.771†	423606.1	0.501	mg/L	0.0029	0.501	mg/L	0.0029	0.59%
Li 670.784†	27808.5	0.489	mg/L	0.0019	0.489	mg/L	0.0019	0.40%
P 214.914†	-78.4	-0.144	mg/L	0.0252	-0.144	mg/L	0.0252	17.53%

Sequence No.: 4 **Autosampler Location: 55**
Sample ID: L1311005411 WG451310-01 **Date Collected: 11/5/2013 1:07:21 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005411 WG451310-01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005411 WG451310-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1671912.0						20672.36	1.24%
YRADIAL	122698.7						2231.09	1.82%
Ga 417.206	664785.7						11793.62	1.77%
GaRADIAL	37918.6						357.54	0.94%
Ag 328.068†	1104.2	0.00452	mg/L	0.000534	0.00452	mg/L	0.000534	11.81%
Al 396.153†	-16.5	0.0124	mg/L	0.00237	0.0124	mg/L	0.00237	19.16%
As 188.979†	-0.6	0.00794	mg/L	0.004203	0.00794	mg/L	0.004203	52.90%
Ba 233.527†	517.8	0.00865	mg/L	0.000134	0.00865	mg/L	0.000134	1.55%
Be 234.861†	159.5	0.00055	mg/L	0.000043	0.00055	mg/L	0.000043	7.85%
B 249.677†	15983.3	0.442	mg/L	0.0012	0.442	mg/L	0.0012	0.28%
Ca 227.546†	38944.8	308	mg/L	1.9	308	mg/L	1.9	0.60%
Cd 228.802†	-2.4	-0.00005	mg/L	0.000358	-0.00005	mg/L	0.000358	737.75%
Co 228.616†	38.6	0.00258	mg/L	0.000606	0.00258	mg/L	0.000606	23.50%
Cr 267.716†	354.7	0.00487	mg/L	0.000197	0.00487	mg/L	0.000197	4.04%
Cu 327.393†	52.1	-0.00017	mg/L	0.001285	-0.00017	mg/L	0.001285	768.50%
Fe 239.562†	8.7	0.00294	mg/L	0.002341	0.00294	mg/L	0.002341	79.53%
Mg 279.077†	535653.0	617	mg/L	10.8	617	mg/L	10.8	1.75%
Mn 257.610†	801601.2	2.14	mg/L	0.007	2.14	mg/L	0.007	0.31%
Mo 202.031†	99.4	0.0103	mg/L	0.00116	0.0103	mg/L	0.00116	11.24%
Ni 231.604†	251.2	0.0102	mg/L	0.00044	0.0102	mg/L	0.00044	4.34%
Pb 220.353†	39.0	0.00630	mg/L	0.001735	0.00630	mg/L	0.001735	27.53%
Sb 206.836†	-5.7	-0.00536	mg/L	0.004230	-0.00536	mg/L	0.004230	78.86%
Se 196.026†	139.5	0.288	mg/L	0.0086	0.288	mg/L	0.0086	2.99%
Si 251.611†	115060.1	5.52	mg/L	0.025	5.52	mg/L	0.025	0.44%
Sn 189.927†	-317.3	-0.0868	mg/L	0.00569	-0.0868	mg/L	0.00569	6.55%
Ti 334.940†	-28114.7	-0.00435	mg/L	0.000234	-0.00435	mg/L	0.000234	5.38%
Tl 190.801†	-43.1	-0.0411	mg/L	0.00391	-0.0411	mg/L	0.00391	9.51%
V 290.880†	3157.4	0.00605	mg/L	0.003132	0.00605	mg/L	0.003132	51.78%

Approved: November 06, 2013

Zn 206.200†	52.6	0.00174 mg/L	0.000408	0.00174 mg/L	0.000408	23.43%
K 766.490†	22326.4	19.6 mg/L	0.38	19.6 mg/L	0.38	1.94%
Na 589.592†	Saturated2					
Sr 407.771†	4362877.4	5.18 mg/L	0.189	5.18 mg/L	0.189	3.64%
Li 670.784†	60953.7	1.07 mg/L	0.007	1.07 mg/L	0.007	0.63%
P 214.914†	62.1	0.0957 mg/L	0.02142	0.0957 mg/L	0.02142	22.37%

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Sequence No.: 5 **Autosampler Location: 56**
Sample ID: L1311005412MS WG451310-04 **Date Collected: 11/5/2013 1:10:24 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005412MS WG451310-04

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005412MS WG451310-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1650423.5						5782.10	0.35%
YRADIAL	124324.2						3430.23	2.76%
Ga 417.206	649133.2						9127.27	1.41%
GaRADIAL	36650.0						671.42	1.83%
Ag 328.068†	31091.7	0.187	mg/L	0.0036	0.187	mg/L	0.0036	1.94%
Al 396.153†	11330.6	4.69	mg/L	0.014	4.69	mg/L	0.014	0.30%
As 188.979†	184.4	0.192	mg/L	0.0028	0.192	mg/L	0.0028	1.44%
Ba 233.527†	23838.2	0.465	mg/L	0.0062	0.465	mg/L	0.0062	1.35%
Be 234.861†	9094.6	0.0217	mg/L	0.00044	0.0217	mg/L	0.00044	2.03%
B 249.677†	47912.2	1.31	mg/L	0.013	1.31	mg/L	0.013	1.00%
Ca 227.546†	39479.4	313	mg/L	3.3	313	mg/L	3.3	1.07%
Cd 228.802†	366.8	0.0209	mg/L	0.00063	0.0209	mg/L	0.00063	3.00%
Co 228.616†	1255.0	0.0902	mg/L	0.00071	0.0902	mg/L	0.00071	0.79%
Cr 267.716†	14635.0	0.228	mg/L	0.0021	0.228	mg/L	0.0021	0.91%
Cu 327.393†	28251.6	0.223	mg/L	0.0028	0.223	mg/L	0.0028	1.24%
Fe 239.562†	4096.3	1.77	mg/L	0.060	1.77	mg/L	0.060	3.37%
Mg 279.077†	560946.3	647	mg/L	5.2	647	mg/L	5.2	0.80%
Mn 257.610†	1099337.3	2.93	mg/L	0.031	2.93	mg/L	0.031	1.05%
Mo 202.031†	5182.9	0.474	mg/L	0.0026	0.474	mg/L	0.0026	0.54%
Ni 231.604†	5332.0	0.234	mg/L	0.0012	0.234	mg/L	0.0012	0.50%
Pb 220.353†	827.4	0.211	mg/L	0.0020	0.211	mg/L	0.0020	0.97%
Sb 206.836†	624.1	0.509	mg/L	0.0092	0.509	mg/L	0.0092	1.81%
Se 196.026†	226.7	0.461	mg/L	0.0085	0.461	mg/L	0.0085	1.85%
Si 251.611†	158810.7	7.62	mg/L	0.064	7.62	mg/L	0.064	0.84%
Sn 189.927†	1454.3	0.397	mg/L	0.0036	0.397	mg/L	0.0036	0.90%
Ti 334.940†	228340.7	0.467	mg/L	0.0043	0.467	mg/L	0.0043	0.93%
Tl 190.801†	177.4	0.162	mg/L	0.0023	0.162	mg/L	0.0023	1.39%
V 290.880†	59804.4	0.472	mg/L	0.0100	0.472	mg/L	0.0100	2.12%
Zn 206.200†	7370.2	0.452	mg/L	0.0022	0.452	mg/L	0.0022	0.48%
K 766.490†	52785.1	45.8	mg/L	1.72	45.8	mg/L	1.72	3.75%
Na 589.592†	Saturated2							
Sr 407.771†	4918415.6	5.84	mg/L	0.163	5.84	mg/L	0.163	2.80%
Li 670.784†	94132.3	1.65	mg/L	0.056	1.65	mg/L	0.056	3.40%
P 214.914†	-33.5	-0.0672	mg/L	0.03330	-0.0672	mg/L	0.03330	49.55%

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Sequence No.: 6 **Autosampler Location: 57**
Sample ID: L1311005413SD WG451310-05 **Date Collected: 11/5/2013 1:12:30 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005413SD WG451310-05

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005413SD WG451310-05

Approved: November 06, 2013

Kim H. Rhoden

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1684989.4						8189.49	0.49%
YRADIAL	125494.6						1237.69	0.99%
Ga 417.206	656991.0						11499.05	1.75%
GaRADIAL	38103.2						237.77	0.62%
Ag 328.068†	31877.8	0.192	mg/L	0.0019	0.192	mg/L	0.0019	1.00%
Al 396.153†	11290.5	4.67	mg/L	0.094	4.67	mg/L	0.094	2.01%
As 188.979†	179.9	0.187	mg/L	0.0128	0.187	mg/L	0.0128	6.85%
Ba 233.527†	24482.8	0.477	mg/L	0.0044	0.477	mg/L	0.0044	0.91%
Be 234.861†	9430.7	0.0223	mg/L	0.00015	0.0223	mg/L	0.00015	0.67%
B 249.677†	50588.4	1.38	mg/L	0.010	1.38	mg/L	0.010	0.70%
Ca 227.546†	39256.8	311	mg/L	2.3	311	mg/L	2.3	0.75%
Cd 228.802†	368.1	0.0210	mg/L	0.00090	0.0210	mg/L	0.00090	4.29%
Co 228.616†	1250.4	0.0899	mg/L	0.00062	0.0899	mg/L	0.00062	0.69%
Cr 267.716†	15035.3	0.234	mg/L	0.0013	0.234	mg/L	0.0013	0.54%
Cu 327.393†	28830.4	0.228	mg/L	0.0021	0.228	mg/L	0.0021	0.91%
Fe 239.562†	4300.2	1.86	mg/L	0.069	1.86	mg/L	0.069	3.68%
Mg 279.077†	474831.8	547	mg/L	2.2	547	mg/L	2.2	0.40%
Mn 257.610†	545081.0	1.45	mg/L	0.010	1.45	mg/L	0.010	0.70%
Mo 202.031†	5289.4	0.483	mg/L	0.0019	0.483	mg/L	0.0019	0.39%
Ni 231.604†	5317.0	0.233	mg/L	0.0007	0.233	mg/L	0.0007	0.30%
Pb 220.353†	861.6	0.221	mg/L	0.0028	0.221	mg/L	0.0028	1.28%
Sb 206.836†	644.8	0.526	mg/L	0.0105	0.526	mg/L	0.0105	1.99%
Se 196.026†	247.3	0.503	mg/L	0.0259	0.503	mg/L	0.0259	5.16%
Si 251.611†	166621.1	8.00	mg/L	0.058	8.00	mg/L	0.058	0.72%
Sn 189.927†	1339.5	0.365	mg/L	0.0056	0.365	mg/L	0.0056	1.53%
Ti 334.940†	235028.5	0.479	mg/L	0.0013	0.479	mg/L	0.0013	0.27%
Tl 190.801†	188.3	0.173	mg/L	0.0125	0.173	mg/L	0.0125	7.21%
V 290.880†	60896.3	0.484	mg/L	0.0090	0.484	mg/L	0.0090	1.85%
Zn 206.200†	7485.2	0.459	mg/L	0.0027	0.459	mg/L	0.0027	0.59%
K 766.490†	48546.4	42.2	mg/L	0.39	42.2	mg/L	0.39	0.92%
Na 589.592†	Saturated2							
Sr 407.771†	4314357.7	5.12	mg/L	0.117	5.12	mg/L	0.117	2.29%
Li 670.784†	79093.2	1.39	mg/L	0.008	1.39	mg/L	0.008	0.56%
P 214.914†	-43.2	-0.0838	mg/L	0.02836	-0.0838	mg/L	0.02836	33.85%

Sequence No.: 7
Sample ID: L1311011301 0.2
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 58
Date Collected: 11/5/2013 1:14:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311011301 0.2

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311011301 0.2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1872340.8						25940.25	1.39%
YRADIAL	137296.3						3156.08	2.30%
Ga 417.206	701722.8						13210.27	1.88%
GaRADIAL	38972.7						743.01	1.91%
Ag 328.068†	-608.7	0.00279	mg/L	0.000757	0.00279	mg/L	0.000757	27.12%
Al 396.153†	-16.2	0.0144	mg/L	0.01016	0.0144	mg/L	0.01016	70.49%
As 188.979†	-8.5	-0.00059	mg/L	0.006572	-0.00059	mg/L	0.006572	>999.9%
Ba 233.527†	6945.7	0.134	mg/L	0.0030	0.134	mg/L	0.0030	2.25%
Be 234.861†	1684.0	0.00023	mg/L	0.000171	0.00023	mg/L	0.000171	75.49%
B 249.677†	20392.7	0.555	mg/L	0.0133	0.555	mg/L	0.0133	2.39%
Ca 227.546†	14550.9	116	mg/L	3.8	116	mg/L	3.8	3.29%
Cd 228.802†	-4.5	-0.00009	mg/L	0.000138	-0.00009	mg/L	0.000138	152.17%
Co 228.616†	17.4	0.00051	mg/L	0.000527	0.00051	mg/L	0.000527	102.72%
Cr 267.716†	130.2	0.00009	mg/L	0.000248	0.00009	mg/L	0.000248	268.47%
Cu 327.393†	1172.1	0.00972	mg/L	0.000274	0.00972	mg/L	0.000274	2.82%
Fe 239.562†	36389.0	15.8	mg/L	0.63	15.8	mg/L	0.63	4.01%
Mg 279.077†	14484.7	16.7	mg/L	0.62	16.7	mg/L	0.62	3.72%
Mn 257.610†	114165.6	0.305	mg/L	0.0031	0.305	mg/L	0.0031	1.02%
Mo 202.031†	86.6	0.00902	mg/L	0.000626	0.00902	mg/L	0.000626	6.95%

Approved: November 06, 2013

Ni 231.604†	89.3	0.00309 mg/L	0.000523	0.00309 mg/L	0.000523	16.91%
Pb 220.353†	18.7	0.00161 mg/L	0.003792	0.00161 mg/L	0.003792	234.91%
Sb 206.836†	-4.3	-0.00363 mg/L	0.001446	-0.00363 mg/L	0.001446	39.80%
Se 196.026†	-7.5	-0.00022 mg/L	0.002847	-0.00022 mg/L	0.002847	>999.9%
Si 251.611†	8391.8	0.394 mg/L	0.0168	0.394 mg/L	0.0168	4.25%
Sn 189.927†	-231.6	-0.0634 mg/L	0.00115	-0.0634 mg/L	0.00115	1.82%
Ti 334.940†	-9687.5	0.00048 mg/L	0.000555	0.00048 mg/L	0.000555	115.23%
Tl 190.801†	-19.8	-0.0180 mg/L	0.00720	-0.0180 mg/L	0.00720	39.91%
V 290.880†	740.8	0.00007 mg/L	0.001557	0.00007 mg/L	0.001557	>999.9%
Zn 206.200†	126.2	0.00651 mg/L	0.000847	0.00651 mg/L	0.000847	13.02%
K 766.490†	7959.7	6.99 mg/L	0.017	6.99 mg/L	0.017	0.24%
Na 589.592†	Saturated2					
Sr 407.771†	Saturated2					
Li 670.784†	35322.8	0.620 mg/L	0.0178	0.620 mg/L	0.0178	2.88%
P 214.914†	11.9	0.0101 mg/L	0.01526	0.0101 mg/L	0.01526	151.06%

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Sequence No.: 8 **Autosampler Location: 59**
Sample ID: L1311009210 **Date Collected: 11/5/2013 1:16:38 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311009210

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311009210

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1928343.8						21635.07	1.12%
YRADIAL	133299.5						4237.43	3.18%
Ga 417.206	665506.7						6186.86	0.93%
GaRADIAL	38691.4						1188.66	3.07%
Ag 328.068†	28.5	-0.00071	mg/L	0.000662	-0.00071	mg/L	0.000662	93.22%
Al 396.153†	18.5	0.0275	mg/L	0.00009	0.0275	mg/L	0.00009	0.32%
As 188.979†	-6.1	-0.00435	mg/L	0.001786	-0.00435	mg/L	0.001786	41.04%
Ba 233.527†	-14.0	-0.00175	mg/L	0.000019	-0.00175	mg/L	0.000019	1.07%
Be 234.861†	47.6	0.00006	mg/L	0.000014	0.00006	mg/L	0.000014	23.14%
B 249.677†	876.2	0.0306	mg/L	0.00209	0.0306	mg/L	0.00209	6.82%
Ca 227.546†	26.7	0.224	mg/L	0.0209	0.224	mg/L	0.0209	9.32%
Cd 228.802†	-5.3	-0.00020	mg/L	0.000171	-0.00020	mg/L	0.000171	85.20%
Co 228.616†	-5.2	-0.00072	mg/L	0.000115	-0.00072	mg/L	0.000115	16.04%
Cr 267.716†	13.7	-0.00046	mg/L	0.000108	-0.00046	mg/L	0.000108	23.35%
Cu 327.393†	14.6	-0.00023	mg/L	0.001396	-0.00023	mg/L	0.001396	599.07%
Fe 239.562†	19.6	0.0200	mg/L	0.00238	0.0200	mg/L	0.00238	11.93%
Mg 279.077†	92.2	0.126	mg/L	0.0062	0.126	mg/L	0.0062	4.94%
Mn 257.610†	226.8	0.00030	mg/L	0.000042	0.00030	mg/L	0.000042	14.28%
Mo 202.031†	-0.3	0.00080	mg/L	0.000347	0.00080	mg/L	0.000347	43.48%
Ni 231.604†	4.1	-0.00067	mg/L	0.000291	-0.00067	mg/L	0.000291	43.74%
Pb 220.353†	12.0	0.00057	mg/L	0.003266	0.00057	mg/L	0.003266	572.27%
Sb 206.836†	-0.0	-0.00073	mg/L	0.003610	-0.00073	mg/L	0.003610	494.55%
Se 196.026†	-2.6	0.00656	mg/L	0.007943	0.00656	mg/L	0.007943	121.18%
Si 251.611†	2996.4	0.134	mg/L	0.0014	0.134	mg/L	0.0014	1.04%
Sn 189.927†	-9.1	-0.00267	mg/L	0.001284	-0.00267	mg/L	0.001284	48.08%
Ti 334.940†	91.0	0.00117	mg/L	0.000192	0.00117	mg/L	0.000192	16.39%
Tl 190.801†	-3.4	-0.00291	mg/L	0.001337	-0.00291	mg/L	0.001337	45.96%
V 290.880†	467.6	-0.00009	mg/L	0.002049	-0.00009	mg/L	0.002049	>999.9%
Zn 206.200†	96.9	0.00441	mg/L	0.000114	0.00441	mg/L	0.000114	2.58%
K 766.490†	24.7	-0.0225	mg/L	0.05139	-0.0225	mg/L	0.05139	228.09%
Na 589.592†	5809.3	0.653	mg/L	0.1547	0.653	mg/L	0.1547	23.67%
Sr 407.771†	1158.7	-0.00162	mg/L	0.000516	-0.00162	mg/L	0.000516	31.95%
Li 670.784†	-55.1	0.00069	mg/L	0.000164	0.00069	mg/L	0.000164	23.89%
P 214.914†	23.1	0.0293	mg/L	0.01884	0.0293	mg/L	0.01884	64.29%

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Sequence No.: 9 **Autosampler Location: 60**
Sample ID: L1311009210PS WG451533-01 **Date Collected: 11/5/2013 1:19:38 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311009210PS WG451533-01

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311009210PS WG451533-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1940623.3						22700.14	1.17%
YRADIAL	134992.9						2317.57	1.72%
Ga 417.206	685459.4						12734.50	1.86%
GaRADIAL	38408.3						258.23	0.67%
Ag 328.068†	34317.6	0.208	mg/L	0.0041	0.208	mg/L	0.0041	1.99%
Al 396.153†	12461.7	5.16	mg/L	0.063	5.16	mg/L	0.063	1.23%
As 188.979†	200.6	0.201	mg/L	0.0023	0.201	mg/L	0.0023	1.16%
Ba 233.527†	26893.1	0.524	mg/L	0.0021	0.524	mg/L	0.0021	0.40%
Be 234.861†	10686.0	0.0251	mg/L	0.00045	0.0251	mg/L	0.00045	1.78%
B 249.677†	38122.7	1.04	mg/L	0.014	1.04	mg/L	0.014	1.32%
Ca 227.546†	642.3	5.34	mg/L	0.068	5.34	mg/L	0.068	1.28%
Cd 228.802†	422.7	0.0241	mg/L	0.00070	0.0241	mg/L	0.00070	2.92%
Co 228.616†	1450.2	0.104	mg/L	0.0013	0.104	mg/L	0.0013	1.27%
Cr 267.716†	16742.2	0.261	mg/L	0.0027	0.261	mg/L	0.0027	1.05%
Cu 327.393†	32401.5	0.256	mg/L	0.0057	0.256	mg/L	0.0057	2.21%
Fe 239.562†	4774.6	2.08	mg/L	0.023	2.08	mg/L	0.023	1.13%
Mg 279.077†	4540.7	5.26	mg/L	0.022	5.26	mg/L	0.022	0.43%
Mn 257.610†	100288.3	0.267	mg/L	0.0012	0.267	mg/L	0.0012	0.44%
Mo 202.031†	5889.1	0.537	mg/L	0.0068	0.537	mg/L	0.0068	1.26%
Ni 231.604†	6038.3	0.265	mg/L	0.0014	0.265	mg/L	0.0014	0.52%
Pb 220.353†	1026.2	0.265	mg/L	0.0033	0.265	mg/L	0.0033	1.23%
Sb 206.836†	743.0	0.606	mg/L	0.0181	0.606	mg/L	0.0181	2.99%
Se 196.026†	96.9	0.205	mg/L	0.0077	0.205	mg/L	0.0077	3.77%
Si 251.611†	56149.5	2.68	mg/L	0.049	2.68	mg/L	0.049	1.83%
Sn 189.927†	2155.4	0.588	mg/L	0.0078	0.588	mg/L	0.0078	1.32%
Ti 334.940†	276854.1	0.510	mg/L	0.0015	0.510	mg/L	0.0015	0.29%
Tl 190.801†	290.9	0.267	mg/L	0.0056	0.267	mg/L	0.0056	2.08%
V 290.880†	63733.0	0.521	mg/L	0.0013	0.521	mg/L	0.0013	0.25%
Zn 206.200†	8817.4	0.541	mg/L	0.0053	0.541	mg/L	0.0053	0.98%
K 766.490†	30803.4	26.9	mg/L	0.05	26.9	mg/L	0.05	0.20%
Na 589.592†	233378.5	27.0	mg/L	0.62	27.0	mg/L	0.62	2.29%
Sr 407.771†	455749.1	0.539	mg/L	0.0050	0.539	mg/L	0.0050	0.92%
Li 670.784†	29450.7	0.517	mg/L	0.0024	0.517	mg/L	0.0024	0.47%
P 214.914†	-82.2	-0.150	mg/L	0.0388	-0.150	mg/L	0.0388	25.82%

Sequence No.: 10 **Autosampler Location: 61**
Sample ID: L1311009210DL WG451533-02 **Date Collected: 11/5/2013 1:21:41 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311009210DL WG451533-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311009210DL WG451533-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1959454.7						32441.42	1.66%
YRADIAL	133063.6						1603.28	1.20%
Ga 417.206	680763.0						13714.29	2.01%
GaRADIAL	38074.9						607.00	1.59%
Ag 328.068†	125.3	-0.00013	mg/L	0.000404	-0.00013	mg/L	0.000404	314.78%
Al 396.153†	9.2	0.0237	mg/L	0.00465	0.0237	mg/L	0.00465	19.62%
As 188.979†	-2.6	-0.00083	mg/L	0.000734	-0.00083	mg/L	0.000734	88.29%
Ba 233.527†	-13.0	-0.00173	mg/L	0.000094	-0.00173	mg/L	0.000094	5.44%
Be 234.861†	94.8	0.00017	mg/L	0.000073	0.00017	mg/L	0.000073	41.54%
B 249.677†	627.1	0.0238	mg/L	0.00271	0.0238	mg/L	0.00271	11.39%

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Ca 227.546†	19.7	0.169	mg/L	0.0350	0.169	mg/L	0.0350	20.75%
Cd 228.802†	-6.3	-0.00027	mg/L	0.000200	-0.00027	mg/L	0.000200	73.09%
Co 228.616†	-5.6	-0.00074	mg/L	0.000340	-0.00074	mg/L	0.000340	45.65%
Cr 267.716†	1.2	-0.00066	mg/L	0.000146	-0.00066	mg/L	0.000146	22.19%
Cu 327.393†	36.2	-0.00006	mg/L	0.000447	-0.00006	mg/L	0.000447	715.00%
Fe 239.562†	7.5	0.0148	mg/L	0.00343	0.0148	mg/L	0.00343	23.23%
Mg 279.077†	40.3	0.0658	mg/L	0.01900	0.0658	mg/L	0.01900	28.86%
Mn 257.610†	114.3	0.00000	mg/L	0.000037	0.00000	mg/L	0.000037	909.49%
Mo 202.031†	-4.6	0.00040	mg/L	0.000246	0.00040	mg/L	0.000246	61.11%
Ni 231.604†	14.4	-0.00021	mg/L	0.000051	-0.00021	mg/L	0.000051	24.16%
Pb 220.353†	14.6	0.00124	mg/L	0.000694	0.00124	mg/L	0.000694	56.02%
Sb 206.836†	-1.9	-0.00222	mg/L	0.003532	-0.00222	mg/L	0.003532	159.37%
Se 196.026†	-4.8	0.00219	mg/L	0.003804	0.00219	mg/L	0.003804	173.52%
Si 251.611†	567.6	0.0177	mg/L	0.00179	0.0177	mg/L	0.00179	10.13%
Sn 189.927†	-2.5	-0.00087	mg/L	0.001008	-0.00087	mg/L	0.001008	116.47%
Ti 334.940†	-18.5	0.00096	mg/L	0.000281	0.00096	mg/L	0.000281	29.24%
Tl 190.801†	0.3	0.00039	mg/L	0.005588	0.00039	mg/L	0.005588	>999.9%
V 290.880†	430.1	-0.00040	mg/L	0.000602	-0.00040	mg/L	0.000602	149.86%
Zn 206.200†	44.1	0.00118	mg/L	0.000213	0.00118	mg/L	0.000213	18.07%
K 766.490†	27.3	-0.0198	mg/L	0.02088	-0.0198	mg/L	0.02088	105.66%
Na 589.592†	1870.7	0.200	mg/L	0.0243	0.200	mg/L	0.0243	12.14%
Sr 407.771†	67.1	-0.00291	mg/L	0.000086	-0.00291	mg/L	0.000086	2.97%
Li 670.784†	-17.9	0.00134	mg/L	0.001239	0.00134	mg/L	0.001239	92.55%
P 214.914†	18.3	0.0211	mg/L	0.00858	0.0211	mg/L	0.00858	40.59%

Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 1:24:41 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1988422.8						4925.92	0.25%
YRADIAL	139864.3						1151.40	0.82%
Ga 417.206	711591.8						12941.39	1.82%
GaRADIAL	39777.0						384.36	0.97%
Ag 328.068†	66243.1	0.403	mg/L	0.0098	0.403	mg/L	0.0098	2.42%
QC value within limits for Ag 328.068 Recovery = 100.80%								
Al 396.153†	24436.3	10.1	mg/L	0.07	10.1	mg/L	0.07	0.70%
QC value within limits for Al 396.153 Recovery = 100.95%								
As 188.979†	398.2	0.397	mg/L	0.0120	0.397	mg/L	0.0120	3.01%
QC value within limits for As 188.979 Recovery = 99.35%								
Ba 233.527†	53455.8	1.04	mg/L	0.005	1.04	mg/L	0.005	0.43%
QC value within limits for Ba 233.527 Recovery = 104.36%								
Be 234.861†	21088.1	0.0497	mg/L	0.00097	0.0497	mg/L	0.00097	1.96%
QC value within limits for Be 234.861 Recovery = 99.31%								
B 249.677†	18475.1	0.506	mg/L	0.0062	0.506	mg/L	0.0062	1.23%
QC value within limits for B 249.677 Recovery = 101.14%								
Ca 227.546†	1249.2	10.4	mg/L	0.15	10.4	mg/L	0.15	1.49%
QC value within limits for Ca 227.546 Recovery = 103.82%								
Cd 228.802†	843.9	0.0481	mg/L	0.00120	0.0481	mg/L	0.00120	2.49%
QC value within limits for Cd 228.802 Recovery = 96.16%								
Co 228.616†	2887.1	0.208	mg/L	0.0014	0.208	mg/L	0.0014	0.68%
QC value within limits for Co 228.616 Recovery = 103.87%								
Cr 267.716†	33052.1	0.515	mg/L	0.0036	0.515	mg/L	0.0036	0.69%
QC value within limits for Cr 267.716 Recovery = 103.05%								
Cu 327.393†	62921.3	0.498	mg/L	0.0133	0.498	mg/L	0.0133	2.66%
QC value within limits for Cu 327.393 Recovery = 99.64%								
Fe 239.562†	9361.8	4.07	mg/L	0.009	4.07	mg/L	0.009	0.22%
QC value within limits for Fe 239.562 Recovery = 101.65%								
Mg 279.077†	8902.7	10.3	mg/L	0.02	10.3	mg/L	0.02	0.16%
QC value within limits for Mg 279.077 Recovery = 102.98%								
Mn 257.610†	194261.9	0.518	mg/L	0.0045	0.518	mg/L	0.0045	0.87%

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   QC value within limits for Mn 257.610  Recovery = 103.65%
Mo 202.031†          11178.0        1.02 mg/L        0.003        1.02 mg/L        0.003   0.30%
   QC value within limits for Mo 202.031  Recovery = 101.92%
Ni 231.604†          11859.3       0.521 mg/L       0.0031       0.521 mg/L       0.0031   0.60%
   QC value within limits for Ni 231.604  Recovery = 104.29%
Pb 220.353†           2032.8       0.527 mg/L       0.0029       0.527 mg/L       0.0029   0.56%
   QC value within limits for Pb 220.353  Recovery = 105.37%
Sb 206.836†           1463.9        1.20 mg/L        0.015        1.20 mg/L        0.015   1.25%
   QC value within limits for Sb 206.836  Recovery = 99.59%
Se 196.026†            197.5       0.405 mg/L       0.0068       0.405 mg/L       0.0068   1.69%
   QC value within limits for Se 196.026  Recovery = 101.28%
Si 251.611†         105622.0        5.06 mg/L        0.105        5.06 mg/L        0.105   2.07%
   QC value within limits for Si 251.611  Recovery = 101.17%
Sn 189.927†           3885.0        1.06 mg/L        0.007        1.06 mg/L        0.007   0.66%
   QC value within limits for Sn 189.927  Recovery = 106.01%
Ti 334.940†         551080.1        1.01 mg/L        0.007        1.01 mg/L        0.007   0.66%
   QC value within limits for Ti 334.940  Recovery = 101.34%
Tl 190.801†            580.7       0.533 mg/L       0.0066       0.533 mg/L       0.0066   1.24%
   QC value within limits for Tl 190.801  Recovery = 106.69%
V 290.880†          127009.1        1.04 mg/L        0.008        1.04 mg/L        0.008   0.73%
   QC value within limits for V 290.880  Recovery = 104.32%
Zn 206.200†          17214.5        1.06 mg/L        0.003        1.06 mg/L        0.003   0.29%
   QC value within limits for Zn 206.200  Recovery = 105.68%
K 766.490†           60491.3        52.3 mg/L         0.46        52.3 mg/L         0.46   0.87%
   QC value within limits for K 766.490  Recovery = 104.63%
Na 589.592†         442028.1        51.4 mg/L         0.62        51.4 mg/L         0.62   1.21%
   QC value within limits for Na 589.592  Recovery = 102.74%
Sr 407.771†         868809.3        1.03 mg/L        0.010        1.03 mg/L        0.010   0.95%
   QC value within limits for Sr 407.771  Recovery = 102.98%
Li 670.784†          57824.1        1.01 mg/L        0.007        1.01 mg/L        0.007   0.71%
   QC value within limits for Li 670.784  Recovery = 101.40%
P 214.914†            6119.0        10.4 mg/L         0.09        10.4 mg/L         0.09   0.89%
   QC value within limits for P 214.914  Recovery = 104.22%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/5/2013 1:26:46 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     178.0 kPa        0.47 L/min

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Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029           1956275.8                                                     24211.45   1.24%
YRADIAL              132555.0                                                      2081.06   1.57%
Ga 417.206           672733.6                                                     12428.58   1.85%
GaRADIAL              37869.2                                                       228.59   0.60%
Ag 328.068†              56.3    -0.00055 mg/L      0.000223    -0.00055 mg/L      0.000223  40.79%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               4.2      0.0215 mg/L       0.00076      0.0215 mg/L       0.00076   3.51%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†              -6.0    -0.00429 mg/L      0.001395    -0.00429 mg/L      0.001395  32.49%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†             -10.5    -0.00168 mg/L      0.000090    -0.00168 mg/L      0.000090   5.36%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              93.4     0.00017 mg/L      0.000038     0.00017 mg/L      0.000038  21.91%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              316.6      0.0153 mg/L       0.00153      0.0153 mg/L       0.00153   9.97%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              14.6       0.129 mg/L        0.0156       0.129 mg/L        0.0156  12.15%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -2.5    -0.00004 mg/L      0.000211    -0.00004 mg/L      0.000211 570.81%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -5.8    -0.00076 mg/L      0.000528    -0.00076 mg/L      0.000528  69.65%
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   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                0.9    -0.00066 mg/L      0.000151    -0.00066 mg/L      0.000151  22.74%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               75.4     0.00025 mg/L      0.000293     0.00025 mg/L      0.000293 119.19%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                0.7      0.0118 mg/L       0.00130      0.0118 mg/L       0.00130  11.03%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               20.1      0.0426 mg/L       0.00627      0.0426 mg/L       0.00627  14.72%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               19.9    -0.00026 mg/L      0.000044    -0.00026 mg/L      0.000044  17.27%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                2.1     0.00102 mg/L      0.000290     0.00102 mg/L      0.000290  28.55%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               17.0    -0.00010 mg/L      0.000216    -0.00010 mg/L      0.000216 222.68%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               10.2     0.00010 mg/L      0.001790     0.00010 mg/L      0.001790 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                2.3     0.00116 mg/L      0.001779     0.00116 mg/L      0.001779 152.78%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -5.1     0.00151 mg/L      0.002617     0.00151 mg/L      0.002617 173.71%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               -7.2    -0.00997 mg/L      0.001438    -0.00997 mg/L      0.001438  14.43%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                5.6     0.00133 mg/L      0.000106     0.00133 mg/L      0.000106   7.96%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -23.5     0.00094 mg/L      0.000220     0.00094 mg/L      0.000220  23.34%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -2.8    -0.00237 mg/L      0.004434    -0.00237 mg/L      0.004434 187.09%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               373.7    -0.00087 mg/L      0.001671    -0.00087 mg/L      0.001671 193.04%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                4.7    -0.00124 mg/L      0.000216    -0.00124 mg/L      0.000216  17.46%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                64.3      0.0131 mg/L       0.03227      0.0131 mg/L       0.03227 246.38%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             1128.3       0.115 mg/L        0.0433       0.115 mg/L        0.0433  37.64%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†                2.6    -0.00299 mg/L      0.000160    -0.00299 mg/L      0.000160   5.34%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               -1.7     0.00162 mg/L      0.001979     0.00162 mg/L      0.001979 122.02%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                25.7      0.0337 mg/L       0.00738      0.0337 mg/L       0.00738  21.94%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 13                                    Autosampler Location: 62
Sample ID: L1310187301                              Date Collected: 11/5/2013 1:29:46 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: L1310187301
Analyte                 Back Pressure    Flow
All                    178.0 kPa        0.47 L/min

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Mean Data: L1310187301
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1994492.5                                                    40053.60   2.01%
YRADIAL               137446.4                                                     3050.81   2.22%
Ga 417.206            728204.6                                                    18279.72   2.51%
GaRADIAL               40037.3                                                      305.53   0.76%
Ag 328.068†              374.1     0.00128 mg/L      0.000778     0.00128 mg/L      0.000778  60.83%
Al 396.153†               19.1      0.0273 mg/L       0.00142      0.0273 mg/L       0.00142   5.21%
As 188.979†               -6.9    -0.00392 mg/L      0.003254    -0.00392 mg/L      0.003254  82.98%
Ba 233.527†             2494.3      0.0473 mg/L       0.00086      0.0473 mg/L       0.00086   1.81%
Be 234.861†              173.9     0.00035 mg/L      0.000076     0.00035 mg/L      0.000076  21.44%
B 249.677†              1257.5      0.0409 mg/L       0.00138      0.0409 mg/L       0.00138   3.36%
Ca 227.546†             7099.1        56.2 mg/L          2.44        56.2 mg/L          2.44   4.33%
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Cd 228.802†	-7.5	-0.00033	mg/L	0.000372	-0.00033	mg/L	0.000372	114.45%
Co 228.616†	-6.7	-0.00081	mg/L	0.000108	-0.00081	mg/L	0.000108	13.42%
Cr 267.716†	55.2	0.00018	mg/L	0.000161	0.00018	mg/L	0.000161	88.75%
Cu 327.393†	73.1	0.00022	mg/L	0.000180	0.00022	mg/L	0.000180	80.80%
Fe 239.562†	140.3	0.0719	mg/L	0.00294	0.0719	mg/L	0.00294	4.09%
Mg 279.077†	16853.2	19.4	mg/L	0.42	19.4	mg/L	0.42	2.16%
Mn 257.610†	10373.5	0.0273	mg/L	0.00100	0.0273	mg/L	0.00100	3.67%
Mo 202.031†	75.3	0.00769	mg/L	0.000335	0.00769	mg/L	0.000335	4.36%
Ni 231.604†	15.1	-0.00018	mg/L	0.000055	-0.00018	mg/L	0.000055	30.71%
Pb 220.353†	20.4	0.00274	mg/L	0.002043	0.00274	mg/L	0.002043	74.64%
Sb 206.836†	-1.6	-0.00202	mg/L	0.001341	-0.00202	mg/L	0.001341	66.49%
Se 196.026†	-2.6	0.00643	mg/L	0.004148	0.00643	mg/L	0.004148	64.54%
Si 251.611†	42184.3	2.02	mg/L	0.082	2.02	mg/L	0.082	4.08%
Sn 189.927†	-186.7	-0.0511	mg/L	0.00089	-0.0511	mg/L	0.00089	1.74%
Ti 334.940†	-5345.9	-0.00041	mg/L	0.000143	-0.00041	mg/L	0.000143	35.40%
Tl 190.801†	-12.6	-0.0113	mg/L	0.00611	-0.0113	mg/L	0.00611	54.17%
V 290.880†	736.3	0.00161	mg/L	0.002588	0.00161	mg/L	0.002588	160.41%
Zn 206.200†	24.7	0.00000	mg/L	0.000468	0.00000	mg/L	0.000468	>999.9%
K 766.490†	2484.9	2.14	mg/L	0.032	2.14	mg/L	0.032	1.51%
Na 589.592†	104051.1	12.0	mg/L	0.31	12.0	mg/L	0.31	2.60%
Sr 407.771†	527215.5	0.622	mg/L	0.0390	0.622	mg/L	0.0390	6.28%
Li 670.784†	103.9	0.00347	mg/L	0.000446	0.00347	mg/L	0.000446	12.86%
P 214.914†	26.2	0.0346	mg/L	0.01012	0.0346	mg/L	0.01012	29.30%

Sequence No.: 14 **Autosampler Location: 63**
Sample ID: L1310187302 **Date Collected: 11/5/2013 1:32:49 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310187302

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310187302

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1989918.9						18259.35	0.92%
YRADIAL	137273.5						5508.00	4.01%
Ga 417.206	732372.0						5582.56	0.76%
GaRADIAL	40875.0						1050.14	2.57%
Ag 328.068†	232.0	0.00049	mg/L	0.000378	0.00049	mg/L	0.000378	76.78%
Al 396.153†	6.3	0.0222	mg/L	0.00256	0.0222	mg/L	0.00256	11.57%
As 188.979†	-10.6	-0.00763	mg/L	0.002857	-0.00763	mg/L	0.002857	37.42%
Ba 233.527†	1694.4	0.0316	mg/L	0.00003	0.0316	mg/L	0.00003	0.11%
Be 234.861†	182.1	0.00038	mg/L	0.000038	0.00038	mg/L	0.000038	10.00%
B 249.677†	7480.8	0.210	mg/L	0.0021	0.210	mg/L	0.0021	1.01%
Ca 227.546†	7079.0	56.1	mg/L	0.82	56.1	mg/L	0.82	1.46%
Cd 228.802†	-8.4	-0.00036	mg/L	0.000145	-0.00036	mg/L	0.000145	40.51%
Co 228.616†	-5.8	-0.00074	mg/L	0.000112	-0.00074	mg/L	0.000112	15.04%
Cr 267.716†	63.4	0.00031	mg/L	0.000173	0.00031	mg/L	0.000173	55.55%
Cu 327.393†	-61.3	-0.00084	mg/L	0.000445	-0.00084	mg/L	0.000445	52.94%
Fe 239.562†	63.7	0.0387	mg/L	0.00072	0.0387	mg/L	0.00072	1.86%
Mg 279.077†	16672.4	19.2	mg/L	0.17	19.2	mg/L	0.17	0.87%
Mn 257.610†	3775.2	0.00976	mg/L	0.000053	0.00976	mg/L	0.000053	0.54%
Mo 202.031†	45.5	0.00497	mg/L	0.000175	0.00497	mg/L	0.000175	3.51%
Ni 231.604†	6.0	-0.00058	mg/L	0.000347	-0.00058	mg/L	0.000347	60.18%
Pb 220.353†	22.6	0.00332	mg/L	0.001272	0.00332	mg/L	0.001272	38.31%
Sb 206.836†	-2.6	-0.00284	mg/L	0.002160	-0.00284	mg/L	0.002160	76.15%
Se 196.026†	-3.5	0.00469	mg/L	0.007513	0.00469	mg/L	0.007513	160.11%
Si 251.611†	77070.0	3.70	mg/L	0.067	3.70	mg/L	0.067	1.81%
Sn 189.927†	-192.9	-0.0528	mg/L	0.00202	-0.0528	mg/L	0.00202	3.82%
Ti 334.940†	-5327.9	-0.00040	mg/L	0.000107	-0.00040	mg/L	0.000107	26.96%
Tl 190.801†	-12.9	-0.0115	mg/L	0.00689	-0.0115	mg/L	0.00689	59.80%
V 290.880†	640.3	0.00083	mg/L	0.001146	0.00083	mg/L	0.001146	137.81%
Zn 206.200†	11.9	-0.00078	mg/L	0.000399	-0.00078	mg/L	0.000399	50.90%
K 766.490†	2497.0	2.14	mg/L	0.071	2.14	mg/L	0.071	3.29%
Na 589.592†	211998.9	24.5	mg/L	0.04	24.5	mg/L	0.04	0.15%
Sr 407.771†	160563.6	0.186	mg/L	0.0061	0.186	mg/L	0.0061	3.30%

Approved: November 06, 2013

Kim H. Rhoden

Li 670.784†	110.1	0.00358 mg/L	0.001325	0.00358 mg/L	0.001325	37.00%
P 214.914†	33.3	0.0467 mg/L	0.02238	0.0467 mg/L	0.02238	47.91%

Sequence No.: 15 **Autosampler Location: 64**
Sample ID: L1310187303 **Date Collected: 11/5/2013 1:35:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310187303

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310187303

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1994854.6						17409.68	0.87%
YRADIAL	140168.2						3484.22	2.49%
Ga 417.206	736199.0						7153.60	0.97%
GaRADIAL	40665.6						92.86	0.23%
Ag 328.068†	288.4	0.00076	mg/L	0.000378	0.00076	mg/L	0.000378	49.51%
Al 396.153†	32.9	0.0330	mg/L	0.00380	0.0330	mg/L	0.00380	11.51%
As 188.979†	-10.4	-0.00744	mg/L	0.004719	-0.00744	mg/L	0.004719	63.40%
Ba 233.527†	2506.3	0.0475	mg/L	0.00041	0.0475	mg/L	0.00041	0.86%
Be 234.861†	188.8	0.00039	mg/L	0.000060	0.00039	mg/L	0.000060	15.30%
B 249.677†	3635.5	0.106	mg/L	0.0012	0.106	mg/L	0.0012	1.11%
Ca 227.546†	7024.4	55.6	mg/L	1.08	55.6	mg/L	1.08	1.95%
Cd 228.802†	-6.1	-0.00023	mg/L	0.000141	-0.00023	mg/L	0.000141	62.46%
Co 228.616†	-5.4	-0.00072	mg/L	0.000658	-0.00072	mg/L	0.000658	92.05%
Cr 267.716†	45.3	0.00003	mg/L	0.000179	0.00003	mg/L	0.000179	626.28%
Cu 327.393†	22.6	-0.00018	mg/L	0.000592	-0.00018	mg/L	0.000592	336.50%
Fe 239.562†	140.4	0.0719	mg/L	0.00388	0.0719	mg/L	0.00388	5.39%
Mg 279.077†	17353.4	20.0	mg/L	0.43	20.0	mg/L	0.43	2.16%
Mn 257.610†	6138.1	0.0161	mg/L	0.00013	0.0161	mg/L	0.00013	0.79%
Mo 202.031†	72.7	0.00745	mg/L	0.000043	0.00745	mg/L	0.000043	0.58%
Ni 231.604†	16.9	-0.00010	mg/L	0.000521	-0.00010	mg/L	0.000521	526.87%
Pb 220.353†	18.0	0.00212	mg/L	0.001965	0.00212	mg/L	0.001965	92.69%
Sb 206.836†	-1.8	-0.00214	mg/L	0.000450	-0.00214	mg/L	0.000450	21.07%
Se 196.026†	-3.8	0.00416	mg/L	0.009004	0.00416	mg/L	0.009004	216.49%
Si 251.611†	41217.2	1.97	mg/L	0.006	1.97	mg/L	0.006	0.33%
Sn 189.927†	-191.4	-0.0524	mg/L	0.00146	-0.0524	mg/L	0.00146	2.79%
Ti 334.940†	-5248.3	-0.00031	mg/L	0.000270	-0.00031	mg/L	0.000270	85.66%
Tl 190.801†	-15.0	-0.0134	mg/L	0.00630	-0.0134	mg/L	0.00630	47.13%
V 290.880†	881.7	0.00280	mg/L	0.000156	0.00280	mg/L	0.000156	5.58%
Zn 206.200†	26.1	0.00008	mg/L	0.000640	0.00008	mg/L	0.000640	756.38%
K 766.490†	2541.8	2.19	mg/L	0.068	2.19	mg/L	0.068	3.08%
Na 589.592†	107467.9	12.4	mg/L	0.26	12.4	mg/L	0.26	2.13%
Sr 407.771†	534330.0	0.631	mg/L	0.0391	0.631	mg/L	0.0391	6.20%
Li 670.784†	130.2	0.00393	mg/L	0.000787	0.00393	mg/L	0.000787	20.03%
P 214.914†	33.0	0.0460	mg/L	0.00401	0.0460	mg/L	0.00401	8.71%

Sequence No.: 16 **Autosampler Location: 65**
Sample ID: L1310187304 **Date Collected: 11/5/2013 1:38:54 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310187304

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310187304

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2001341.3						30564.73	1.53%
YRADIAL	141055.1						1300.78	0.92%

Approved: November 06, 2013

Kim H. Rhoden

Ga 417.206	743006.2							11790.06	1.59%
GaRADIAL	41063.1							756.77	1.84%
Ag 328.068†	337.4	0.00099	mg/L	0.000302	0.00099	mg/L		0.000302	30.48%
Al 396.153†	25.4	0.0299	mg/L	0.00347	0.0299	mg/L		0.00347	11.61%
As 188.979†	-10.0	-0.00703	mg/L	0.002782	-0.00703	mg/L		0.002782	39.56%
Ba 233.527†	3232.2	0.0617	mg/L	0.00136	0.0617	mg/L		0.00136	2.20%
Be 234.861†	207.7	0.00043	mg/L	0.000062	0.00043	mg/L		0.000062	14.24%
B 249.677†	6477.9	0.183	mg/L	0.0055	0.183	mg/L		0.0055	2.98%
Ca 227.546†	7235.3	57.3	mg/L	1.89	57.3	mg/L		1.89	3.30%
Cd 228.802†	-5.7	-0.00020	mg/L	0.000008	-0.00020	mg/L		0.000008	4.17%
Co 228.616†	-7.8	-0.00089	mg/L	0.000180	-0.00089	mg/L		0.000180	20.24%
Cr 267.716†	46.9	0.00005	mg/L	0.000148	0.00005	mg/L		0.000148	290.26%
Cu 327.393†	105.3	0.00048	mg/L	0.000273	0.00048	mg/L		0.000273	57.19%
Fe 239.562†	144.5	0.0737	mg/L	0.00138	0.0737	mg/L		0.00138	1.87%
Mg 279.077†	17671.4	20.4	mg/L	0.43	20.4	mg/L		0.43	2.11%
Mn 257.610†	6175.3	0.0162	mg/L	0.00051	0.0162	mg/L		0.00051	3.18%
Mo 202.031†	74.5	0.00762	mg/L	0.000588	0.00762	mg/L		0.000588	7.72%
Ni 231.604†	14.6	-0.00020	mg/L	0.000204	-0.00020	mg/L		0.000204	103.68%
Pb 220.353†	18.5	0.00224	mg/L	0.002431	0.00224	mg/L		0.002431	108.27%
Sb 206.836†	-0.6	-0.00118	mg/L	0.001852	-0.00118	mg/L		0.001852	156.51%
Se 196.026†	-6.6	-0.00141	mg/L	0.006280	-0.00141	mg/L		0.006280	446.50%
Si 251.611†	42286.3	2.02	mg/L	0.069	2.02	mg/L		0.069	3.43%
Sn 189.927†	-195.9	-0.0536	mg/L	0.00165	-0.0536	mg/L		0.00165	3.08%
Ti 334.940†	-5188.0	0.00005	mg/L	0.001245	0.00005	mg/L		0.001245	>999.9%
Tl 190.801†	-14.6	-0.0131	mg/L	0.00641	-0.0131	mg/L		0.00641	49.10%
V 290.880†	723.7	0.00148	mg/L	0.001073	0.00148	mg/L		0.001073	72.31%
Zn 206.200†	27.5	0.00017	mg/L	0.000093	0.00017	mg/L		0.000093	55.55%
K 766.490†	2730.3	2.36	mg/L	0.051	2.36	mg/L		0.051	2.16%
Na 589.592†	142734.6	16.5	mg/L	0.23	16.5	mg/L		0.23	1.39%
Sr 407.771†	815644.9	0.965	mg/L	0.0466	0.965	mg/L		0.0466	4.83%
Li 670.784†	370.5	0.00814	mg/L	0.000387	0.00814	mg/L		0.000387	4.75%
P 214.914†	30.4	0.0416	mg/L	0.00429	0.0416	mg/L		0.00429	10.31%

Sequence No.: 17
Sample ID: L1311005401
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 66
Date Collected: 11/5/2013 1:41:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311005401

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005401

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1609285.4						10928.28	0.68%
YRADIAL	121382.3						2299.78	1.89%
Ga 417.206	655876.0						4667.05	0.71%
GaRADIAL	38015.0						178.02	0.47%
Ag 328.068†	1188.2	0.00423	mg/L	0.000608	0.00423	mg/L	0.000608	14.37%
Al 396.153†	-44.6	0.00072	mg/L	0.003984	0.00072	mg/L	0.003984	555.07%
As 188.979†	13.3	0.0235	mg/L	0.00592	0.0235	mg/L	0.00592	25.16%
Ba 233.527†	655.0	0.0113	mg/L	0.00045	0.0113	mg/L	0.00045	3.96%
Be 234.861†	225.9	0.00059	mg/L	0.000021	0.00059	mg/L	0.000021	3.59%
B 249.677†	28903.5	0.793	mg/L	0.0024	0.793	mg/L	0.0024	0.31%
Ca 227.546†	47529.2	376	mg/L	0.7	376	mg/L	0.7	0.18%
Cd 228.802†	-6.2	-0.00034	mg/L	0.000157	-0.00034	mg/L	0.000157	45.63%
Co 228.616†	14.1	0.00082	mg/L	0.000103	0.00082	mg/L	0.000103	12.54%
Cr 267.716†	460.4	0.00647	mg/L	0.000651	0.00647	mg/L	0.000651	10.07%
Cu 327.393†	-24.8	-0.00099	mg/L	0.000275	-0.00099	mg/L	0.000275	27.79%
Fe 239.562†	1359.0	0.564	mg/L	0.0071	0.564	mg/L	0.0071	1.25%
Mg 279.077†	1552709.3	1790	mg/L	32.9	1790	mg/L	32.9	1.84%
Mn 257.610†	908222.0	2.42	mg/L	0.009	2.42	mg/L	0.009	0.38%
Mo 202.031†	102.5	0.0107	mg/L	0.00130	0.0107	mg/L	0.00130	12.15%
Ni 231.604†	370.1	0.0155	mg/L	0.00058	0.0155	mg/L	0.00058	3.73%
Pb 220.353†	19.0	0.00093	mg/L	0.004736	0.00093	mg/L	0.004736	508.11%
Sb 206.836†	-0.5	-0.00110	mg/L	0.002893	-0.00110	mg/L	0.002893	262.14%
Se 196.026†	842.5	1.68	mg/L	0.026	1.68	mg/L	0.026	1.55%

Approved: November 06, 2013

Si 251.611†	106433.8	5.11 mg/L	0.011	5.11 mg/L	0.011	0.22%
Sn 189.927†	-363.2	-0.0993 mg/L	0.00043	-0.0993 mg/L	0.00043	0.44%
Ti 334.940†	-35859.5	-0.00836 mg/L	0.000514	-0.00836 mg/L	0.000514	6.15%
Tl 190.801†	-42.8	-0.0413 mg/L	0.00381	-0.0413 mg/L	0.00381	9.24%
V 290.880†	3093.8	-0.0250 mg/L	0.00241	-0.0250 mg/L	0.00241	9.63%
Zn 206.200†	32.8	0.00056 mg/L	0.000283	0.00056 mg/L	0.000283	50.35%
K 766.490†	48488.2	42.2 mg/L	0.86	42.2 mg/L	0.86	2.03%
Na 589.592†	Saturated2					
Sr 407.771†	8693711.9	10.3 mg/L	0.55	10.3 mg/L	0.55	5.35%
Li 670.784†	110833.5	1.94 mg/L	0.017	1.94 mg/L	0.017	0.90%
P 214.914†	70.0	0.109 mg/L	0.0112	0.109 mg/L	0.0112	10.29%

Sequence No.: 18 **Autosampler Location: 67**
Sample ID: L1311005402 **Date Collected: 11/5/2013 1:45:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005402

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311005402

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1697126.1						27442.24	1.62%
YRADIAL	121863.8						3432.41	2.82%
Ga 417.206	686188.9						14103.96	2.06%
GaRADIAL	38247.3						118.89	0.31%
Ag 328.068†	1320.1	0.00503	mg/L	0.000091	0.00503	mg/L	0.000091	1.82%
Al 396.153†	-42.8	0.00146	mg/L	0.004646	0.00146	mg/L	0.004646	318.05%
As 188.979†	11.2	0.0221	mg/L	0.00362	0.0221	mg/L	0.00362	16.35%
Ba 233.527†	809.9	0.0144	mg/L	0.00022	0.0144	mg/L	0.00022	1.55%
Be 234.861†	233.2	0.00055	mg/L	0.000040	0.00055	mg/L	0.000040	7.13%
B 249.677†	23478.9	0.646	mg/L	0.0039	0.646	mg/L	0.0039	0.60%
Ca 227.546†	52123.1	413	mg/L	1.6	413	mg/L	1.6	0.40%
Cd 228.802†	-6.3	-0.00034	mg/L	0.000313	-0.00034	mg/L	0.000313	91.56%
Co 228.616†	12.2	0.00071	mg/L	0.000397	0.00071	mg/L	0.000397	55.73%
Cr 267.716†	412.3	0.00576	mg/L	0.000626	0.00576	mg/L	0.000626	10.86%
Cu 327.393†	138.2	0.00033	mg/L	0.001364	0.00033	mg/L	0.001364	407.89%
Fe 239.562†	12.4	-0.0129	mg/L	0.00546	-0.0129	mg/L	0.00546	42.40%
Mg 279.077†	1292339.3	1490	mg/L	10.1	1490	mg/L	10.1	0.68%
Mn 257.610†	178135.3	0.475	mg/L	0.0006	0.475	mg/L	0.0006	0.13%
Mo 202.031†	91.9	0.00930	mg/L	0.001335	0.00930	mg/L	0.001335	14.36%
Ni 231.604†	354.9	0.0148	mg/L	0.00114	0.0148	mg/L	0.00114	7.72%
Pb 220.353†	16.4	0.00142	mg/L	0.003703	0.00142	mg/L	0.003703	260.57%
Sb 206.836†	-5.2	-0.00494	mg/L	0.001210	-0.00494	mg/L	0.001210	24.50%
Se 196.026†	731.2	1.46	mg/L	0.028	1.46	mg/L	0.028	1.94%
Si 251.611†	100938.9	4.84	mg/L	0.016	4.84	mg/L	0.016	0.33%
Sn 189.927†	-344.5	-0.0942	mg/L	0.00269	-0.0942	mg/L	0.00269	2.86%
Ti 334.940†	-38917.8	-0.00851	mg/L	0.001230	-0.00851	mg/L	0.001230	14.45%
Tl 190.801†	-25.9	-0.0243	mg/L	0.00454	-0.0243	mg/L	0.00454	18.69%
V 290.880†	2738.2	-0.0201	mg/L	0.00151	-0.0201	mg/L	0.00151	7.51%
Zn 206.200†	49.6	0.00157	mg/L	0.000378	0.00157	mg/L	0.000378	24.07%
K 766.490†	45931.9	40.0	mg/L	0.30	40.0	mg/L	0.30	0.75%
Na 589.592†	Saturated2							
Sr 407.771†	8599578.1	10.2	mg/L	0.41	10.2	mg/L	0.41	4.05%
Li 670.784†	88133.2	1.54	mg/L	0.016	1.54	mg/L	0.016	1.01%
P 214.914†	72.0	0.113	mg/L	0.0085	0.113	mg/L	0.0085	7.58%

Sequence No.: 19 **Autosampler Location: 68**
Sample ID: L1311005403 **Date Collected: 11/5/2013 1:48:06 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005403

Approved: November 06, 2013

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Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311005403

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1660620.2						17766.03	1.07%
YRADIAL	124552.7						4574.71	3.67%
Ga 417.206	669810.2						8846.11	1.32%
GaRADIAL	38691.5						980.97	2.54%
Ag 328.068†	1328.8	0.00531	mg/L	0.000740	0.00531	mg/L	0.000740	13.93%
Al 396.153†	-28.8	0.00717	mg/L	0.001535	0.00717	mg/L	0.001535	21.41%
As 188.979†	3.8	0.0139	mg/L	0.00791	0.0139	mg/L	0.00791	56.77%
Ba 233.527†	1770.4	0.0331	mg/L	0.00023	0.0331	mg/L	0.00023	0.70%
Be 234.861†	173.4	0.00057	mg/L	0.000047	0.00057	mg/L	0.000047	8.24%
B 249.677†	27824.9	0.764	mg/L	0.0057	0.764	mg/L	0.0057	0.75%
Ca 227.546†	48323.3	383	mg/L	3.0	383	mg/L	3.0	0.78%
Cd 228.802†	-0.9	0.00003	mg/L	0.000268	0.00003	mg/L	0.000268	939.38%
Co 228.616†	61.3	0.00425	mg/L	0.000445	0.00425	mg/L	0.000445	10.48%
Cr 267.716†	395.5	0.00550	mg/L	0.000401	0.00550	mg/L	0.000401	7.29%
Cu 327.393†	28.9	-0.00044	mg/L	0.000394	-0.00044	mg/L	0.000394	89.24%
Fe 239.562†	14.2	-0.00064	mg/L	0.001834	-0.00064	mg/L	0.001834	285.54%
Mg 279.077†	794415.0	916	mg/L	14.8	916	mg/L	14.8	1.61%
Mn 257.610†	785559.7	2.09	mg/L	0.017	2.09	mg/L	0.017	0.80%
Mo 202.031†	107.8	0.0111	mg/L	0.00114	0.0111	mg/L	0.00114	10.29%
Ni 231.604†	421.3	0.0177	mg/L	0.00071	0.0177	mg/L	0.00071	4.01%
Pb 220.353†	17.4	0.00073	mg/L	0.001237	0.00073	mg/L	0.001237	169.53%
Sb 206.836†	-2.6	-0.00279	mg/L	0.004470	-0.00279	mg/L	0.004470	160.04%
Se 196.026†	441.6	0.887	mg/L	0.0165	0.887	mg/L	0.0165	1.86%
Si 251.611†	99132.2	4.76	mg/L	0.019	4.76	mg/L	0.019	0.41%
Sn 189.927†	-348.4	-0.0953	mg/L	0.00119	-0.0953	mg/L	0.00119	1.25%
Ti 334.940†	-35841.5	-0.00738	mg/L	0.001085	-0.00738	mg/L	0.001085	14.70%
Tl 190.801†	-31.6	-0.0309	mg/L	0.00652	-0.0309	mg/L	0.00652	21.09%
V 290.880†	3089.9	-0.00227	mg/L	0.001163	-0.00227	mg/L	0.001163	51.33%
Zn 206.200†	96.8	0.00445	mg/L	0.000756	0.00445	mg/L	0.000756	16.97%
K 766.490†	38556.8	33.6	mg/L	0.41	33.6	mg/L	0.41	1.22%
Na 589.592†	Saturated2							
Sr 407.771†	6774950.8	8.04	mg/L	0.507	8.04	mg/L	0.507	6.31%
Li 670.784†	73025.4	1.28	mg/L	0.003	1.28	mg/L	0.003	0.24%
P 214.914†	66.9	0.104	mg/L	0.0215	0.104	mg/L	0.0215	20.68%

Sequence No.: 20 **Autosampler Location: 69**
Sample ID: L1311005404 **Date Collected: 11/5/2013 1:51:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005404

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005404

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1760981.2						37860.47	2.15%
YRADIAL	127236.7						5199.55	4.09%
Ga 417.206	695101.1						18505.53	2.66%
GaRADIAL	39383.0						768.92	1.95%
Ag 328.068†	1328.1	0.00604	mg/L	0.001137	0.00604	mg/L	0.001137	18.82%
Al 396.153†	-32.0	0.00600	mg/L	0.002577	0.00600	mg/L	0.002577	42.94%
As 188.979†	-8.5	0.00084	mg/L	0.001670	0.00084	mg/L	0.001670	199.66%
Ba 233.527†	1642.0	0.0306	mg/L	0.00077	0.0306	mg/L	0.00077	2.51%
Be 234.861†	178.2	0.00046	mg/L	0.000088	0.00046	mg/L	0.000088	19.20%
B 249.677†	23087.1	0.635	mg/L	0.0175	0.635	mg/L	0.0175	2.76%
Ca 227.546†	43799.3	347	mg/L	12.1	347	mg/L	12.1	3.49%
Cd 228.802†	-9.9	-0.00045	mg/L	0.000155	-0.00045	mg/L	0.000155	34.44%
Co 228.616†	23.7	0.00151	mg/L	0.000709	0.00151	mg/L	0.000709	46.94%
Cr 267.716†	226.5	0.00287	mg/L	0.000408	0.00287	mg/L	0.000408	14.22%

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Cu 327.393†	-271.9	-0.00266	mg/L	0.000557	-0.00266	mg/L	0.000557	20.94%
Fe 239.562†	9.0	0.00955	mg/L	0.001876	0.00955	mg/L	0.001876	19.66%
Mg 279.077†	253988.2	293	mg/L	2.8	293	mg/L	2.8	0.97%
Mn 257.610†	302909.3	0.807	mg/L	0.0214	0.807	mg/L	0.0214	2.65%
Mo 202.031†	84.7	0.00871	mg/L	0.001004	0.00871	mg/L	0.001004	11.52%
Ni 231.604†	216.0	0.00868	mg/L	0.000393	0.00868	mg/L	0.000393	4.53%
Pb 220.353†	20.2	0.00221	mg/L	0.001735	0.00221	mg/L	0.001735	78.33%
Sb 206.836†	-0.6	-0.00121	mg/L	0.002867	-0.00121	mg/L	0.002867	237.10%
Se 196.026†	-0.6	0.0102	mg/L	0.00936	0.0102	mg/L	0.00936	91.63%
Si 251.611†	127035.2	6.10	mg/L	0.199	6.10	mg/L	0.199	3.26%
Sn 189.927†	-326.7	-0.0893	mg/L	0.00451	-0.0893	mg/L	0.00451	5.05%
Ti 334.940†	-32446.9	-0.00653	mg/L	0.000738	-0.00653	mg/L	0.000738	11.30%
Tl 190.801†	-27.3	-0.0258	mg/L	0.00316	-0.0258	mg/L	0.00316	12.26%
V 290.880†	2892.3	0.0123	mg/L	0.00277	0.0123	mg/L	0.00277	22.48%
Zn 206.200†	181.7	0.00963	mg/L	0.000687	0.00963	mg/L	0.000687	7.13%
K 766.490†	25595.6	21.6	mg/L	0.47	21.6	mg/L	0.47	2.16%
Na 589.592†	5903799.4	822	mg/L	24.3	822	mg/L	24.3	2.96%
Sr 407.771†	4361900.7	5.17	mg/L	0.187	5.17	mg/L	0.187	3.62%
Li 670.784†	39989.0	0.702	mg/L	0.0053	0.702	mg/L	0.0053	0.75%
P 214.914†	303.4	0.507	mg/L	0.0186	0.507	mg/L	0.0186	3.67%

Sequence No.: 21 **Autosampler Location: 70**
Sample ID: L1311005405 **Date Collected: 11/5/2013 1:54:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005405

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005405

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1832620.8						12206.21	0.67%
YRADIAL	132744.7						4171.19	3.14%
Ga 417.206	710572.7						4297.49	0.60%
GaRADIAL	39674.4						631.43	1.59%
Ag 328.068†	806.7	0.00337	mg/L	0.000479	0.00337	mg/L	0.000479	14.24%
Al 396.153†	11.7	0.0241	mg/L	0.00212	0.0241	mg/L	0.00212	8.78%
As 188.979†	-9.0	-0.00294	mg/L	0.004980	-0.00294	mg/L	0.004980	169.17%
Ba 233.527†	1209.1	0.0222	mg/L	0.00034	0.0222	mg/L	0.00034	1.52%
Be 234.861†	178.6	0.00048	mg/L	0.000057	0.00048	mg/L	0.000057	11.86%
B 249.677†	17745.7	0.490	mg/L	0.0031	0.490	mg/L	0.0031	0.62%
Ca 227.546†	25020.2	198	mg/L	1.9	198	mg/L	1.9	0.98%
Cd 228.802†	-7.5	-0.00031	mg/L	0.000113	-0.00031	mg/L	0.000113	36.58%
Co 228.616†	15.6	0.00087	mg/L	0.000221	0.00087	mg/L	0.000221	25.50%
Cr 267.716†	169.6	0.00198	mg/L	0.000212	0.00198	mg/L	0.000212	10.71%
Cu 327.393†	-168.6	-0.00174	mg/L	0.000560	-0.00174	mg/L	0.000560	32.15%
Fe 239.562†	46.8	0.0288	mg/L	0.00254	0.0288	mg/L	0.00254	8.80%
Mg 279.077†	129133.9	149	mg/L	1.6	149	mg/L	1.6	1.07%
Mn 257.610†	396116.1	1.06	mg/L	0.003	1.06	mg/L	0.003	0.26%
Mo 202.031†	87.5	0.00902	mg/L	0.000060	0.00902	mg/L	0.000060	0.66%
Ni 231.604†	147.8	0.00568	mg/L	0.000356	0.00568	mg/L	0.000356	6.27%
Pb 220.353†	23.9	0.00303	mg/L	0.000892	0.00303	mg/L	0.000892	29.47%
Sb 206.836†	-4.8	-0.00459	mg/L	0.004284	-0.00459	mg/L	0.004284	93.25%
Se 196.026†	-0.6	0.0101	mg/L	0.00875	0.0101	mg/L	0.00875	86.32%
Si 251.611†	122055.0	5.86	mg/L	0.055	5.86	mg/L	0.055	0.94%
Sn 189.927†	-283.5	-0.0776	mg/L	0.00122	-0.0776	mg/L	0.00122	1.57%
Ti 334.940†	-18263.5	-0.00282	mg/L	0.000390	-0.00282	mg/L	0.000390	13.84%
Tl 190.801†	-31.4	-0.0294	mg/L	0.00502	-0.0294	mg/L	0.00502	17.11%
V 290.880†	2373.2	0.0118	mg/L	0.00135	0.0118	mg/L	0.00135	11.46%
Zn 206.200†	879.9	0.0523	mg/L	0.00094	0.0523	mg/L	0.00094	1.80%
K 766.490†	5128.8	3.76	mg/L	0.179	3.76	mg/L	0.179	4.76%
Na 589.592†	5376360.2	731	mg/L	21.2	731	mg/L	21.2	2.90%
Sr 407.771†	2222723.3	2.63	mg/L	0.106	2.63	mg/L	0.106	4.01%
Li 670.784†	14049.8	0.248	mg/L	0.0021	0.248	mg/L	0.0021	0.83%
P 214.914†	55.5	0.0844	mg/L	0.01393	0.0844	mg/L	0.01393	16.51%

Approved: November 06, 2013

Sequence No.: 22 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 1:57:27 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1988254.2						13106.66	0.66%
YRADIAL	139462.2						2852.07	2.05%
Ga 417.206	710508.7						7752.90	1.09%
GaRADIAL	39934.5						459.80	1.15%
Ag 328.068†	66738.8	0.406	mg/L	0.0038	0.406	mg/L	0.0038	0.93%
QC value within limits for Ag 328.068 Recovery = 101.56%								
Al 396.153†	24356.3	10.1	mg/L	0.08	10.1	mg/L	0.08	0.80%
QC value within limits for Al 396.153 Recovery = 100.62%								
As 188.979†	392.4	0.392	mg/L	0.0026	0.392	mg/L	0.0026	0.65%
QC value within limits for As 188.979 Recovery = 97.88%								
Ba 233.527†	53626.5	1.05	mg/L	0.016	1.05	mg/L	0.016	1.53%
QC value within limits for Ba 233.527 Recovery = 104.69%								
Be 234.861†	21173.1	0.0499	mg/L	0.00042	0.0499	mg/L	0.00042	0.85%
QC value within limits for Be 234.861 Recovery = 99.71%								
B 249.677†	18841.1	0.516	mg/L	0.0024	0.516	mg/L	0.0024	0.46%
QC value within limits for B 249.677 Recovery = 103.14%								
Ca 227.546†	1231.6	10.2	mg/L	0.19	10.2	mg/L	0.19	1.86%
QC value within limits for Ca 227.546 Recovery = 102.46%								
Cd 228.802†	822.8	0.0469	mg/L	0.00157	0.0469	mg/L	0.00157	3.36%
QC value within limits for Cd 228.802 Recovery = 93.72%								
Co 228.616†	2823.9	0.203	mg/L	0.0027	0.203	mg/L	0.0027	1.33%
QC value within limits for Co 228.616 Recovery = 101.60%								
Cr 267.716†	33295.5	0.519	mg/L	0.0059	0.519	mg/L	0.0059	1.13%
QC value within limits for Cr 267.716 Recovery = 103.81%								
Cu 327.393†	63457.9	0.502	mg/L	0.0044	0.502	mg/L	0.0044	0.88%
QC value within limits for Cu 327.393 Recovery = 100.49%								
Fe 239.562†	9403.2	4.08	mg/L	0.010	4.08	mg/L	0.010	0.25%
QC value within limits for Fe 239.562 Recovery = 102.10%								
Mg 279.077†	9027.8	10.4	mg/L	0.17	10.4	mg/L	0.17	1.67%
QC value within limits for Mg 279.077 Recovery = 104.42%								
Mn 257.610†	192832.0	0.514	mg/L	0.0064	0.514	mg/L	0.0064	1.24%
QC value within limits for Mn 257.610 Recovery = 102.89%								
Mo 202.031†	11216.5	1.02	mg/L	0.017	1.02	mg/L	0.017	1.67%
QC value within limits for Mo 202.031 Recovery = 102.27%								
Ni 231.604†	11898.5	0.523	mg/L	0.0077	0.523	mg/L	0.0077	1.47%
QC value within limits for Ni 231.604 Recovery = 104.64%								
Pb 220.353†	1983.7	0.514	mg/L	0.0061	0.514	mg/L	0.0061	1.19%
QC value within limits for Pb 220.353 Recovery = 102.82%								
Sb 206.836†	1428.8	1.17	mg/L	0.027	1.17	mg/L	0.027	2.31%
QC value within limits for Sb 206.836 Recovery = 97.20%								
Se 196.026†	189.6	0.389	mg/L	0.0142	0.389	mg/L	0.0142	3.65%
QC value within limits for Se 196.026 Recovery = 97.37%								
Si 251.611†	106839.5	5.12	mg/L	0.048	5.12	mg/L	0.048	0.93%
QC value within limits for Si 251.611 Recovery = 102.34%								
Sn 189.927†	3789.9	1.03	mg/L	0.010	1.03	mg/L	0.010	0.94%
QC value within limits for Sn 189.927 Recovery = 103.41%								
Ti 334.940†	545606.0	1.00	mg/L	0.011	1.00	mg/L	0.011	1.10%
QC value within limits for Ti 334.940 Recovery = 100.33%								
Tl 190.801†	566.9	0.521	mg/L	0.0060	0.521	mg/L	0.0060	1.14%
QC value within limits for Tl 190.801 Recovery = 104.20%								
V 290.880†	128253.1	1.05	mg/L	0.023	1.05	mg/L	0.023	2.21%
QC value within limits for V 290.880 Recovery = 105.34%								
Zn 206.200†	17313.9	1.06	mg/L	0.019	1.06	mg/L	0.019	1.79%
QC value within limits for Zn 206.200 Recovery = 106.29%								
K 766.490†	60597.3	52.4	mg/L	0.29	52.4	mg/L	0.29	0.55%
QC value within limits for K 766.490 Recovery = 104.82%								

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Na 589.592†	436898.3	50.8 mg/L	0.53	50.8 mg/L	0.53	1.04%
QC value within limits for Na 589.592 Recovery = 101.53%						
Sr 407.771†	871969.2	1.03 mg/L	0.004	1.03 mg/L	0.004	0.41%
QC value within limits for Sr 407.771 Recovery = 103.36%						
Li 670.784†	57752.3	1.01 mg/L	0.011	1.01 mg/L	0.011	1.11%
QC value within limits for Li 670.784 Recovery = 101.28%						
P 214.914†	5974.9	10.2 mg/L	0.10	10.2 mg/L	0.10	1.02%
QC value within limits for P 214.914 Recovery = 101.76%						

All analyte(s) passed QC.

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Sequence No.: 23 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/5/2013 1:59:32 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1930749.2						34120.35	1.77%
YRADIAL	128871.6						1322.28	1.03%
Ga 417.206	668874.0						12976.18	1.94%
GaRADIAL	37137.1						737.85	1.99%
Ag 328.068†	109.4	-0.00022	mg/L	0.000535	-0.00022	mg/L	0.000535	239.92%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	4.4	0.0216	mg/L	0.00784	0.0216	mg/L	0.00784	36.28%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-2.6	-0.00086	mg/L	0.003075	-0.00086	mg/L	0.003075	358.36%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-17.4	-0.00181	mg/L	0.000086	-0.00181	mg/L	0.000086	4.74%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	70.7	0.00012	mg/L	0.000032	0.00012	mg/L	0.000032	26.91%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	487.8	0.0200	mg/L	0.00206	0.0200	mg/L	0.00206	10.30%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	18.8	0.161	mg/L	0.0350	0.161	mg/L	0.0350	21.68%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-4.5	-0.00017	mg/L	0.000099	-0.00017	mg/L	0.000099	59.06%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-6.7	-0.00082	mg/L	0.000344	-0.00082	mg/L	0.000344	41.83%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-4.4	-0.00074	mg/L	0.000073	-0.00074	mg/L	0.000073	9.87%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-11.9	-0.00044	mg/L	0.000673	-0.00044	mg/L	0.000673	152.00%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	6.5	0.0143	mg/L	0.00356	0.0143	mg/L	0.00356	24.89%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	109.5	0.146	mg/L	0.0599	0.146	mg/L	0.0599	41.15%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	80.9	-0.00009	mg/L	0.000133	-0.00009	mg/L	0.000133	143.38%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	5.8	0.00135	mg/L	0.000482	0.00135	mg/L	0.000482	35.57%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	1.2	-0.00080	mg/L	0.000212	-0.00080	mg/L	0.000212	26.63%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	6.7	-0.00081	mg/L	0.003046	-0.00081	mg/L	0.003046	377.23%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.8	0.00244	mg/L	0.002395	0.00244	mg/L	0.002395	98.03%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-3.6	0.00461	mg/L	0.000796	0.00461	mg/L	0.000796	17.27%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	68.4	-0.00634	mg/L	0.002141	-0.00634	mg/L	0.002141	33.79%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	1.6	0.00026	mg/L	0.001080	0.00026	mg/L	0.001080	417.40%
QC value within limits for Sn 189.927 Recovery = Not calculated								

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Ti 334.940†	140.7	0.00125	mg/L	0.000313	0.00125	mg/L	0.000313	25.03%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	0.9	0.00092	mg/L	0.000927	0.00092	mg/L	0.000927	100.56%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	499.7	0.00017	mg/L	0.000932	0.00017	mg/L	0.000932	545.99%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	1.9	-0.00141	mg/L	0.000114	-0.00141	mg/L	0.000114	8.11%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	26.5	-0.0206	mg/L	0.04159	-0.0206	mg/L	0.04159	201.45%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	3053.7	0.336	mg/L	0.1970	0.336	mg/L	0.1970	58.56%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	596.9	-0.00228	mg/L	0.000812	-0.00228	mg/L	0.000812	35.58%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	13.4	0.00189	mg/L	0.000553	0.00189	mg/L	0.000553	29.29%
QC value within limits for Li 670.784 Recovery = Not calculated								
P 214.914†	29.5	0.0401	mg/L	0.01207	0.0401	mg/L	0.01207	30.09%
QC value within limits for P 214.914 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 24 **Autosampler Location: 71**
Sample ID: L1311005406 **Date Collected: 11/5/2013 2:02:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005406

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005406

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1669187.6						13781.89	0.83%
YRADIAL	123809.1						4003.75	3.23%
Ga 417.206	667271.8						9467.45	1.42%
GaRADIAL	38814.7						703.03	1.81%
Ag 328.068†	1085.7	0.00462	mg/L	0.000351	0.00462	mg/L	0.000351	7.59%
Al 396.153†	-37.2	0.00374	mg/L	0.002745	0.00374	mg/L	0.002745	73.48%
As 188.979†	-0.6	0.00786	mg/L	0.003913	0.00786	mg/L	0.003913	49.79%
Ba 233.527†	495.5	0.00821	mg/L	0.000275	0.00821	mg/L	0.000275	3.35%
Be 234.861†	160.7	0.00040	mg/L	0.000044	0.00040	mg/L	0.000044	11.08%
B 249.677†	14962.0	0.414	mg/L	0.0026	0.414	mg/L	0.0026	0.62%
Ca 227.546†	38794.9	307	mg/L	4.1	307	mg/L	4.1	1.33%
Cd 228.802†	-7.4	-0.00035	mg/L	0.000242	-0.00035	mg/L	0.000242	69.90%
Co 228.616†	6.0	0.00023	mg/L	0.000622	0.00023	mg/L	0.000622	271.10%
Cr 267.716†	338.5	0.00462	mg/L	0.000093	0.00462	mg/L	0.000093	2.02%
Cu 327.393†	-40.6	-0.00090	mg/L	0.000803	-0.00090	mg/L	0.000803	89.00%
Fe 239.562†	1.1	0.00119	mg/L	0.002646	0.00119	mg/L	0.002646	222.74%
Mg 279.077†	468780.5	540	mg/L	3.8	540	mg/L	3.8	0.70%
Mn 257.610†	229746.5	0.612	mg/L	0.0019	0.612	mg/L	0.0019	0.31%
Mo 202.031†	103.4	0.0104	mg/L	0.00033	0.0104	mg/L	0.00033	3.13%
Ni 231.604†	142.9	0.00546	mg/L	0.000662	0.00546	mg/L	0.000662	12.12%
Pb 220.353†	21.1	0.00257	mg/L	0.001831	0.00257	mg/L	0.001831	71.23%
Sb 206.836†	-2.5	-0.00278	mg/L	0.003908	-0.00278	mg/L	0.003908	140.46%
Se 196.026†	166.1	0.341	mg/L	0.0055	0.341	mg/L	0.0055	1.61%
Si 251.611†	116547.6	5.60	mg/L	0.054	5.60	mg/L	0.054	0.97%
Sn 189.927†	-318.6	-0.0871	mg/L	0.00750	-0.0871	mg/L	0.00750	8.60%
Ti 334.940†	-29145.7	-0.00642	mg/L	0.001148	-0.00642	mg/L	0.001148	17.88%
Tl 190.801†	-37.7	-0.0348	mg/L	0.00667	-0.0348	mg/L	0.00667	19.17%
V 290.880†	3343.2	0.00959	mg/L	0.000985	0.00959	mg/L	0.000985	10.28%
Zn 206.200†	49.6	0.00156	mg/L	0.000807	0.00156	mg/L	0.000807	51.79%
K 766.490†	21581.6	18.9	mg/L	0.26	18.9	mg/L	0.26	1.38%
Na 589.592†	Saturated2							
Sr 407.771†	4316817.0	5.12	mg/L	0.208	5.12	mg/L	0.208	4.07%
Li 670.784†	60640.5	1.06	mg/L	0.002	1.06	mg/L	0.002	0.19%
P 214.914†	66.2	0.103	mg/L	0.0087	0.103	mg/L	0.0087	8.45%

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Sequence No.: 25
Sample ID: L1311005407
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 72
Date Collected: 11/5/2013 2:05:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311005407

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005407

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1618538.5						21765.84	1.34%
YRADIAL	120643.4						3174.94	2.63%
Ga 417.206	661390.0						9556.92	1.44%
GaRADIAL	37721.1						191.21	0.51%
Ag 328.068†	1181.8	0.00451	mg/L	0.000774	0.00451	mg/L	0.000774	17.17%
Al 396.153†	-19.8	0.0110	mg/L	0.00257	0.0110	mg/L	0.00257	23.26%
As 188.979†	4.2	0.0131	mg/L	0.00232	0.0131	mg/L	0.00232	17.63%
Ba 233.527†	372.8	0.00581	mg/L	0.000124	0.00581	mg/L	0.000124	2.13%
Be 234.861†	192.5	0.00049	mg/L	0.000022	0.00049	mg/L	0.000022	4.54%
B 249.677†	49122.8	1.34	mg/L	0.009	1.34	mg/L	0.009	0.65%
Ca 227.546†	41040.1	325	mg/L	1.4	325	mg/L	1.4	0.42%
Cd 228.802†	-7.7	-0.00039	mg/L	0.000039	-0.00039	mg/L	0.000039	10.04%
Co 228.616†	7.1	0.00032	mg/L	0.000391	0.00032	mg/L	0.000391	123.37%
Cr 267.716†	357.6	0.00492	mg/L	0.000280	0.00492	mg/L	0.000280	5.69%
Cu 327.393†	-318.4	-0.00312	mg/L	0.000579	-0.00312	mg/L	0.000579	18.57%
Fe 239.562†	8.4	0.00054	mg/L	0.004015	0.00054	mg/L	0.004015	748.37%
Mg 279.077†	635079.3	732	mg/L	9.6	732	mg/L	9.6	1.31%
Mn 257.610†	309111.8	0.824	mg/L	0.0047	0.824	mg/L	0.0047	0.57%
Mo 202.031†	92.8	0.00946	mg/L	0.001080	0.00946	mg/L	0.001080	11.42%
Ni 231.604†	121.8	0.00453	mg/L	0.000388	0.00453	mg/L	0.000388	8.56%
Pb 220.353†	25.4	0.00355	mg/L	0.001312	0.00355	mg/L	0.001312	36.95%
Sb 206.836†	1.8	0.00077	mg/L	0.003363	0.00077	mg/L	0.003363	434.39%
Se 196.026†	-1.8	0.00775	mg/L	0.001986	0.00775	mg/L	0.001986	25.63%
Si 251.611†	71172.6	3.41	mg/L	0.020	3.41	mg/L	0.020	0.58%
Sn 189.927†	-348.5	-0.0953	mg/L	0.00204	-0.0953	mg/L	0.00204	2.15%
Ti 334.940†	-31241.0	-0.00760	mg/L	0.000837	-0.00760	mg/L	0.000837	11.02%
Tl 190.801†	-38.2	-0.0354	mg/L	0.00063	-0.0354	mg/L	0.00063	1.79%
V 290.880†	3442.2	0.00542	mg/L	0.003404	0.00542	mg/L	0.003404	62.81%
Zn 206.200†	98.1	0.00453	mg/L	0.000235	0.00453	mg/L	0.000235	5.19%
K 766.490†	23226.2	20.4	mg/L	0.35	20.4	mg/L	0.35	1.72%
Na 589.592†	Saturated2							
Sr 407.771†	7119287.4	8.45	mg/L	0.355	8.45	mg/L	0.355	4.21%
Li 670.784†	76378.1	1.34	mg/L	0.005	1.34	mg/L	0.005	0.38%
P 214.914†	65.3	0.101	mg/L	0.0252	0.101	mg/L	0.0252	24.93%

Sequence No.: 26
Sample ID: L1311005408
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 73
Date Collected: 11/5/2013 2:08:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311005408

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005408

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1951447.7						29992.41	1.54%
YRADIAL	135932.2						3682.31	2.71%
Ga 417.206	744522.9						7078.77	0.95%
GaRADIAL	40972.9						222.51	0.54%
Ag 328.068†	226.8	0.00036	mg/L	0.000226	0.00036	mg/L	0.000226	61.98%
Al 396.153†	47.8	0.0361	mg/L	0.00218	0.0361	mg/L	0.00218	6.02%

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As 188.979†	-2.0	0.00036	mg/L	0.004475	0.00036	mg/L	0.004475	>999.9%
Ba 233.527†	2564.6	0.0487	mg/L	0.00061	0.0487	mg/L	0.00061	1.26%
Be 234.861†	213.7	0.00048	mg/L	0.000035	0.00048	mg/L	0.000035	7.26%
B 249.677†	11660.9	0.324	mg/L	0.0022	0.324	mg/L	0.0022	0.67%
Ca 227.546†	5041.9	39.9	mg/L	0.38	39.9	mg/L	0.38	0.96%
Cd 228.802†	-11.2	-0.00056	mg/L	0.000165	-0.00056	mg/L	0.000165	29.27%
Co 228.616†	-6.3	-0.00071	mg/L	0.000076	-0.00071	mg/L	0.000076	10.71%
Cr 267.716†	30.1	-0.00021	mg/L	0.000195	-0.00021	mg/L	0.000195	93.94%
Cu 327.393†	-56.9	-0.00080	mg/L	0.000822	-0.00080	mg/L	0.000822	103.03%
Fe 239.562†	33.5	0.0258	mg/L	0.00200	0.0258	mg/L	0.00200	7.75%
Mg 279.077†	10297.0	11.9	mg/L	2.17	11.9	mg/L	2.17	18.27%
Mn 257.610†	19478.6	0.0516	mg/L	0.00061	0.0516	mg/L	0.00061	1.18%
Mo 202.031†	561.5	0.0520	mg/L	0.00103	0.0520	mg/L	0.00103	1.99%
Ni 231.604†	86.3	0.00296	mg/L	0.000591	0.00296	mg/L	0.000591	19.97%
Pb 220.353†	11.1	0.00034	mg/L	0.002914	0.00034	mg/L	0.002914	862.36%
Sb 206.836†	-0.5	-0.00104	mg/L	0.003467	-0.00104	mg/L	0.003467	333.74%
Se 196.026†	-5.9	-0.00013	mg/L	0.003225	-0.00013	mg/L	0.003225	>999.9%
Si 251.611†	142220.0	6.83	mg/L	0.051	6.83	mg/L	0.051	0.74%
Sn 189.927†	-164.8	-0.0452	mg/L	0.00191	-0.0452	mg/L	0.00191	4.23%
Ti 334.940†	-3589.5	0.00037	mg/L	0.000127	0.00037	mg/L	0.000127	34.10%
Tl 190.801†	-13.7	-0.0122	mg/L	0.00384	-0.0122	mg/L	0.00384	31.41%
V 290.880†	1970.2	0.0120	mg/L	0.00180	0.0120	mg/L	0.00180	15.04%
Zn 206.200†	81.3	0.00346	mg/L	0.000402	0.00346	mg/L	0.000402	11.62%
K 766.490†	14309.4	12.3	mg/L	0.24	12.3	mg/L	0.24	1.97%
Na 589.592†	1862017.0	225	mg/L	35.2	225	mg/L	35.2	15.65%
Sr 407.771†	612315.3	0.724	mg/L	0.0988	0.724	mg/L	0.0988	13.65%
Li 670.784†	1255.2	0.0236	mg/L	0.00437	0.0236	mg/L	0.00437	18.48%
P 214.914†	45.9	0.0681	mg/L	0.01926	0.0681	mg/L	0.01926	28.28%

Sequence No.: 27 **Autosampler Location: 74**
Sample ID: L1311005409 **Date Collected: 11/5/2013 2:11:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005409

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005409

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1878289.9						9697.92	0.52%
YRADIAL	131606.0						1127.62	0.86%
Ga 417.206	722925.6						4326.44	0.60%
GaRADIAL	40019.3						1131.62	2.83%
Ag 328.068†	746.2	0.00327	mg/L	0.000530	0.00327	mg/L	0.000530	16.21%
Al 396.153†	-15.5	0.0126	mg/L	0.00268	0.0126	mg/L	0.00268	21.31%
As 188.979†	-10.8	-0.00534	mg/L	0.002053	-0.00534	mg/L	0.002053	38.43%
Ba 233.527†	1237.0	0.0227	mg/L	0.00026	0.0227	mg/L	0.00026	1.16%
Be 234.861†	192.3	0.00046	mg/L	0.000048	0.00046	mg/L	0.000048	10.37%
B 249.677†	8688.0	0.243	mg/L	0.0012	0.243	mg/L	0.0012	0.51%
Ca 227.546†	21625.4	171	mg/L	0.4	171	mg/L	0.4	0.24%
Cd 228.802†	-7.1	-0.00028	mg/L	0.000282	-0.00028	mg/L	0.000282	101.78%
Co 228.616†	5.2	0.00012	mg/L	0.000460	0.00012	mg/L	0.000460	397.57%
Cr 267.716†	132.7	0.00140	mg/L	0.000168	0.00140	mg/L	0.000168	12.03%
Cu 327.393†	-75.2	-0.00098	mg/L	0.000503	-0.00098	mg/L	0.000503	51.54%
Fe 239.562†	-2.5	0.00901	mg/L	0.000706	0.00901	mg/L	0.000706	7.84%
Mg 279.077†	60863.5	70.2	mg/L	0.70	70.2	mg/L	0.70	1.00%
Mn 257.610†	183378.5	0.488	mg/L	0.0021	0.488	mg/L	0.0021	0.43%
Mo 202.031†	129.4	0.0127	mg/L	0.00104	0.0127	mg/L	0.00104	8.17%
Ni 231.604†	33.6	0.00064	mg/L	0.000108	0.00064	mg/L	0.000108	16.89%
Pb 220.353†	20.9	0.00259	mg/L	0.003277	0.00259	mg/L	0.003277	126.55%
Sb 206.836†	-3.8	-0.00381	mg/L	0.000072	-0.00381	mg/L	0.000072	1.90%
Se 196.026†	-4.4	0.00268	mg/L	0.013124	0.00268	mg/L	0.013124	489.94%
Si 251.611†	121274.9	5.82	mg/L	0.031	5.82	mg/L	0.031	0.53%
Sn 189.927†	-275.6	-0.0754	mg/L	0.00066	-0.0754	mg/L	0.00066	0.88%
Ti 334.940†	-16134.7	-0.00294	mg/L	0.000357	-0.00294	mg/L	0.000357	12.14%
Tl 190.801†	-23.9	-0.0221	mg/L	0.00639	-0.0221	mg/L	0.00639	28.95%

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V 290.880†	1873.6	0.00969	mg/L	0.001245	0.00969	mg/L	0.001245	12.86%
Zn 206.200†	22.5	-0.00013	mg/L	0.000276	-0.00013	mg/L	0.000276	218.17%
K 766.490†	11147.0	9.52	mg/L	0.154	9.52	mg/L	0.154	1.62%
Na 589.592†	2227163.3	272	mg/L	4.8	272	mg/L	4.8	1.78%
Sr 407.771†	1307433.6	1.55	mg/L	0.029	1.55	mg/L	0.029	1.85%
Li 670.784†	3003.1	0.0542	mg/L	0.00036	0.0542	mg/L	0.00036	0.66%
P 214.914†	47.3	0.0706	mg/L	0.01371	0.0706	mg/L	0.01371	19.42%

Sequence No.: 28 **Autosampler Location: 75**
Sample ID: L1311005410 **Date Collected: 11/5/2013 2:14:48 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005410

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005410

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1848455.9						36563.04	1.98%
YRADIAL	132040.4						4500.40	3.41%
Ga 417.206	716227.1						15432.59	2.15%
GaRADIAL	39404.0						676.58	1.72%
Ag 328.068†	508.4	0.00189	mg/L	0.000269	0.00189	mg/L	0.000269	14.26%
Al 396.153†	-7.9	0.0161	mg/L	0.00211	0.0161	mg/L	0.00211	13.15%
As 188.979†	-11.2	-0.00728	mg/L	0.002707	-0.00728	mg/L	0.002707	37.19%
Ba 233.527†	1041.1	0.0189	mg/L	0.00038	0.0189	mg/L	0.00038	2.03%
Be 234.861†	180.7	0.00039	mg/L	0.000049	0.00039	mg/L	0.000049	12.66%
B 249.677†	13466.6	0.373	mg/L	0.0125	0.373	mg/L	0.0125	3.34%
Ca 227.546†	12972.2	103	mg/L	3.3	103	mg/L	3.3	3.19%
Cd 228.802†	-7.0	-0.00027	mg/L	0.000054	-0.00027	mg/L	0.000054	20.35%
Co 228.616†	14.2	0.00073	mg/L	0.000222	0.00073	mg/L	0.000222	30.27%
Cr 267.716†	141.3	0.00153	mg/L	0.000284	0.00153	mg/L	0.000284	18.49%
Cu 327.393†	-128.6	-0.00141	mg/L	0.000616	-0.00141	mg/L	0.000616	43.52%
Fe 239.562†	73.8	0.0418	mg/L	0.00418	0.0418	mg/L	0.00418	10.00%
Mg 279.077†	73478.3	84.7	mg/L	1.26	84.7	mg/L	1.26	1.49%
Mn 257.610†	43499.8	0.116	mg/L	0.0030	0.116	mg/L	0.0030	2.61%
Mo 202.031†	72.3	0.00744	mg/L	0.000842	0.00744	mg/L	0.000842	11.32%
Ni 231.604†	69.9	0.00224	mg/L	0.000387	0.00224	mg/L	0.000387	17.26%
Pb 220.353†	23.9	0.00360	mg/L	0.001981	0.00360	mg/L	0.001981	55.09%
Sb 206.836†	-0.1	-0.00079	mg/L	0.001606	-0.00079	mg/L	0.001606	202.27%
Se 196.026†	0.3	0.0121	mg/L	0.00609	0.0121	mg/L	0.00609	50.16%
Si 251.611†	105491.6	5.06	mg/L	0.146	5.06	mg/L	0.146	2.87%
Sn 189.927†	-236.4	-0.0647	mg/L	0.00025	-0.0647	mg/L	0.00025	0.39%
Ti 334.940†	-9957.5	-0.00189	mg/L	0.000042	-0.00189	mg/L	0.000042	2.25%
Tl 190.801†	-36.7	-0.0329	mg/L	0.00233	-0.0329	mg/L	0.00233	7.09%
V 290.880†	2607.0	0.0154	mg/L	0.00271	0.0154	mg/L	0.00271	17.67%
Zn 206.200†	40.9	0.00100	mg/L	0.000440	0.00100	mg/L	0.000440	44.06%
K 766.490†	7663.2	6.11	mg/L	0.110	6.11	mg/L	0.110	1.81%
Na 589.592†	4686096.3	620	mg/L	19.9	620	mg/L	19.9	3.20%
Sr 407.771†	1402032.3	1.66	mg/L	0.094	1.66	mg/L	0.094	5.66%
Li 670.784†	14583.2	0.257	mg/L	0.0012	0.257	mg/L	0.0012	0.48%
P 214.914†	45.8	0.0680	mg/L	0.00521	0.0680	mg/L	0.00521	7.66%

Sequence No.: 29 **Autosampler Location: 76**
Sample ID: L1310005414 **Date Collected: 11/5/2013 2:17:56 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310005414

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Approved: November 06, 2013

Kim H. Rhoden

Mean Data: L1310005414

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1650034.0						15511.73	0.94%
YRADIAL	120220.1						3169.80	2.64%
Ga 417.206	675600.2						4724.24	0.70%
GaRADIAL	37868.7						1354.14	3.58%
Ag 328.068†	1295.2	0.00463	mg/L	0.000459	0.00463	mg/L	0.000459	9.92%
Al 396.153†	-33.1	0.00548	mg/L	0.005343	0.00548	mg/L	0.005343	97.47%
As 188.979†	17.4	0.0279	mg/L	0.00045	0.0279	mg/L	0.00045	1.61%
Ba 233.527†	648.7	0.0112	mg/L	0.00012	0.0112	mg/L	0.00012	1.05%
Be 234.861†	221.4	0.00068	mg/L	0.000032	0.00068	mg/L	0.000032	4.75%
B 249.677†	30351.7	0.833	mg/L	0.0045	0.833	mg/L	0.0045	0.54%
Ca 227.546†	49727.1	394	mg/L	3.3	394	mg/L	3.3	0.85%
Cd 228.802†	-2.6	-0.00015	mg/L	0.000296	-0.00015	mg/L	0.000296	192.63%
Co 228.616†	10.4	0.00057	mg/L	0.000671	0.00057	mg/L	0.000671	117.53%
Cr 267.716†	438.8	0.00616	mg/L	0.000763	0.00616	mg/L	0.000763	12.38%
Cu 327.393†	28.5	-0.00060	mg/L	0.000302	-0.00060	mg/L	0.000302	50.07%
Fe 239.562†	387.7	0.143	mg/L	0.0020	0.143	mg/L	0.0020	1.42%
Mg 279.077†	1591720.6	1830	mg/L	19.2	1830	mg/L	19.2	1.05%
Mn 257.610†	895267.7	2.39	mg/L	0.018	2.39	mg/L	0.018	0.76%
Mo 202.031†	94.4	0.00993	mg/L	0.000762	0.00993	mg/L	0.000762	7.67%
Ni 231.604†	372.1	0.0156	mg/L	0.00086	0.0156	mg/L	0.00086	5.53%
Pb 220.353†	24.0	0.00225	mg/L	0.000550	0.00225	mg/L	0.000550	24.40%
Sb 206.836†	-4.7	-0.00457	mg/L	0.002213	-0.00457	mg/L	0.002213	48.38%
Se 196.026†	845.5	1.69	mg/L	0.023	1.69	mg/L	0.023	1.34%
Si 251.611†	110956.4	5.33	mg/L	0.034	5.33	mg/L	0.034	0.63%
Sn 189.927†	-372.1	-0.102	mg/L	0.0059	-0.102	mg/L	0.0059	5.83%
Ti 334.940†	-37502.6	-0.00876	mg/L	0.000685	-0.00876	mg/L	0.000685	7.82%
Tl 190.801†	-42.5	-0.0410	mg/L	0.01582	-0.0410	mg/L	0.01582	38.57%
V 290.880†	2862.7	-0.0281	mg/L	0.00344	-0.0281	mg/L	0.00344	12.28%
Zn 206.200†	28.7	0.00030	mg/L	0.000648	0.00030	mg/L	0.000648	217.91%
K 766.490†	49948.0	43.4	mg/L	0.77	43.4	mg/L	0.77	1.78%
Na 589.592†	Saturated2							
Sr 407.771†	8918952.6	10.6	mg/L	0.39	10.6	mg/L	0.39	3.65%
Li 670.784†	113668.9	1.99	mg/L	0.007	1.99	mg/L	0.007	0.35%
P 214.914†	71.5	0.112	mg/L	0.0034	0.112	mg/L	0.0034	3.05%

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Sequence No.: 30 **Autosampler Location: 77**
Sample ID: L1311005415 **Date Collected: 11/5/2013 2:21:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005415

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311005415

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1920854.6						33997.13	1.77%
YRADIAL	132879.9						2225.68	1.67%
Ga 417.206	731342.6						12686.08	1.73%
GaRADIAL	39854.6						781.40	1.96%
Ag 328.068†	262.0	0.00059	mg/L	0.000357	0.00059	mg/L	0.000357	60.25%
Al 396.153†	46.6	0.0356	mg/L	0.00144	0.0356	mg/L	0.00144	4.04%
As 188.979†	-5.0	-0.00266	mg/L	0.001672	-0.00266	mg/L	0.001672	62.78%
Ba 233.527†	2769.1	0.0527	mg/L	0.00108	0.0527	mg/L	0.00108	2.05%
Be 234.861†	179.8	0.00040	mg/L	0.000096	0.00040	mg/L	0.000096	23.89%
B 249.677†	11300.3	0.314	mg/L	0.0077	0.314	mg/L	0.0077	2.45%
Ca 227.546†	4858.8	38.5	mg/L	0.84	38.5	mg/L	0.84	2.18%
Cd 228.802†	-6.4	-0.00027	mg/L	0.000296	-0.00027	mg/L	0.000296	110.26%
Co 228.616†	3.3	-0.00002	mg/L	0.000144	-0.00002	mg/L	0.000144	936.78%
Cr 267.716†	35.2	-0.00013	mg/L	0.000176	-0.00013	mg/L	0.000176	138.26%
Cu 327.393†	1.4	-0.00034	mg/L	0.000944	-0.00034	mg/L	0.000944	280.48%
Fe 239.562†	24.2	0.0218	mg/L	0.00180	0.0218	mg/L	0.00180	8.26%
Mg 279.077†	8737.8	10.1	mg/L	0.11	10.1	mg/L	0.11	1.06%
Mn 257.610†	20083.3	0.0532	mg/L	0.00114	0.0532	mg/L	0.00114	2.14%

Approved: November 06, 2013

Kim H. Rhoden

Mo 202.031†	564.7	0.0523 mg/L	0.00072	0.0523 mg/L	0.00072	1.37%
Ni 231.604†	109.3	0.00397 mg/L	0.000722	0.00397 mg/L	0.000722	18.18%
Pb 220.353†	18.5	0.00224 mg/L	0.001418	0.00224 mg/L	0.001418	63.28%
Sb 206.836†	0.7	-0.00005 mg/L	0.004725	-0.00005 mg/L	0.004725	>999.9%
Se 196.026†	-3.8	0.00401 mg/L	0.004283	0.00401 mg/L	0.004283	106.70%
Si 251.611†	144459.8	6.94 mg/L	0.016	6.94 mg/L	0.016	0.23%
Sn 189.927†	-161.9	-0.0444 mg/L	0.00258	-0.0444 mg/L	0.00258	5.81%
Ti 334.940†	-3326.1	0.00064 mg/L	0.000146	0.00064 mg/L	0.000146	22.78%
Tl 190.801†	-13.9	-0.0124 mg/L	0.00703	-0.0124 mg/L	0.00703	56.92%
V 290.880†	2095.3	0.0131 mg/L	0.00221	0.0131 mg/L	0.00221	16.87%
Zn 206.200†	33.0	0.00050 mg/L	0.000415	0.00050 mg/L	0.000415	82.34%
K 766.490†	13248.5	11.5 mg/L	0.22	11.5 mg/L	0.22	1.96%
Na 589.592†	1567026.8	188 mg/L	7.8	188 mg/L	7.8	4.16%
Sr 407.771†	545678.9	0.645 mg/L	0.0160	0.645 mg/L	0.0160	2.48%
Li 670.784†	752.9	0.0148 mg/L	0.00014	0.0148 mg/L	0.00014	0.96%
P 214.914†	50.8	0.0765 mg/L	0.01823	0.0765 mg/L	0.01823	23.83%

User canceled analysis.

Approved: November 06, 2013

Kim H. Rhoden

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Analysis Begun

Start Time: 11/5/2013 2:30:47 PM **Plasma On Time: 11/5/2013 6:44:41 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY1.sif
Batch ID:
Results Data Set: 110513H3R
Results Library: C:\pe\peicp2\Results\results1.mdb

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Sequence No.: 1 **Autosampler Location: 80**
Sample ID: L1311005411 WG451310-01 **Date Collected: 11/5/2013 2:30:49 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005411 WG451310-01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005411 WG451310-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2003200.8						41257.10	2.06%
YRADIAL	134094.8						1640.64	1.22%
Ga 417.206	708746.5						18782.07	2.65%
GaRADIAL	38440.2						980.98	2.55%
Ag 328.068†	227.2	0.00047	mg/L	0.000475	0.00047	mg/L	0.000475	101.79%
Al 396.153†	4.8	0.0219	mg/L	0.00090	0.0219	mg/L	0.00090	4.13%
As 188.979†	-1.5	0.00039	mg/L	0.004844	0.00039	mg/L	0.004844	>999.9%
Ba 233.527†	4.3	-0.00139	mg/L	0.000185	-0.00139	mg/L	0.000185	13.35%
Be 234.861†	212.7	0.00046	mg/L	0.000089	0.00046	mg/L	0.000089	19.50%
B 249.677†	322.8	0.0155	mg/L	0.00079	0.0155	mg/L	0.00079	5.09%
Ca 227.546†	360.0	2.86	mg/L	0.152	2.86	mg/L	0.152	5.30%
Cd 228.802†	-5.1	-0.00021	mg/L	0.000085	-0.00021	mg/L	0.000085	40.90%
Co 228.616†	-1.6	-0.00045	mg/L	0.000748	-0.00045	mg/L	0.000748	165.10%
Cr 267.716†	-5.9	-0.00077	mg/L	0.000171	-0.00077	mg/L	0.000171	22.20%
Cu 327.393†	-17.0	-0.00049	mg/L	0.000464	-0.00049	mg/L	0.000464	95.24%
Fe 239.562†	0.7	0.0117	mg/L	0.00031	0.0117	mg/L	0.00031	2.66%
Mg 279.077†	5909.5	6.83	mg/L	0.342	6.83	mg/L	0.342	5.01%
Mn 257.610†	7785.9	0.0204	mg/L	0.00052	0.0204	mg/L	0.00052	2.52%
Mo 202.031†	-8.3	0.00007	mg/L	0.000609	0.00007	mg/L	0.000609	882.38%
Ni 231.604†	30.6	0.00050	mg/L	0.000417	0.00050	mg/L	0.000417	83.59%
Pb 220.353†	10.8	0.00025	mg/L	0.002730	0.00025	mg/L	0.002730	>999.9%
Sb 206.836†	-2.0	-0.00233	mg/L	0.000100	-0.00233	mg/L	0.000100	4.27%
Se 196.026†	-3.4	0.00482	mg/L	0.004147	0.00482	mg/L	0.004147	85.99%
Si 251.611†	1448.9	0.0601	mg/L	0.00324	0.0601	mg/L	0.00324	5.40%
Sn 189.927†	-26.5	-0.00741	mg/L	0.000749	-0.00741	mg/L	0.000749	10.10%
Ti 334.940†	-317.2	0.00082	mg/L	0.000212	0.00082	mg/L	0.000212	25.96%
Tl 190.801†	5.4	0.00489	mg/L	0.003980	0.00489	mg/L	0.003980	81.41%
V 290.880†	89.8	-0.00339	mg/L	0.002480	-0.00339	mg/L	0.002480	73.26%
Zn 206.200†	19.6	-0.00032	mg/L	0.000213	-0.00032	mg/L	0.000213	65.69%
K 766.490†	336.8	0.225	mg/L	0.0678	0.225	mg/L	0.0678	30.13%
Na 589.592†	255197.7	29.5	mg/L	1.94	29.5	mg/L	1.94	6.58%
Sr 407.771†	46777.7	0.0525	mg/L	0.00099	0.0525	mg/L	0.00099	1.89%
Li 670.784†	651.4	0.0131	mg/L	0.00073	0.0131	mg/L	0.00073	5.57%
P 214.914†	10.9	0.00849	mg/L	0.023890	0.00849	mg/L	0.023890	281.27%

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Sequence No.: 2 **Autosampler Location: 81**
Sample ID: L1311005412MS WG451310-04 **Date Collected: 11/5/2013 2:33:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Nebulizer Parameters: L1311005412MS WG451310-04

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005412MS WG451310-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1981193.8						30809.14	1.56%
YRADIAL	135269.9						1094.06	0.81%
Ga 417.206	725062.4						12530.49	1.73%
GaRADIAL	40676.8						488.02	1.20%
Ag 328.068†	390.2	0.00147	mg/L	0.000112	0.00147	mg/L	0.000112	7.62%
Al 396.153†	117.4	0.0685	mg/L	0.00301	0.0685	mg/L	0.00301	4.39%
As 188.979†	4.1	0.00599	mg/L	0.004734	0.00599	mg/L	0.004734	79.09%
Ba 233.527†	225.7	0.00294	mg/L	0.000203	0.00294	mg/L	0.000203	6.92%
Be 234.861†	317.2	0.00070	mg/L	0.000056	0.00070	mg/L	0.000056	7.96%
B 249.677†	569.2	0.0222	mg/L	0.00022	0.0222	mg/L	0.00022	1.00%
Ca 227.546†	371.5	2.96	mg/L	0.154	2.96	mg/L	0.154	5.20%
Cd 228.802†	-6.3	-0.00030	mg/L	0.000166	-0.00030	mg/L	0.000166	54.79%
Co 228.616†	10.5	0.00041	mg/L	0.000421	0.00041	mg/L	0.000421	101.74%
Cr 267.716†	147.7	0.00163	mg/L	0.000041	0.00163	mg/L	0.000041	2.49%
Cu 327.393†	294.7	0.00198	mg/L	0.000780	0.00198	mg/L	0.000780	39.33%
Fe 239.562†	46.3	0.0314	mg/L	0.00091	0.0314	mg/L	0.00091	2.88%
Mg 279.077†	6162.8	7.12	mg/L	0.192	7.12	mg/L	0.192	2.69%
Mn 257.610†	11321.2	0.0299	mg/L	0.00121	0.0299	mg/L	0.00121	4.05%
Mo 202.031†	10.7	0.00181	mg/L	0.000330	0.00181	mg/L	0.000330	18.23%
Ni 231.604†	68.5	0.00217	mg/L	0.000528	0.00217	mg/L	0.000528	24.36%
Pb 220.353†	17.6	0.00202	mg/L	0.001602	0.00202	mg/L	0.001602	79.44%
Sb 206.836†	7.5	0.00542	mg/L	0.004048	0.00542	mg/L	0.004048	74.67%
Se 196.026†	-6.7	-0.00164	mg/L	0.001269	-0.00164	mg/L	0.001269	77.27%
Si 251.611†	1886.7	0.0811	mg/L	0.00395	0.0811	mg/L	0.00395	4.87%
Sn 189.927†	-14.9	-0.00425	mg/L	0.001290	-0.00425	mg/L	0.001290	30.35%
Ti 334.940†	2027.0	0.00513	mg/L	0.000038	0.00513	mg/L	0.000038	0.74%
Tl 190.801†	3.1	0.00291	mg/L	0.007007	0.00291	mg/L	0.007007	241.10%
V 290.880†	940.7	0.00363	mg/L	0.001418	0.00363	mg/L	0.001418	39.11%
Zn 206.200†	100.7	0.00466	mg/L	0.000073	0.00466	mg/L	0.000073	1.57%
K 766.490†	695.0	0.542	mg/L	0.0793	0.542	mg/L	0.0793	14.63%
Na 589.592†	261380.3	30.2	mg/L	0.65	30.2	mg/L	0.65	2.14%
Sr 407.771†	55232.4	0.0626	mg/L	0.00157	0.0626	mg/L	0.00157	2.51%
Li 670.784†	952.5	0.0183	mg/L	0.00052	0.0183	mg/L	0.00052	2.86%
P 214.914†	21.7	0.0269	mg/L	0.01377	0.0269	mg/L	0.01377	51.20%

Sequence No.: 3 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 2:36:51 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1923763.6						6734.14	0.35%
YRADIAL	132056.0						2614.22	1.98%
Ga 417.206	689788.7						7632.80	1.11%
GaRADIAL	38097.9						591.98	1.55%
Ag 328.068†	64599.0	0.393	mg/L	0.0068	0.393	mg/L	0.0068	1.73%
QC value within limits for Ag 328.068 Recovery = 98.30%								
Al 396.153†	24012.8	9.92	mg/L	0.219	9.92	mg/L	0.219	2.21%
QC value within limits for Al 396.153 Recovery = 99.21%								
As 188.979†	387.9	0.387	mg/L	0.0075	0.387	mg/L	0.0075	1.94%
QC value within limits for As 188.979 Recovery = 96.78%								
Ba 233.527†	52288.5	1.02	mg/L	0.004	1.02	mg/L	0.004	0.41%
QC value within limits for Ba 233.527 Recovery = 102.07%								
Be 234.861†	20566.9	0.0484	mg/L	0.00086	0.0484	mg/L	0.00086	1.77%

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   QC value within limits for Be 234.861  Recovery = 96.83%
B 249.677†            17488.4       0.479 mg/L        0.0051       0.479 mg/L        0.0051   1.07%
   QC value within limits for B 249.677  Recovery = 95.79%
Ca 227.546†            1199.8        9.98 mg/L         0.235        9.98 mg/L         0.235   2.35%
   QC value within limits for Ca 227.546  Recovery = 99.80%
Cd 228.802†              812.9      0.0463 mg/L       0.00075      0.0463 mg/L       0.00075   1.63%
   QC value within limits for Cd 228.802  Recovery = 92.60%
Co 228.616†            2797.0       0.201 mg/L        0.0043       0.201 mg/L        0.0043   2.16%
   QC value within limits for Co 228.616  Recovery = 100.62%
Cr 267.716†           32171.7       0.502 mg/L        0.0091       0.502 mg/L        0.0091   1.82%
   QC value within limits for Cr 267.716  Recovery = 100.31%
Cu 327.393†           60948.8       0.483 mg/L        0.0089       0.483 mg/L        0.0089   1.85%
   QC value within limits for Cu 327.393  Recovery = 96.52%
Fe 239.562†            9246.0        4.02 mg/L         0.065        4.02 mg/L         0.065   1.63%
   QC value within limits for Fe 239.562  Recovery = 100.40%
Mg 279.077†            8825.4        10.2 mg/L          0.18        10.2 mg/L          0.18   1.79%
   QC value within limits for Mg 279.077  Recovery = 102.09%
Mn 257.610†          190557.3       0.508 mg/L        0.0035       0.508 mg/L        0.0035   0.68%
   QC value within limits for Mn 257.610  Recovery = 101.67%
Mo 202.031†           10935.6       0.997 mg/L        0.0117       0.997 mg/L        0.0117   1.18%
   QC value within limits for Mo 202.031  Recovery = 99.71%
Ni 231.604†           11534.5       0.507 mg/L        0.0068       0.507 mg/L        0.0068   1.34%
   QC value within limits for Ni 231.604  Recovery = 101.43%
Pb 220.353†            1975.8       0.512 mg/L        0.0091       0.512 mg/L        0.0091   1.78%
   QC value within limits for Pb 220.353  Recovery = 102.40%
Sb 206.836†            1402.2        1.14 mg/L         0.020        1.14 mg/L         0.020   1.75%
   QC value within limits for Sb 206.836  Recovery = 95.39%
Se 196.026†             192.2       0.394 mg/L        0.0090       0.394 mg/L        0.0090   2.29%
   QC value within limits for Se 196.026  Recovery = 98.61%
Si 251.611†          103580.9        4.96 mg/L         0.077        4.96 mg/L         0.077   1.56%
   QC value within limits for Si 251.611  Recovery = 99.21%
Sn 189.927†            3763.6        1.03 mg/L         0.022        1.03 mg/L         0.022   2.15%
   QC value within limits for Sn 189.927  Recovery = 102.69%
Ti 334.940†          539492.9       0.992 mg/L        0.0035       0.992 mg/L        0.0035   0.35%
   QC value within limits for Ti 334.940  Recovery = 99.21%
Tl 190.801†             561.2       0.516 mg/L        0.0128       0.516 mg/L        0.0128   2.49%
   QC value within limits for Tl 190.801  Recovery = 103.14%
V 290.880†           124519.6        1.02 mg/L         0.009        1.02 mg/L         0.009   0.87%
   QC value within limits for V 290.880  Recovery = 102.26%
Zn 206.200†           16831.7        1.03 mg/L         0.014        1.03 mg/L         0.014   1.36%
   QC value within limits for Zn 206.200  Recovery = 103.32%
K 766.490†            59513.4        51.5 mg/L          1.38        51.5 mg/L          1.38   2.69%
   QC value within limits for K 766.490  Recovery = 102.98%
Na 589.592†          432357.9        50.2 mg/L          0.85        50.2 mg/L          0.85   1.69%
   QC value within limits for Na 589.592  Recovery = 100.47%
Sr 407.771†          868849.7        1.03 mg/L         0.021        1.03 mg/L         0.021   2.08%
   QC value within limits for Sr 407.771  Recovery = 102.99%
Li 670.784†           56436.7       0.990 mg/L        0.0211       0.990 mg/L        0.0211   2.13%
   QC value within limits for Li 670.784  Recovery = 98.97%
P 214.914†             5894.2        10.0 mg/L          0.25        10.0 mg/L          0.25   2.54%
   QC value within limits for P 214.914  Recovery = 100.39%
All analyte(s) passed QC.

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Sequence No.: 4                                   Autosampler Location: 1
Sample ID: CCB                                    Date Collected: 11/5/2013 2:38:56 PM
Analyst:                                          Data Type: Original
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    178.0 kPa        0.47 L/min

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Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029           1941130.6                                                     45656.54   2.35%
YRADIAL              130355.0                                                      4132.12   3.17%
Ga 417.206           665874.1                                                     15704.25   2.36%
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GaRADIAL              37607.3                                                    249.00   0.66%
Ag 328.068†             120.7    -0.00016 mg/L      0.000112    -0.00016 mg/L      0.000112  70.61%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†              -0.2      0.0197 mg/L       0.00180      0.0197 mg/L       0.00180   9.13%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†              -1.8    -0.00003 mg/L      0.002579    -0.00003 mg/L      0.002579 >999.9%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†             -15.8    -0.00178 mg/L      0.000096    -0.00178 mg/L      0.000096   5.38%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†              81.7     0.00014 mg/L      0.000073     0.00014 mg/L      0.000073  50.50%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              120.3      0.0100 mg/L       0.00072      0.0100 mg/L       0.00072   7.14%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              18.3       0.157 mg/L        0.0295       0.157 mg/L        0.0295  18.73%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -6.1    -0.00027 mg/L      0.000065    -0.00027 mg/L      0.000065  24.03%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -5.1    -0.00071 mg/L      0.000120    -0.00071 mg/L      0.000120  16.95%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               4.4    -0.00061 mg/L      0.000192    -0.00061 mg/L      0.000192  31.55%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              32.9    -0.00009 mg/L      0.000162    -0.00009 mg/L      0.000162 180.59%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               0.0      0.0115 mg/L       0.00190      0.0115 mg/L       0.00190  16.52%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              54.3      0.0819 mg/L       0.00229      0.0819 mg/L       0.00229   2.80%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              43.4    -0.00019 mg/L      0.000074    -0.00019 mg/L      0.000074  38.37%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               3.7     0.00116 mg/L      0.000581     0.00116 mg/L      0.000581  49.92%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              15.0    -0.00018 mg/L      0.000775    -0.00018 mg/L      0.000775 419.85%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               5.0    -0.00124 mg/L      0.003405    -0.00124 mg/L      0.003405 274.70%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†              -0.9    -0.00140 mg/L      0.002023    -0.00140 mg/L      0.002023 144.97%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -3.0     0.00571 mg/L      0.006267     0.00571 mg/L      0.006267 109.66%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              89.7    -0.00531 mg/L      0.001033    -0.00531 mg/L      0.001033  19.45%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              -4.9    -0.00153 mg/L      0.000574    -0.00153 mg/L      0.000574  37.50%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              53.9     0.00109 mg/L      0.000079     0.00109 mg/L      0.000079   7.25%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -1.3    -0.00105 mg/L      0.001659    -0.00105 mg/L      0.001659 158.14%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              344.3    -0.00111 mg/L      0.001934    -0.00111 mg/L      0.001934 174.27%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               4.5    -0.00124 mg/L      0.000668    -0.00124 mg/L      0.000668  53.71%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               -0.1     -0.0441 mg/L       0.03026     -0.0441 mg/L       0.03026  68.66%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             1608.8       0.170 mg/L        0.1157       0.170 mg/L        0.1157  67.99%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              149.2    -0.00281 mg/L      0.000444    -0.00281 mg/L      0.000444  15.78%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              -70.2     0.00042 mg/L      0.001389     0.00042 mg/L      0.001389 328.48%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†               28.6      0.0386 mg/L       0.01023      0.0386 mg/L       0.01023  26.50%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

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Sequence No.: 5                                  Autosampler Location: 82
Sample ID: L1311005413SD WG451310-05             Date Collected: 11/5/2013 2:41:56 PM
Analyst: KHR                                     Data Type: Original
Initial Sample Wt:                               Initial Sample Vol:
Dilution:                                        Sample Prep Vol:

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Nebulizer Parameters: L1311005413SD WG451310-05
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Approved: November 06, 2013

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Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005413SD WG451310-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1975660.2						6244.83	0.32%
YRADIAL	135347.2						2194.72	1.62%
Ga 417.206	716565.4						7597.28	1.06%
GaRADIAL	40894.6						172.13	0.42%
Ag 328.068†	426.2	0.00169	mg/L	0.000606	0.00169	mg/L	0.000606	35.81%
Al 396.153†	113.8	0.0669	mg/L	0.00285	0.0669	mg/L	0.00285	4.25%
As 188.979†	0.6	0.00243	mg/L	0.002363	0.00243	mg/L	0.002363	97.12%
Ba 233.527†	232.2	0.00306	mg/L	0.000155	0.00306	mg/L	0.000155	5.07%
Be 234.861†	324.7	0.00072	mg/L	0.000041	0.00072	mg/L	0.000041	5.68%
B 249.677†	560.6	0.0220	mg/L	0.00068	0.0220	mg/L	0.00068	3.12%
Ca 227.546†	364.1	2.90	mg/L	0.067	2.90	mg/L	0.067	2.31%
Cd 228.802†	-7.3	-0.00034	mg/L	0.000379	-0.00034	mg/L	0.000379	110.20%
Co 228.616†	3.6	-0.00008	mg/L	0.000083	-0.00008	mg/L	0.000083	99.52%
Cr 267.716†	152.6	0.00171	mg/L	0.000343	0.00171	mg/L	0.000343	20.12%
Cu 327.393†	266.3	0.00176	mg/L	0.000470	0.00176	mg/L	0.000470	26.71%
Fe 239.562†	43.3	0.0301	mg/L	0.00094	0.0301	mg/L	0.00094	3.12%
Mg 279.077†	5010.5	5.80	mg/L	0.050	5.80	mg/L	0.050	0.86%
Mn 257.610†	5520.5	0.0144	mg/L	0.00018	0.0144	mg/L	0.00018	1.25%
Mo 202.031†	21.0	0.00274	mg/L	0.000663	0.00274	mg/L	0.000663	24.18%
Ni 231.604†	68.8	0.00219	mg/L	0.000435	0.00219	mg/L	0.000435	19.89%
Pb 220.353†	26.6	0.00434	mg/L	0.000606	0.00434	mg/L	0.000606	13.96%
Sb 206.836†	5.3	0.00362	mg/L	0.000651	0.00362	mg/L	0.000651	18.01%
Se 196.026†	-4.4	0.00299	mg/L	0.007139	0.00299	mg/L	0.007139	238.69%
Si 251.611†	1961.4	0.0847	mg/L	0.00233	0.0847	mg/L	0.00233	2.75%
Sn 189.927†	-13.6	-0.00390	mg/L	0.000243	-0.00390	mg/L	0.000243	6.25%
Ti 334.940†	2089.2	0.00523	mg/L	0.000081	0.00523	mg/L	0.000081	1.54%
Tl 190.801†	1.3	0.00132	mg/L	0.002990	0.00132	mg/L	0.002990	226.28%
V 290.880†	878.0	0.00314	mg/L	0.001553	0.00314	mg/L	0.001553	49.42%
Zn 206.200†	104.9	0.00492	mg/L	0.000269	0.00492	mg/L	0.000269	5.47%
K 766.490†	680.8	0.535	mg/L	0.0784	0.535	mg/L	0.0784	14.65%
Na 589.592†	210194.5	24.3	mg/L	0.99	24.3	mg/L	0.99	4.09%
Sr 407.771†	48501.3	0.0546	mg/L	0.00017	0.0546	mg/L	0.00017	0.32%
Li 670.784†	810.0	0.0158	mg/L	0.00191	0.0158	mg/L	0.00191	12.07%
P 214.914†	29.6	0.0403	mg/L	0.01137	0.0403	mg/L	0.01137	28.21%

Sequence No.: 6 **Autosampler Location: 83**
Sample ID: L1311011301 0.01 **Date Collected: 11/5/2013 2:44:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311011301 0.01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311011301 0.01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1968254.5						47384.50	2.41%
YRADIAL	132471.8						4365.63	3.30%
Ga 417.206	719315.1						18329.14	2.55%
GaRADIAL	40453.3						580.68	1.44%
Ag 328.068†	103.1	-0.00005	mg/L	0.000312	-0.00005	mg/L	0.000312	677.61%
Al 396.153†	-11.5	0.0152	mg/L	0.00221	0.0152	mg/L	0.00221	14.54%
As 188.979†	-0.2	0.00187	mg/L	0.001705	0.00187	mg/L	0.001705	91.22%
Ba 233.527†	319.7	0.00475	mg/L	0.000153	0.00475	mg/L	0.000153	3.22%
Be 234.861†	304.2	0.00048	mg/L	0.000178	0.00048	mg/L	0.000178	36.99%
B 249.677†	952.0	0.0323	mg/L	0.00031	0.0323	mg/L	0.00031	0.96%
Ca 227.546†	657.8	5.24	mg/L	0.075	5.24	mg/L	0.075	1.42%
Cd 228.802†	-5.7	-0.00025	mg/L	0.000461	-0.00025	mg/L	0.000461	185.51%
Co 228.616†	-2.7	-0.00056	mg/L	0.000486	-0.00056	mg/L	0.000486	87.17%
Cr 267.716†	0.6	-0.00073	mg/L	0.000091	-0.00073	mg/L	0.000091	12.51%

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Cu 327.393†	-13.0	-0.00041	mg/L	0.000727	-0.00041	mg/L	0.000727 177.73%
Fe 239.562†	1870.5	0.822	mg/L	0.0037	0.822	mg/L	0.0037 0.45%
Mg 279.077†	871.5	1.02	mg/L	0.007	1.02	mg/L	0.007 0.68%
Mn 257.610†	5835.7	0.0153	mg/L	0.00028	0.0153	mg/L	0.00028 1.80%
Mo 202.031†	-8.1	0.00011	mg/L	0.000070	0.00011	mg/L	0.000070 66.29%
Ni 231.604†	16.1	-0.00014	mg/L	0.000141	-0.00014	mg/L	0.000141 102.25%
Pb 220.353†	18.2	0.00214	mg/L	0.000591	0.00214	mg/L	0.000591 27.69%
Sb 206.836†	-0.8	-0.00133	mg/L	0.000277	-0.00133	mg/L	0.000277 20.85%
Se 196.026†	-8.3	-0.00459	mg/L	0.004541	-0.00459	mg/L	0.004541 98.90%
Si 251.611†	648.2	0.0216	mg/L	0.00060	0.0216	mg/L	0.00060 2.79%
Sn 189.927†	-46.4	-0.0129	mg/L	0.00049	-0.0129	mg/L	0.00049 3.77%
Ti 334.940†	-525.8	0.00079	mg/L	0.000176	0.00079	mg/L	0.000176 22.41%
Tl 190.801†	-1.2	-0.00097	mg/L	0.002546	-0.00097	mg/L	0.002546 261.49%
V 290.880†	574.2	0.00068	mg/L	0.002954	0.00068	mg/L	0.002954 436.39%
Zn 206.200†	26.6	0.00012	mg/L	0.000350	0.00012	mg/L	0.000350 288.30%
K 766.490†	503.4	0.334	mg/L	0.0110	0.334	mg/L	0.0110 3.30%
Na 589.592†	583996.1	68.1	mg/L	1.09	68.1	mg/L	1.09 1.60%
Sr 407.771†	685938.1	0.813	mg/L	0.0320	0.813	mg/L	0.0320 3.93%
Li 670.784†	1744.2	0.0322	mg/L	0.00052	0.0322	mg/L	0.00052 1.63%
P 214.914†	28.1	0.0378	mg/L	0.01349	0.0378	mg/L	0.01349 35.68%

Sequence No.: 7
Sample ID: L1311005401 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 84
Date Collected: 11/5/2013 2:47:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311005401 0.01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005401 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1936502.7						67456.87	3.48%
YRADIAL	130511.7						3585.84	2.75%
Ga 417.206	700419.0						21924.77	3.13%
GaRADIAL	39617.9						439.75	1.11%
Ag 328.068†	86.6	-0.00038	mg/L	0.000436	-0.00038	mg/L	0.000436	115.20%
Al 396.153†	-4.9	0.0178	mg/L	0.00277	0.0178	mg/L	0.00277	15.53%
As 188.979†	-1.5	0.00032	mg/L	0.003108	0.00032	mg/L	0.003108	986.22%
Ba 233.527†	-22.9	-0.00192	mg/L	0.000310	-0.00192	mg/L	0.000310	16.10%
Be 234.861†	183.8	0.00039	mg/L	0.000115	0.00039	mg/L	0.000115	29.75%
B 249.677†	282.3	0.0144	mg/L	0.00038	0.0144	mg/L	0.00038	2.66%
Ca 227.546†	432.0	3.43	mg/L	0.058	3.43	mg/L	0.058	1.70%
Cd 228.802†	-8.4	-0.00041	mg/L	0.000084	-0.00041	mg/L	0.000084	20.60%
Co 228.616†	-11.3	-0.00116	mg/L	0.000313	-0.00116	mg/L	0.000313	27.03%
Cr 267.716†	19.6	-0.00037	mg/L	0.000356	-0.00037	mg/L	0.000356	96.98%
Cu 327.393†	-7.9	-0.00041	mg/L	0.000467	-0.00041	mg/L	0.000467	112.76%
Fe 239.562†	15.3	0.0178	mg/L	0.00190	0.0178	mg/L	0.00190	10.67%
Mg 279.077†	16194.0	18.7	mg/L	0.20	18.7	mg/L	0.20	1.08%
Mn 257.610†	8970.5	0.0236	mg/L	0.00063	0.0236	mg/L	0.00063	2.66%
Mo 202.031†	-9.5	-0.00003	mg/L	0.000482	-0.00003	mg/L	0.000482	>999.9%
Ni 231.604†	8.2	-0.00048	mg/L	0.000834	-0.00048	mg/L	0.000834	172.39%
Pb 220.353†	13.6	0.00097	mg/L	0.000095	0.00097	mg/L	0.000095	9.83%
Sb 206.836†	0.9	0.00004	mg/L	0.001390	0.00004	mg/L	0.001390	>999.9%
Se 196.026†	-1.1	0.00937	mg/L	0.007723	0.00937	mg/L	0.007723	82.44%
Si 251.611†	1363.4	0.0560	mg/L	0.00200	0.0560	mg/L	0.00200	3.57%
Sn 189.927†	-30.2	-0.00842	mg/L	0.002106	-0.00842	mg/L	0.002106	25.02%
Ti 334.940†	-512.5	0.00054	mg/L	0.000043	0.00054	mg/L	0.000043	7.84%
Tl 190.801†	-0.8	-0.00067	mg/L	0.001680	-0.00067	mg/L	0.001680	249.65%
V 290.880†	872.6	0.00277	mg/L	0.003141	0.00277	mg/L	0.003141	113.57%
Zn 206.200†	21.3	-0.00022	mg/L	0.000171	-0.00022	mg/L	0.000171	79.45%
K 766.490†	598.5	0.460	mg/L	0.0249	0.460	mg/L	0.0249	5.41%
Na 589.592†	228422.5	26.4	mg/L	0.45	26.4	mg/L	0.45	1.69%
Sr 407.771†	93727.9	0.108	mg/L	0.0024	0.108	mg/L	0.0024	2.26%
Li 670.784†	1149.0	0.0218	mg/L	0.00112	0.0218	mg/L	0.00112	5.15%
P 214.914†	29.6	0.0403	mg/L	0.01220	0.0403	mg/L	0.01220	30.29%

Approved: November 06, 2013

Sequence No.: 8 **Autosampler Location: 85**
Sample ID: L1311005402 0.01 **Date Collected: 11/5/2013 2:50:58 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005402 0.01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005402 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1983666.7						19204.73	0.97%
YRADIAL	130566.4						3785.16	2.90%
Ga 417.206	712905.7						13416.92	1.88%
GaRADIAL	39649.8						564.92	1.42%
Ag 328.068†	47.1	-0.00062	mg/L	0.000286	-0.00062	mg/L	0.000286	45.81%
Al 396.153†	3.1	0.0212	mg/L	0.00213	0.0212	mg/L	0.00213	10.03%
As 188.979†	0.9	0.00277	mg/L	0.005373	0.00277	mg/L	0.005373	193.92%
Ba 233.527†	-8.3	-0.00164	mg/L	0.000163	-0.00164	mg/L	0.000163	9.96%
Be 234.861†	213.7	0.00046	mg/L	0.000066	0.00046	mg/L	0.000066	14.38%
B 249.677†	180.3	0.0117	mg/L	0.00072	0.0117	mg/L	0.00072	6.21%
Ca 227.546†	490.0	3.89	mg/L	0.239	3.89	mg/L	0.239	6.14%
Cd 228.802†	-12.8	-0.00067	mg/L	0.000360	-0.00067	mg/L	0.000360	53.69%
Co 228.616†	-6.1	-0.00078	mg/L	0.000294	-0.00078	mg/L	0.000294	37.65%
Cr 267.716†	8.9	-0.00054	mg/L	0.000150	-0.00054	mg/L	0.000150	27.94%
Cu 327.393†	31.4	-0.00010	mg/L	0.000097	-0.00010	mg/L	0.000097	93.25%
Fe 239.562†	-0.5	0.0110	mg/L	0.00506	0.0110	mg/L	0.00506	45.86%
Mg 279.077†	13152.0	15.2	mg/L	0.39	15.2	mg/L	0.39	2.58%
Mn 257.610†	1867.4	0.00467	mg/L	0.000341	0.00467	mg/L	0.000341	7.31%
Mo 202.031†	-12.7	-0.00033	mg/L	0.000313	-0.00033	mg/L	0.000313	95.47%
Ni 231.604†	22.8	0.00016	mg/L	0.000464	0.00016	mg/L	0.000464	294.53%
Pb 220.353†	17.2	0.00190	mg/L	0.001345	0.00190	mg/L	0.001345	70.65%
Sb 206.836†	1.2	0.00029	mg/L	0.001810	0.00029	mg/L	0.001810	630.08%
Se 196.026†	-0.6	0.0105	mg/L	0.00443	0.0105	mg/L	0.00443	42.25%
Si 251.611†	1354.2	0.0555	mg/L	0.00592	0.0555	mg/L	0.00592	10.67%
Sn 189.927†	-34.3	-0.00954	mg/L	0.000537	-0.00954	mg/L	0.000537	5.63%
Ti 334.940†	-397.6	0.00082	mg/L	0.000223	0.00082	mg/L	0.000223	27.08%
Tl 190.801†	2.9	0.00267	mg/L	0.003505	0.00267	mg/L	0.003505	131.06%
V 290.880†	473.6	-0.00044	mg/L	0.000730	-0.00044	mg/L	0.000730	167.49%
Zn 206.200†	19.1	-0.00035	mg/L	0.000124	-0.00035	mg/L	0.000124	34.95%
K 766.490†	566.4	0.436	mg/L	0.0224	0.436	mg/L	0.0224	5.15%
Na 589.592†	191908.9	22.2	mg/L	0.22	22.2	mg/L	0.22	0.97%
Sr 407.771†	91312.9	0.105	mg/L	0.0047	0.105	mg/L	0.0047	4.41%
Li 670.784†	828.5	0.0162	mg/L	0.00096	0.0162	mg/L	0.00096	5.95%
P 214.914†	31.9	0.0442	mg/L	0.01422	0.0442	mg/L	0.01422	32.18%

Sequence No.: 9 **Autosampler Location: 86**
Sample ID: L1311005403 0.01 **Date Collected: 11/5/2013 2:53:58 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005403 0.01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005403 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1961765.8						6831.35	0.35%
YRADIAL	130733.5						4268.89	3.27%
Ga 417.206	705999.5						6112.67	0.87%
GaRADIAL	39656.4						1405.01	3.54%
Ag 328.068†	183.8	0.00021	mg/L	0.000400	0.00021	mg/L	0.000400	191.35%

Approved: November 06, 2013

Kim H. Rhoden

Al 396.153†	0.7	0.0202	mg/L	0.00121	0.0202	mg/L	0.00121	5.99%
As 188.979†	-0.1	0.00174	mg/L	0.001443	0.00174	mg/L	0.001443	82.71%
Ba 233.527†	-4.2	-0.00156	mg/L	0.000112	-0.00156	mg/L	0.000112	7.18%
Be 234.861†	194.5	0.00041	mg/L	0.000054	0.00041	mg/L	0.000054	12.94%
B 249.677†	214.7	0.0126	mg/L	0.00021	0.0126	mg/L	0.00021	1.66%
Ca 227.546†	452.5	3.60	mg/L	0.073	3.60	mg/L	0.073	2.03%
Cd 228.802†	-8.4	-0.00041	mg/L	0.000112	-0.00041	mg/L	0.000112	27.48%
Co 228.616†	-4.7	-0.00068	mg/L	0.000385	-0.00068	mg/L	0.000385	56.52%
Cr 267.716†	10.7	-0.00051	mg/L	0.000296	-0.00051	mg/L	0.000296	58.35%
Cu 327.393†	-15.9	-0.00048	mg/L	0.000475	-0.00048	mg/L	0.000475	99.65%
Fe 239.562†	2.4	0.0124	mg/L	0.00225	0.0124	mg/L	0.00225	18.19%
Mg 279.077†	8206.9	9.48	mg/L	0.214	9.48	mg/L	0.214	2.26%
Mn 257.610†	7870.5	0.0207	mg/L	0.00017	0.0207	mg/L	0.00017	0.82%
Mo 202.031†	-9.5	-0.00004	mg/L	0.000227	-0.00004	mg/L	0.000227	579.62%
Ni 231.604†	13.8	-0.00024	mg/L	0.000622	-0.00024	mg/L	0.000622	261.40%
Pb 220.353†	17.7	0.00203	mg/L	0.001907	0.00203	mg/L	0.001907	93.74%
Sb 206.836†	-0.5	-0.00113	mg/L	0.000700	-0.00113	mg/L	0.000700	61.90%
Se 196.026†	-1.9	0.00787	mg/L	0.002300	0.00787	mg/L	0.002300	29.21%
Si 251.611†	1267.6	0.0513	mg/L	0.00116	0.0513	mg/L	0.00116	2.26%
Sn 189.927†	-31.2	-0.00870	mg/L	0.001266	-0.00870	mg/L	0.001266	14.55%
Ti 334.940†	-429.5	0.00072	mg/L	0.000285	0.00072	mg/L	0.000285	39.69%
Tl 190.801†	1.4	0.00136	mg/L	0.002194	0.00136	mg/L	0.002194	160.98%
V 290.880†	674.3	0.00137	mg/L	0.001222	0.00137	mg/L	0.001222	89.26%
Zn 206.200†	21.5	-0.00021	mg/L	0.000348	-0.00021	mg/L	0.000348	168.55%
K 766.490†	511.3	0.385	mg/L	0.0217	0.385	mg/L	0.0217	5.65%
Na 589.592†	211190.4	24.4	mg/L	1.02	24.4	mg/L	1.02	4.17%
Sr 407.771†	72926.7	0.0836	mg/L	0.00188	0.0836	mg/L	0.00188	2.25%
Li 670.784†	693.6	0.0138	mg/L	0.00089	0.0138	mg/L	0.00089	6.45%
P 214.914†	30.0	0.0409	mg/L	0.00951	0.0409	mg/L	0.00951	23.23%

Sequence No.: 10
Sample ID: L1311005404 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 87
Date Collected: 11/5/2013 2:56:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311005404 0.01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005404 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1973969.8						20600.94	1.04%
YRADIAL	130472.7						3191.13	2.45%
Ga 417.206	701823.3						8237.64	1.17%
GaRADIAL	39372.4						415.56	1.06%
Ag 328.068†	115.9	-0.00020	mg/L	0.000656	-0.00020	mg/L	0.000656	334.15%
Al 396.153†	15.6	0.0263	mg/L	0.00208	0.0263	mg/L	0.00208	7.90%
As 188.979†	-2.9	-0.00106	mg/L	0.003628	-0.00106	mg/L	0.003628	342.46%
Ba 233.527†	1.8	-0.00144	mg/L	0.000102	-0.00144	mg/L	0.000102	7.07%
Be 234.861†	186.6	0.00039	mg/L	0.000019	0.00039	mg/L	0.000019	4.79%
B 249.677†	118.9	0.00998	mg/L	0.000359	0.00998	mg/L	0.000359	3.59%
Ca 227.546†	413.5	3.29	mg/L	0.244	3.29	mg/L	0.244	7.42%
Cd 228.802†	-11.5	-0.00057	mg/L	0.000183	-0.00057	mg/L	0.000183	31.80%
Co 228.616†	-7.4	-0.00088	mg/L	0.000749	-0.00088	mg/L	0.000749	85.49%
Cr 267.716†	3.3	-0.00062	mg/L	0.000137	-0.00062	mg/L	0.000137	22.05%
Cu 327.393†	-38.0	-0.00065	mg/L	0.000123	-0.00065	mg/L	0.000123	18.85%
Fe 239.562†	0.9	0.0119	mg/L	0.00070	0.0119	mg/L	0.00070	5.88%
Mg 279.077†	2608.7	3.03	mg/L	0.084	3.03	mg/L	0.084	2.77%
Mn 257.610†	2928.9	0.00750	mg/L	0.000361	0.00750	mg/L	0.000361	4.82%
Mo 202.031†	-5.4	0.00034	mg/L	0.000454	0.00034	mg/L	0.000454	135.15%
Ni 231.604†	8.9	-0.00045	mg/L	0.000201	-0.00045	mg/L	0.000201	44.29%
Pb 220.353†	18.6	0.00227	mg/L	0.001158	0.00227	mg/L	0.001158	50.93%
Sb 206.836†	-0.6	-0.00118	mg/L	0.001322	-0.00118	mg/L	0.001322	112.22%
Se 196.026†	-5.3	0.00115	mg/L	0.003394	0.00115	mg/L	0.003394	295.50%
Si 251.611†	1582.8	0.0665	mg/L	0.00679	0.0665	mg/L	0.00679	10.21%
Sn 189.927†	-29.0	-0.00809	mg/L	0.001406	-0.00809	mg/L	0.001406	17.38%
Ti 334.940†	-328.2	0.00086	mg/L	0.000063	0.00086	mg/L	0.000063	7.36%

Approved: November 06, 2013

Tl 190.801†	-1.4	-0.00120	mg/L	0.004022	-0.00120	mg/L	0.004022	334.64%
V 290.880†	487.6	0.00000	mg/L	0.000919	0.00000	mg/L	0.000919	>999.9%
Zn 206.200†	39.6	0.00090	mg/L	0.000464	0.00090	mg/L	0.000464	51.62%
K 766.490†	231.1	0.154	mg/L	0.0159	0.154	mg/L	0.0159	10.36%
Na 589.592†	62753.6	7.21	mg/L	0.149	7.21	mg/L	0.149	2.07%
Sr 407.771†	44398.9	0.0497	mg/L	0.00175	0.0497	mg/L	0.00175	3.53%
Li 670.784†	289.5	0.00672	mg/L	0.001413	0.00672	mg/L	0.001413	21.03%
P 214.914†	32.9	0.0459	mg/L	0.00317	0.0459	mg/L	0.00317	6.91%

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Sequence No.: 11 **Autosampler Location: 88**
Sample ID: L1311005405 0.01 **Date Collected: 11/5/2013 3:00:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005405 0.01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005405 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1972549.6						15847.52	0.80%
YRADIAL	133706.5						3891.58	2.91%
Ga 417.206	695510.6						11548.00	1.66%
GaRADIAL	40301.8						240.41	0.60%
Ag 328.068†	119.7	-0.00017	mg/L	0.000232	-0.00017	mg/L	0.000232	135.71%
Al 396.153†	2.0	0.0207	mg/L	0.00213	0.0207	mg/L	0.00213	10.28%
As 188.979†	-1.3	0.00052	mg/L	0.005424	0.00052	mg/L	0.005424	>999.9%
Ba 233.527†	-5.1	-0.00158	mg/L	0.000178	-0.00158	mg/L	0.000178	11.31%
Be 234.861†	189.4	0.00040	mg/L	0.000048	0.00040	mg/L	0.000048	11.85%
B 249.677†	40.4	0.00784	mg/L	0.000672	0.00784	mg/L	0.000672	8.57%
Ca 227.546†	251.5	2.00	mg/L	0.141	2.00	mg/L	0.141	7.02%
Cd 228.802†	-9.0	-0.00044	mg/L	0.000101	-0.00044	mg/L	0.000101	23.02%
Co 228.616†	-4.2	-0.00064	mg/L	0.000194	-0.00064	mg/L	0.000194	30.08%
Cr 267.716†	-3.1	-0.00072	mg/L	0.000152	-0.00072	mg/L	0.000152	21.04%
Cu 327.393†	-51.6	-0.00076	mg/L	0.000802	-0.00076	mg/L	0.000802	105.93%
Fe 239.562†	-3.6	0.00995	mg/L	0.001223	0.00995	mg/L	0.001223	12.29%
Mg 279.077†	1401.4	1.63	mg/L	0.041	1.63	mg/L	0.041	2.53%
Mn 257.610†	3984.6	0.0103	mg/L	0.00070	0.0103	mg/L	0.00070	6.75%
Mo 202.031†	-16.4	-0.00066	mg/L	0.000101	-0.00066	mg/L	0.000101	15.13%
Ni 231.604†	-1.0	-0.00089	mg/L	0.000424	-0.00089	mg/L	0.000424	47.70%
Pb 220.353†	10.7	0.00023	mg/L	0.002421	0.00023	mg/L	0.002421	>999.9%
Sb 206.836†	-3.0	-0.00319	mg/L	0.004234	-0.00319	mg/L	0.004234	132.71%
Se 196.026†	-6.6	-0.00141	mg/L	0.009969	-0.00141	mg/L	0.009969	708.13%
Si 251.611†	1499.2	0.0625	mg/L	0.00627	0.0625	mg/L	0.00627	10.03%
Sn 189.927†	-23.0	-0.00646	mg/L	0.000634	-0.00646	mg/L	0.000634	9.81%
Ti 334.940†	-221.3	0.00086	mg/L	0.000075	0.00086	mg/L	0.000075	8.75%
Tl 190.801†	-0.0	0.00005	mg/L	0.003225	0.00005	mg/L	0.003225	>999.9%
V 290.880†	424.1	-0.00049	mg/L	0.000136	-0.00049	mg/L	0.000136	27.60%
Zn 206.200†	27.6	0.00017	mg/L	0.000290	0.00017	mg/L	0.000290	172.95%
K 766.490†	42.0	-0.0135	mg/L	0.06956	-0.0135	mg/L	0.06956	516.79%
Na 589.592†	59774.6	6.87	mg/L	0.086	6.87	mg/L	0.086	1.25%
Sr 407.771†	24093.4	0.0256	mg/L	0.00102	0.0256	mg/L	0.00102	3.98%
Li 670.784†	72.9	0.00293	mg/L	0.000491	0.00293	mg/L	0.000491	16.78%
P 214.914†	28.0	0.0376	mg/L	0.01155	0.0376	mg/L	0.01155	30.73%

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Sequence No.: 12 **Autosampler Location: 89**
Sample ID: L1311005406 0.01 **Date Collected: 11/5/2013 3:03:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005406 0.01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Approved: November 06, 2013

Kim H. Rhoden

Mean Data: L1311005406 0.01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1969270.6						19189.03	0.97%
YRADIAL	130325.6						2101.46	1.61%
Ga 417.206	714127.9						9309.88	1.30%
GaRADIAL	39745.0						741.44	1.87%
Ag 328.068†	143.7	-0.00003	mg/L	0.000302	-0.00003	mg/L	0.000302	963.22%
Al 396.153†	1.5	0.0205	mg/L	0.00314	0.0205	mg/L	0.00314	15.32%
As 188.979†	0.3	0.00217	mg/L	0.003566	0.00217	mg/L	0.003566	164.17%
Ba 233.527†	-11.8	-0.00171	mg/L	0.000231	-0.00171	mg/L	0.000231	13.52%
Be 234.861†	209.9	0.00045	mg/L	0.000056	0.00045	mg/L	0.000056	12.42%
B 249.677†	4.6	0.00686	mg/L	0.000415	0.00686	mg/L	0.000415	6.05%
Ca 227.546†	348.5	2.77	mg/L	0.045	2.77	mg/L	0.045	1.61%
Cd 228.802†	-7.6	-0.00036	mg/L	0.000079	-0.00036	mg/L	0.000079	21.68%
Co 228.616†	-1.6	-0.00045	mg/L	0.000206	-0.00045	mg/L	0.000206	45.23%
Cr 267.716†	-7.5	-0.00079	mg/L	0.000193	-0.00079	mg/L	0.000193	24.29%
Cu 327.393†	-37.4	-0.00065	mg/L	0.000354	-0.00065	mg/L	0.000354	54.74%
Fe 239.562†	-1.8	0.0106	mg/L	0.00051	0.0106	mg/L	0.00051	4.76%
Mg 279.077†	4877.1	5.64	mg/L	0.174	5.64	mg/L	0.174	3.08%
Mn 257.610†	2235.7	0.00565	mg/L	0.000189	0.00565	mg/L	0.000189	3.34%
Mo 202.031†	-8.3	0.00007	mg/L	0.000669	0.00007	mg/L	0.000669	935.10%
Ni 231.604†	6.0	-0.00058	mg/L	0.000452	-0.00058	mg/L	0.000452	77.34%
Pb 220.353†	17.3	0.00194	mg/L	0.001038	0.00194	mg/L	0.001038	53.42%
Sb 206.836†	-0.3	-0.00090	mg/L	0.000824	-0.00090	mg/L	0.000824	91.14%
Se 196.026†	-4.6	0.00243	mg/L	0.003787	0.00243	mg/L	0.003787	156.09%
Si 251.611†	1325.5	0.0541	mg/L	0.00176	0.0541	mg/L	0.00176	3.25%
Sn 189.927†	-28.5	-0.00798	mg/L	0.000758	-0.00798	mg/L	0.000758	9.51%
Ti 334.940†	-387.8	0.00067	mg/L	0.000147	0.00067	mg/L	0.000147	21.80%
Tl 190.801†	0.6	0.00067	mg/L	0.003099	0.00067	mg/L	0.003099	465.99%
V 290.880†	356.2	-0.00116	mg/L	0.000970	-0.00116	mg/L	0.000970	83.82%
Zn 206.200†	17.9	-0.00043	mg/L	0.000345	-0.00043	mg/L	0.000345	80.32%
K 766.490†	271.6	0.174	mg/L	0.0131	0.174	mg/L	0.0131	7.57%
Na 589.592†	202238.4	23.4	mg/L	0.83	23.4	mg/L	0.83	3.55%
Sr 407.771†	44448.7	0.0498	mg/L	0.00051	0.0498	mg/L	0.00051	1.02%
Li 670.784†	617.2	0.0125	mg/L	0.00167	0.0125	mg/L	0.00167	13.44%
P 214.914†	22.1	0.0276	mg/L	0.00636	0.0276	mg/L	0.00636	23.09%

Sequence No.: 13
Sample ID: L1311005407 0.01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 90
Date Collected: 11/5/2013 3:06:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311005407 0.01

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1311005407 0.01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1993913.7						35546.57	1.78%
YRADIAL	131260.2						3614.57	2.75%
Ga 417.206	731575.5						17132.22	2.34%
GaRADIAL	39172.9						661.69	1.69%
Ag 328.068†	82.0	-0.00041	mg/L	0.000199	-0.00041	mg/L	0.000199	48.45%
Al 396.153†	-3.6	0.0184	mg/L	0.00172	0.0184	mg/L	0.00172	9.36%
As 188.979†	-2.5	-0.00062	mg/L	0.002488	-0.00062	mg/L	0.002488	400.22%
Ba 233.527†	-12.0	-0.00171	mg/L	0.000164	-0.00171	mg/L	0.000164	9.59%
Be 234.861†	226.7	0.00049	mg/L	0.000020	0.00049	mg/L	0.000020	4.14%
B 249.677†	329.8	0.0157	mg/L	0.00117	0.0157	mg/L	0.00117	7.42%
Ca 227.546†	369.6	2.94	mg/L	0.189	2.94	mg/L	0.189	6.43%
Cd 228.802†	-4.5	-0.00017	mg/L	0.000308	-0.00017	mg/L	0.000308	183.88%
Co 228.616†	-9.3	-0.00101	mg/L	0.000375	-0.00101	mg/L	0.000375	37.11%
Cr 267.716†	-8.3	-0.00080	mg/L	0.000114	-0.00080	mg/L	0.000114	14.21%
Cu 327.393†	-23.1	-0.00053	mg/L	0.001384	-0.00053	mg/L	0.001384	259.49%
Fe 239.562†	-4.6	0.00940	mg/L	0.001722	0.00940	mg/L	0.001722	18.32%
Mg 279.077†	6605.6	7.63	mg/L	0.351	7.63	mg/L	0.351	4.60%

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Mn 257.610†	3077.7	0.00789 mg/L	0.000583	0.00789 mg/L	0.000583	7.39%
Mo 202.031†	-14.7	-0.00051 mg/L	0.000360	-0.00051 mg/L	0.000360	70.94%
Ni 231.604†	8.0	-0.00050 mg/L	0.000091	-0.00050 mg/L	0.000091	18.26%
Pb 220.353†	15.7	0.00153 mg/L	0.001169	0.00153 mg/L	0.001169	76.36%
Sb 206.836†	-3.3	-0.00336 mg/L	0.001044	-0.00336 mg/L	0.001044	31.03%
Se 196.026†	-10.1	-0.00845 mg/L	0.002024	-0.00845 mg/L	0.002024	23.96%
Si 251.611†	892.2	0.0333 mg/L	0.00468	0.0333 mg/L	0.00468	14.07%
Sn 189.927†	-29.4	-0.00822 mg/L	0.000815	-0.00822 mg/L	0.000815	9.92%
Ti 334.940†	-384.6	0.00070 mg/L	0.000178	0.00070 mg/L	0.000178	25.28%
Tl 190.801†	5.0	0.00459 mg/L	0.005859	0.00459 mg/L	0.005859	127.79%
V 290.880†	514.8	0.00010 mg/L	0.001011	0.00010 mg/L	0.001011	999.16%
Zn 206.200†	21.6	-0.00020 mg/L	0.000342	-0.00020 mg/L	0.000342	169.75%
K 766.490†	175.7	0.0685 mg/L	0.02827	0.0685 mg/L	0.02827	41.30%
Na 589.592†	375035.4	43.5 mg/L	2.26	43.5 mg/L	2.26	5.21%
Sr 407.771†	78156.7	0.0899 mg/L	0.00183	0.0899 mg/L	0.00183	2.04%
Li 670.784†	766.4	0.0151 mg/L	0.00112	0.0151 mg/L	0.00112	7.43%
P 214.914†	25.2	0.0329 mg/L	0.00765	0.0329 mg/L	0.00765	23.28%

Sequence No.: 14 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 3:09:05 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1944542.7						6629.48	0.34%
YRADIAL	131505.2						484.53	0.37%
Ga 417.206	701272.4						8768.94	1.25%
GaRADIAL	38409.0						116.70	0.30%
Ag 328.068†	65013.3	0.396	mg/L	0.0079	0.396	mg/L	0.0079	2.00%
QC value within limits for Ag 328.068 Recovery = 98.94%								
Al 396.153†	24358.5	10.1	mg/L	0.04	10.1	mg/L	0.04	0.39%
QC value within limits for Al 396.153 Recovery = 100.64%								
As 188.979†	395.4	0.395	mg/L	0.0063	0.395	mg/L	0.0063	1.59%
QC value within limits for As 188.979 Recovery = 98.66%								
Ba 233.527†	52897.2	1.03	mg/L	0.012	1.03	mg/L	0.012	1.12%
QC value within limits for Ba 233.527 Recovery = 103.26%								
Be 234.861†	20842.4	0.0491	mg/L	0.00084	0.0491	mg/L	0.00084	1.72%
QC value within limits for Be 234.861 Recovery = 98.12%								
B 249.677†	17507.6	0.479	mg/L	0.0056	0.479	mg/L	0.0056	1.17%
QC value within limits for B 249.677 Recovery = 95.88%								
Ca 227.546†	1219.7	10.1	mg/L	0.03	10.1	mg/L	0.03	0.30%
QC value within limits for Ca 227.546 Recovery = 101.45%								
Cd 228.802†	823.2	0.0469	mg/L	0.00075	0.0469	mg/L	0.00075	1.61%
QC value within limits for Cd 228.802 Recovery = 93.75%								
Co 228.616†	2859.3	0.206	mg/L	0.0019	0.206	mg/L	0.0019	0.93%
QC value within limits for Co 228.616 Recovery = 102.87%								
Cr 267.716†	32727.3	0.510	mg/L	0.0068	0.510	mg/L	0.0068	1.33%
QC value within limits for Cr 267.716 Recovery = 102.04%								
Cu 327.393†	61695.8	0.489	mg/L	0.0112	0.489	mg/L	0.0112	2.28%
QC value within limits for Cu 327.393 Recovery = 97.70%								
Fe 239.562†	9415.0	4.09	mg/L	0.044	4.09	mg/L	0.044	1.07%
QC value within limits for Fe 239.562 Recovery = 102.23%								
Mg 279.077†	8893.6	10.3	mg/L	0.01	10.3	mg/L	0.01	0.11%
QC value within limits for Mg 279.077 Recovery = 102.87%								
Mn 257.610†	191739.7	0.512	mg/L	0.0087	0.512	mg/L	0.0087	1.69%
QC value within limits for Mn 257.610 Recovery = 102.31%								
Mo 202.031†	11040.7	1.01	mg/L	0.011	1.01	mg/L	0.011	1.12%
QC value within limits for Mo 202.031 Recovery = 100.67%								
Ni 231.604†	11703.6	0.515	mg/L	0.0038	0.515	mg/L	0.0038	0.74%
QC value within limits for Ni 231.604 Recovery = 102.92%								
Pb 220.353†	2002.2	0.519	mg/L	0.0041	0.519	mg/L	0.0041	0.80%
QC value within limits for Pb 220.353 Recovery = 103.77%								

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Sb 206.836†	1430.8	1.17 mg/L	0.007	1.17 mg/L	0.007	0.59%
QC value within limits for Sb 206.836 Recovery = 97.33%						
Se 196.026†	196.1	0.402 mg/L	0.0080	0.402 mg/L	0.0080	1.99%
QC value within limits for Se 196.026 Recovery = 100.58%						
Si 251.611†	104153.5	4.99 mg/L	0.095	4.99 mg/L	0.095	1.91%
QC value within limits for Si 251.611 Recovery = 99.76%						
Sn 189.927†	3824.5	1.04 mg/L	0.010	1.04 mg/L	0.010	1.00%
QC value within limits for Sn 189.927 Recovery = 104.35%						
Ti 334.940†	543059.1	0.999 mg/L	0.0118	0.999 mg/L	0.0118	1.18%
QC value within limits for Ti 334.940 Recovery = 99.86%						
Tl 190.801†	577.3	0.530 mg/L	0.0027	0.530 mg/L	0.0027	0.50%
QC value within limits for Tl 190.801 Recovery = 106.04%						
V 290.880†	126484.0	1.04 mg/L	0.010	1.04 mg/L	0.010	0.98%
QC value within limits for V 290.880 Recovery = 103.88%						
Zn 206.200†	17148.6	1.05 mg/L	0.010	1.05 mg/L	0.010	0.98%
QC value within limits for Zn 206.200 Recovery = 105.27%						
K 766.490†	60970.5	52.7 mg/L	0.20	52.7 mg/L	0.20	0.38%
QC value within limits for K 766.490 Recovery = 105.45%						
Na 589.592†	429013.8	49.8 mg/L	0.70	49.8 mg/L	0.70	1.41%
QC value within limits for Na 589.592 Recovery = 99.68%						
Sr 407.771†	888943.2	1.05 mg/L	0.017	1.05 mg/L	0.017	1.59%
QC value within limits for Sr 407.771 Recovery = 105.38%						
Li 670.784†	56972.4	0.999 mg/L	0.0070	0.999 mg/L	0.0070	0.70%
QC value within limits for Li 670.784 Recovery = 99.91%						
P 214.914†	6065.4	10.3 mg/L	0.12	10.3 mg/L	0.12	1.15%
QC value within limits for P 214.914 Recovery = 103.31%						

All analyte(s) passed QC.

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Sequence No.: 15 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/5/2013 3:11:10 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1927093.1						15409.45	0.80%
YRADIAL	126934.6						2300.11	1.81%
Ga 417.206	666774.0						4958.72	0.74%
GaRADIAL	37190.4						1105.88	2.97%
Ag 328.068†	142.4	-0.00002	mg/L	0.000194	-0.00002	mg/L	0.000194	863.18%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	8.1	0.0232	mg/L	0.00428	0.0232	mg/L	0.00428	18.49%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-0.3	0.00145	mg/L	0.001278	0.00145	mg/L	0.001278	88.14%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-21.7	-0.00190	mg/L	0.000187	-0.00190	mg/L	0.000187	9.84%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	77.1	0.00013	mg/L	0.000021	0.00013	mg/L	0.000021	15.44%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	-58.8	0.00514	mg/L	0.000707	0.00514	mg/L	0.000707	13.77%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	13.2	0.117	mg/L	0.0479	0.117	mg/L	0.0479	40.94%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-6.1	-0.00028	mg/L	0.000364	-0.00028	mg/L	0.000364	131.92%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-6.3	-0.00080	mg/L	0.000336	-0.00080	mg/L	0.000336	42.27%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	2.8	-0.00063	mg/L	0.000105	-0.00063	mg/L	0.000105	16.56%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	53.8	0.00008	mg/L	0.000416	0.00008	mg/L	0.000416	544.95%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	5.2	0.0138	mg/L	0.00226	0.0138	mg/L	0.00226	16.45%
QC value within limits for Fe 239.562 Recovery = Not calculated								

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Mg 279.077†	27.8	0.0514 mg/L	0.00516	0.0514 mg/L	0.00516	10.04%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	38.4	-0.00021 mg/L	0.000024	-0.00021 mg/L	0.000024	11.45%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	6.9	0.00146 mg/L	0.000508	0.00146 mg/L	0.000508	34.86%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	3.6	-0.00068 mg/L	0.000369	-0.00068 mg/L	0.000369	53.89%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	6.8	-0.00080 mg/L	0.000931	-0.00080 mg/L	0.000931	117.09%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	0.3	-0.00042 mg/L	0.001390	-0.00042 mg/L	0.001390	330.29%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-3.6	0.00460 mg/L	0.007245	0.00460 mg/L	0.007245	157.39%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	18.2	-0.00875 mg/L	0.001666	-0.00875 mg/L	0.001666	19.03%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	6.8	0.00167 mg/L	0.001714	0.00167 mg/L	0.001714	102.43%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	149.9	0.00126 mg/L	0.000056	0.00126 mg/L	0.000056	4.46%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-9.0	-0.00794 mg/L	0.005888	-0.00794 mg/L	0.005888	74.19%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	568.6	0.00074 mg/L	0.001288	0.00074 mg/L	0.001288	173.88%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	3.1	-0.00133 mg/L	0.000102	-0.00133 mg/L	0.000102	7.63%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	-12.6	-0.0551 mg/L	0.02196	-0.0551 mg/L	0.02196	39.88%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	798.5	0.0770 mg/L	0.04636	0.0770 mg/L	0.04636	60.19%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	19.9	-0.00297 mg/L	0.000139	-0.00297 mg/L	0.000139	4.67%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	-0.0	0.00165 mg/L	0.000798	0.00165 mg/L	0.000798	48.31%
QC value within limits for Li 670.784 Recovery = Not calculated						
P 214.914†	32.0	0.0444 mg/L	0.00959	0.0444 mg/L	0.00959	21.59%
QC value within limits for P 214.914 Recovery = Not calculated						

All analyte(s) passed QC.

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Sequence No.: 16 **Autosampler Location: 91**
Sample ID: L1311005408 0.1 **Date Collected: 11/5/2013 3:14:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005408 0.1

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1311005408 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1984669.2						16608.82	0.84%
YRADIAL	132763.2						2390.19	1.80%
Ga 417.206	718257.2						9940.85	1.38%
GaRADIAL	40283.0						517.54	1.28%
Ag 328.068†	105.7	-0.00026	mg/L	0.000790	-0.00026	mg/L	0.000790	301.07%
Al 396.153†	10.1	0.0238	mg/L	0.00325	0.0238	mg/L	0.00325	13.67%
As 188.979†	2.0	0.00381	mg/L	0.003116	0.00381	mg/L	0.003116	81.79%
Ba 233.527†	217.9	0.00279	mg/L	0.000387	0.00279	mg/L	0.000387	13.89%
Be 234.861†	213.4	0.00046	mg/L	0.000033	0.00046	mg/L	0.000033	7.17%
B 249.677†	995.0	0.0338	mg/L	0.00213	0.0338	mg/L	0.00213	6.29%
Ca 227.546†	469.8	3.73	mg/L	0.216	3.73	mg/L	0.216	5.78%
Cd 228.802†	-9.7	-0.00050	mg/L	0.000204	-0.00050	mg/L	0.000204	40.94%
Co 228.616†	-3.5	-0.00059	mg/L	0.000423	-0.00059	mg/L	0.000423	71.98%
Cr 267.716†	-12.9	-0.00088	mg/L	0.000128	-0.00088	mg/L	0.000128	14.61%
Cu 327.393†	-23.1	-0.00053	mg/L	0.000664	-0.00053	mg/L	0.000664	124.74%
Fe 239.562†	0.3	0.0116	mg/L	0.00190	0.0116	mg/L	0.00190	16.29%
Mg 279.077†	991.2	1.16	mg/L	0.026	1.16	mg/L	0.026	2.22%
Mn 257.610†	2018.3	0.00507	mg/L	0.000264	0.00507	mg/L	0.000264	5.21%

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Mo 202.031†	34.5	0.00397	mg/L	0.000916	0.00397	mg/L	0.000916	23.06%
Ni 231.604†	19.1	-0.00001	mg/L	0.000427	-0.00001	mg/L	0.000427	>999.9%
Pb 220.353†	7.9	-0.00050	mg/L	0.001134	-0.00050	mg/L	0.001134	227.82%
Sb 206.836†	-0.4	-0.00100	mg/L	0.002379	-0.00100	mg/L	0.002379	238.34%
Se 196.026†	-4.3	0.00305	mg/L	0.009966	0.00305	mg/L	0.009966	326.61%
Si 251.611†	14514.7	0.688	mg/L	0.0483	0.688	mg/L	0.0483	7.02%
Sn 189.927†	-33.9	-0.00944	mg/L	0.000730	-0.00944	mg/L	0.000730	7.73%
Ti 334.940†	-403.4	0.00079	mg/L	0.000020	0.00079	mg/L	0.000020	2.54%
Tl 190.801†	2.4	0.00220	mg/L	0.004537	0.00220	mg/L	0.004537	206.66%
V 290.880†	448.8	-0.00028	mg/L	0.000937	-0.00028	mg/L	0.000937	337.55%
Zn 206.200†	28.2	0.00020	mg/L	0.000192	0.00020	mg/L	0.000192	96.24%
K 766.490†	1676.3	1.42	mg/L	0.054	1.42	mg/L	0.054	3.82%
Na 589.592†	181182.3	20.9	mg/L	0.60	20.9	mg/L	0.60	2.86%
Sr 407.771†	60523.1	0.0689	mg/L	0.00039	0.0689	mg/L	0.00039	0.57%
Li 670.784†	79.7	0.00305	mg/L	0.000189	0.00305	mg/L	0.000189	6.19%
P 214.914†	28.6	0.0386	mg/L	0.00936	0.0386	mg/L	0.00936	24.28%

Sequence No.: 17 **Autosampler Location: 92**
Sample ID: L1311005409 0.1 **Date Collected: 11/5/2013 3:17:11 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005409 0.1

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311005409 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2011928.8						22265.91	1.11%
YRADIAL	132357.8						540.75	0.41%
Ga 417.206	738215.0						9866.20	1.34%
GaRADIAL	40249.7						819.57	2.04%
Ag 328.068†	233.5	0.00049	mg/L	0.000544	0.00049	mg/L	0.000544	111.66%
Al 396.153†	0.5	0.0200	mg/L	0.00410	0.0200	mg/L	0.00410	20.52%
As 188.979†	-4.0	-0.00187	mg/L	0.004616	-0.00187	mg/L	0.004616	246.51%
Ba 233.527†	97.7	0.00044	mg/L	0.000066	0.00044	mg/L	0.000066	15.23%
Be 234.861†	237.8	0.00052	mg/L	0.000049	0.00052	mg/L	0.000049	9.41%
B 249.677†	683.6	0.0254	mg/L	0.00094	0.0254	mg/L	0.00094	3.71%
Ca 227.546†	1983.3	15.7	mg/L	0.49	15.7	mg/L	0.49	3.15%
Cd 228.802†	-10.3	-0.00050	mg/L	0.000106	-0.00050	mg/L	0.000106	21.12%
Co 228.616†	-5.3	-0.00071	mg/L	0.000445	-0.00071	mg/L	0.000445	62.49%
Cr 267.716†	-3.8	-0.00073	mg/L	0.000233	-0.00073	mg/L	0.000233	31.78%
Cu 327.393†	-52.8	-0.00077	mg/L	0.000112	-0.00077	mg/L	0.000112	14.57%
Fe 239.562†	-3.8	0.00971	mg/L	0.002318	0.00971	mg/L	0.002318	23.88%
Mg 279.077†	6381.4	7.38	mg/L	0.155	7.38	mg/L	0.155	2.11%
Mn 257.610†	17345.3	0.0459	mg/L	0.00146	0.0459	mg/L	0.00146	3.17%
Mo 202.031†	8.7	0.00162	mg/L	0.000568	0.00162	mg/L	0.000568	34.98%
Ni 231.604†	14.4	-0.00021	mg/L	0.000426	-0.00021	mg/L	0.000426	202.17%
Pb 220.353†	15.8	0.00152	mg/L	0.002947	0.00152	mg/L	0.002947	193.31%
Sb 206.836†	-0.0	-0.00073	mg/L	0.001982	-0.00073	mg/L	0.001982	272.30%
Se 196.026†	-8.6	-0.00550	mg/L	0.005610	-0.00550	mg/L	0.005610	102.00%
Si 251.611†	11978.8	0.566	mg/L	0.0205	0.566	mg/L	0.0205	3.61%
Sn 189.927†	-91.5	-0.0252	mg/L	0.00136	-0.0252	mg/L	0.00136	5.39%
Ti 334.940†	-1576.1	0.00043	mg/L	0.000073	0.00043	mg/L	0.000073	16.77%
Tl 190.801†	-8.2	-0.00734	mg/L	0.000652	-0.00734	mg/L	0.000652	8.88%
V 290.880†	554.8	0.00044	mg/L	0.000901	0.00044	mg/L	0.000901	205.86%
Zn 206.200†	14.8	-0.00062	mg/L	0.000186	-0.00062	mg/L	0.000186	30.02%
K 766.490†	1227.4	1.02	mg/L	0.052	1.02	mg/L	0.052	5.12%
Na 589.592†	229485.9	26.5	mg/L	0.79	26.5	mg/L	0.79	2.99%
Sr 407.771†	135704.2	0.158	mg/L	0.0010	0.158	mg/L	0.0010	0.61%
Li 670.784†	224.1	0.00557	mg/L	0.001349	0.00557	mg/L	0.001349	24.19%
P 214.914†	27.6	0.0369	mg/L	0.01000	0.0369	mg/L	0.01000	27.07%

Sequence No.: 18 **Autosampler Location: 93**
Sample ID: L1311005410 0.01 **Date Collected: 11/5/2013 3:20:12 PM**
Analyst: KHR **Data Type: Original**

Approved: November 06, 2013

Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005410 0.01

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1311005410 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1966297.6						50004.25	2.54%
YRADIAL	136456.0						4104.43	3.01%
Ga 417.206	701666.2						20495.36	2.92%
GaRADIAL	40378.2						469.58	1.16%
Ag 328.068†	53.2	-0.00057	mg/L	0.000852	-0.00057	mg/L	0.000852	150.13%
Al 396.153†	7.4	0.0229	mg/L	0.00174	0.0229	mg/L	0.00174	7.59%
As 188.979†	0.4	0.00224	mg/L	0.001022	0.00224	mg/L	0.001022	45.62%
Ba 233.527†	-13.8	-0.00174	mg/L	0.000131	-0.00174	mg/L	0.000131	7.50%
Be 234.861†	189.5	0.00040	mg/L	0.000099	0.00040	mg/L	0.000099	24.78%
B 249.677†	1.1	0.00677	mg/L	0.000442	0.00677	mg/L	0.000442	6.53%
Ca 227.546†	131.3	1.05	mg/L	0.015	1.05	mg/L	0.015	1.41%
Cd 228.802†	-10.2	-0.00052	mg/L	0.000169	-0.00052	mg/L	0.000169	32.64%
Co 228.616†	-6.6	-0.00082	mg/L	0.000230	-0.00082	mg/L	0.000230	28.13%
Cr 267.716†	-16.8	-0.00094	mg/L	0.000107	-0.00094	mg/L	0.000107	11.44%
Cu 327.393†	-43.1	-0.00069	mg/L	0.000553	-0.00069	mg/L	0.000553	80.13%
Fe 239.562†	-2.7	0.0103	mg/L	0.00187	0.0103	mg/L	0.00187	18.04%
Mg 279.077†	797.3	0.938	mg/L	0.0027	0.938	mg/L	0.0027	0.29%
Mn 257.610†	495.9	0.00101	mg/L	0.000049	0.00101	mg/L	0.000049	4.83%
Mo 202.031†	-10.5	-0.00013	mg/L	0.000124	-0.00013	mg/L	0.000124	93.45%
Ni 231.604†	6.8	-0.00055	mg/L	0.000284	-0.00055	mg/L	0.000284	51.99%
Pb 220.353†	20.9	0.00288	mg/L	0.002385	0.00288	mg/L	0.002385	82.90%
Sb 206.836†	-0.4	-0.00105	mg/L	0.000915	-0.00105	mg/L	0.000915	87.27%
Se 196.026†	-4.9	0.00202	mg/L	0.012511	0.00202	mg/L	0.012511	618.54%
Si 251.611†	1298.6	0.0528	mg/L	0.00300	0.0528	mg/L	0.00300	5.68%
Sn 189.927†	-12.4	-0.00358	mg/L	0.001158	-0.00358	mg/L	0.001158	32.38%
Ti 334.940†	-162.7	0.00083	mg/L	0.000220	0.00083	mg/L	0.000220	26.55%
Tl 190.801†	-1.8	-0.00149	mg/L	0.006654	-0.00149	mg/L	0.006654	445.16%
V 290.880†	536.1	0.00045	mg/L	0.000991	0.00045	mg/L	0.000991	219.91%
Zn 206.200†	28.9	0.00024	mg/L	0.000320	0.00024	mg/L	0.000320	131.28%
K 766.490†	109.1	0.0472	mg/L	0.04523	0.0472	mg/L	0.04523	95.86%
Na 589.592†	49684.7	5.71	mg/L	0.148	5.71	mg/L	0.148	2.59%
Sr 407.771†	14258.4	0.0139	mg/L	0.00063	0.0139	mg/L	0.00063	4.51%
Li 670.784†	81.4	0.00308	mg/L	0.001120	0.00308	mg/L	0.001120	36.41%
P 214.914†	24.0	0.0308	mg/L	0.00859	0.0308	mg/L	0.00859	27.94%

Sequence No.: 19 **Autosampler Location: 94**
Sample ID: L1311005414 0.01 **Date Collected: 11/5/2013 3:23:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311005414 0.01

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1311005414 0.01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1934095.4						8708.86	0.45%
YRADIAL	132383.4						4060.60	3.07%
Ga 417.206	704363.3						2603.40	0.37%
GaRADIAL	39901.9						942.49	2.36%
Ag 328.068†	111.2	-0.00023	mg/L	0.000223	-0.00023	mg/L	0.000223	96.91%
Al 396.153†	-2.5	0.0188	mg/L	0.00120	0.0188	mg/L	0.00120	6.40%
As 188.979†	-0.4	0.00149	mg/L	0.006223	0.00149	mg/L	0.006223	416.95%
Ba 233.527†	-15.3	-0.00177	mg/L	0.000081	-0.00177	mg/L	0.000081	4.56%
Be 234.861†	195.8	0.00042	mg/L	0.000043	0.00042	mg/L	0.000043	10.19%

Approved: November 06, 2013

Kim H. Rhoden

B 249.677†	185.1	0.0118	mg/L	0.00060	0.0118	mg/L	0.00060	5.11%
Ca 227.546†	489.0	3.88	mg/L	0.133	3.88	mg/L	0.133	3.42%
Cd 228.802†	-11.7	-0.00060	mg/L	0.000047	-0.00060	mg/L	0.000047	7.91%
Co 228.616†	-0.9	-0.00041	mg/L	0.000479	-0.00041	mg/L	0.000479	118.16%
Cr 267.716†	19.0	-0.00038	mg/L	0.000161	-0.00038	mg/L	0.000161	42.87%
Cu 327.393†	-4.7	-0.00039	mg/L	0.000420	-0.00039	mg/L	0.000420	107.99%
Fe 239.562†	5.1	0.0134	mg/L	0.00167	0.0134	mg/L	0.00167	12.50%
Mg 279.077†	16541.4	19.1	mg/L	1.14	19.1	mg/L	1.14	5.99%
Mn 257.610†	9781.0	0.0258	mg/L	0.00077	0.0258	mg/L	0.00077	2.98%
Mo 202.031†	-10.3	-0.00011	mg/L	0.000515	-0.00011	mg/L	0.000515	482.84%
Ni 231.604†	11.6	-0.00034	mg/L	0.000112	-0.00034	mg/L	0.000112	33.26%
Pb 220.353†	14.0	0.00107	mg/L	0.001705	0.00107	mg/L	0.001705	158.70%
Sb 206.836†	-1.6	-0.00203	mg/L	0.004261	-0.00203	mg/L	0.004261	210.11%
Se 196.026†	2.0	0.0157	mg/L	0.00523	0.0157	mg/L	0.00523	33.34%
Si 251.611†	1474.9	0.0613	mg/L	0.00210	0.0613	mg/L	0.00210	3.42%
Sn 189.927†	-32.9	-0.00917	mg/L	0.000309	-0.00917	mg/L	0.000309	3.36%
Ti 334.940†	-505.9	0.00062	mg/L	0.000009	0.00062	mg/L	0.000009	1.42%
Tl 190.801†	5.8	0.00529	mg/L	0.002600	0.00529	mg/L	0.002600	49.15%
V 290.880†	1019.5	0.00397	mg/L	0.000678	0.00397	mg/L	0.000678	17.09%
Zn 206.200†	23.2	-0.00010	mg/L	0.000337	-0.00010	mg/L	0.000337	334.89%
K 766.490†	617.9	0.477	mg/L	0.0100	0.477	mg/L	0.0100	2.11%
Na 589.592†	234950.8	27.2	mg/L	1.08	27.2	mg/L	1.08	3.99%
Sr 407.771†	97226.1	0.113	mg/L	0.0092	0.113	mg/L	0.0092	8.20%
Li 670.784†	1221.3	0.0230	mg/L	0.00197	0.0230	mg/L	0.00197	8.55%
P 214.914†	31.9	0.0442	mg/L	0.00473	0.0442	mg/L	0.00473	10.70%

Sequence No.: 20
Sample ID: L1311005415 0.1
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 95
Date Collected: 11/5/2013 3:26:14 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311005415 0.1

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1311005415 0.1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1944857.0						39103.64	2.01%
YRADIAL	129140.7						3773.47	2.92%
Ga 417.206	714233.9						17073.66	2.39%
GaRADIAL	39055.8						652.70	1.67%
Ag 328.068†	78.9	-0.00042	mg/L	0.000530	-0.00042	mg/L	0.000530	126.01%
Al 396.153†	-2.2	0.0187	mg/L	0.00241	0.0187	mg/L	0.00241	12.85%
As 188.979†	-3.3	-0.00142	mg/L	0.006272	-0.00142	mg/L	0.006272	442.15%
Ba 233.527†	239.7	0.00321	mg/L	0.000231	0.00321	mg/L	0.000231	7.20%
Be 234.861†	208.4	0.00045	mg/L	0.000076	0.00045	mg/L	0.000076	16.96%
B 249.677†	942.6	0.0324	mg/L	0.00136	0.0324	mg/L	0.00136	4.21%
Ca 227.546†	468.5	3.72	mg/L	0.063	3.72	mg/L	0.063	1.68%
Cd 228.802†	-10.1	-0.00049	mg/L	0.000234	-0.00049	mg/L	0.000234	47.55%
Co 228.616†	-4.9	-0.00069	mg/L	0.000727	-0.00069	mg/L	0.000727	105.69%
Cr 267.716†	-2.2	-0.00071	mg/L	0.000163	-0.00071	mg/L	0.000163	23.03%
Cu 327.393†	61.5	0.00014	mg/L	0.000147	0.00014	mg/L	0.000147	106.56%
Fe 239.562†	2.0	0.0123	mg/L	0.00133	0.0123	mg/L	0.00133	10.75%
Mg 279.077†	949.4	1.11	mg/L	0.045	1.11	mg/L	0.045	4.02%
Mn 257.610†	2062.1	0.00519	mg/L	0.000054	0.00519	mg/L	0.000054	1.04%
Mo 202.031†	31.5	0.00369	mg/L	0.000401	0.00369	mg/L	0.000401	10.86%
Ni 231.604†	20.7	0.00007	mg/L	0.000307	0.00007	mg/L	0.000307	460.89%
Pb 220.353†	17.8	0.00208	mg/L	0.000771	0.00208	mg/L	0.000771	37.09%
Sb 206.836†	-2.0	-0.00235	mg/L	0.001489	-0.00235	mg/L	0.001489	63.38%
Se 196.026†	-10.1	-0.00844	mg/L	0.004527	-0.00844	mg/L	0.004527	53.66%
Si 251.611†	14788.5	0.702	mg/L	0.0166	0.702	mg/L	0.0166	2.37%
Sn 189.927†	-37.8	-0.0105	mg/L	0.00118	-0.0105	mg/L	0.00118	11.20%
Ti 334.940†	-402.5	0.00079	mg/L	0.000211	0.00079	mg/L	0.000211	26.75%
Tl 190.801†	-0.6	-0.00044	mg/L	0.002819	-0.00044	mg/L	0.002819	637.12%
V 290.880†	645.2	0.00135	mg/L	0.001107	0.00135	mg/L	0.001107	82.28%
Zn 206.200†	25.6	0.00004	mg/L	0.000039	0.00004	mg/L	0.000039	87.11%
K 766.490†	1601.8	1.36	mg/L	0.054	1.36	mg/L	0.054	3.97%

Approved: November 06, 2013

Kim H. Rhoden

Na 589.592†	169459.3	19.6	mg/L	0.65	19.6	mg/L	0.65	3.33%
Sr 407.771†	58202.1	0.0661	mg/L	0.00126	0.0661	mg/L	0.00126	1.91%
Li 670.784†	12.3	0.00187	mg/L	0.001506	0.00187	mg/L	0.001506	80.66%
P 214.914†	31.2	0.0431	mg/L	0.01099	0.0431	mg/L	0.01099	25.51%

User canceled analysis.

Approved: November 06, 2013

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Analysis Begun

Start Time: 11/5/2013 3:30:57 PM **Plasma On Time: 11/5/2013 6:44:41 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\TUESDAY2.sif
Batch ID:
Results Data Set: 110513H3R
Results Library: C:\pe\peicp2\Results\results1.mdb

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Sequence No.: 1 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 3:30:59 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	**Back Pressure**	**Flow**
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	**Mean Corrected Intensity**	**Calib. Conc.**	**Units**	**Std.Dev.**	**Sample Conc.**	**Units**	**Std.Dev.**	**RSD**
Y 371.029	2010279.7						29874.12	1.49%
YRADIAL	140608.3						1333.93	0.95%
Ga 417.206	700777.1						1121.49	0.16%
GaRADIAL	39030.6						370.20	0.95%
Ag 328.068†	67863.0	0.413	mg/L	0.0062	0.413	mg/L	0.0062	1.49%
QC value within limits for Ag 328.068 Recovery = 103.25%								
Al 396.153†	24539.2	10.1	mg/L	0.09	10.1	mg/L	0.09	0.90%
QC value within limits for Al 396.153 Recovery = 101.38%								
As 188.979†	404.5	0.404	mg/L	0.0039	0.404	mg/L	0.0039	0.96%
QC value within limits for As 188.979 Recovery = 100.93%								
Ba 233.527†	53045.0	1.04	mg/L	0.021	1.04	mg/L	0.021	2.07%
QC value within limits for Ba 233.527 Recovery = 103.55%								
Be 234.861†	21573.2	0.0508	mg/L	0.00071	0.0508	mg/L	0.00071	1.40%
QC value within limits for Be 234.861 Recovery = 101.60%								
B 249.677†	18509.7	0.507	mg/L	0.0101	0.507	mg/L	0.0101	1.99%
QC value within limits for B 249.677 Recovery = 101.32%								
Ca 227.546†	1255.5	10.4	mg/L	0.11	10.4	mg/L	0.11	1.03%
QC value within limits for Ca 227.546 Recovery = 104.36%								
Cd 228.802†	869.2	0.0495	mg/L	0.00114	0.0495	mg/L	0.00114	2.29%
QC value within limits for Cd 228.802 Recovery = 99.03%								
Co 228.616†	2833.7	0.204	mg/L	0.0027	0.204	mg/L	0.0027	1.32%
QC value within limits for Co 228.616 Recovery = 101.93%								
Cr 267.716†	33154.4	0.517	mg/L	0.0109	0.517	mg/L	0.0109	2.10%
QC value within limits for Cr 267.716 Recovery = 103.37%								
Cu 327.393†	64290.7	0.509	mg/L	0.0087	0.509	mg/L	0.0087	1.71%
QC value within limits for Cu 327.393 Recovery = 101.81%								
Fe 239.562†	9476.9	4.12	mg/L	0.015	4.12	mg/L	0.015	0.36%
QC value within limits for Fe 239.562 Recovery = 102.90%								
Mg 279.077†	8851.3	10.2	mg/L	0.08	10.2	mg/L	0.08	0.77%
QC value within limits for Mg 279.077 Recovery = 102.39%								
Mn 257.610†	194035.5	0.518	mg/L	0.0092	0.518	mg/L	0.0092	1.77%
QC value within limits for Mn 257.610 Recovery = 103.53%								
Mo 202.031†	11160.1	1.02	mg/L	0.023	1.02	mg/L	0.023	2.25%
QC value within limits for Mo 202.031 Recovery = 101.75%								
Ni 231.604†	11907.6	0.524	mg/L	0.0061	0.524	mg/L	0.0061	1.17%
QC value within limits for Ni 231.604 Recovery = 104.72%								
Pb 220.353†	1988.1	0.515	mg/L	0.0090	0.515	mg/L	0.0090	1.74%
QC value within limits for Pb 220.353 Recovery = 103.04%								
Sb 206.836†	1480.3	1.21	mg/L	0.019	1.21	mg/L	0.019	1.55%
QC value within limits for Sb 206.836 Recovery = 100.71%								
Se 196.026†	197.9	0.406	mg/L	0.0077	0.406	mg/L	0.0077	1.89%
QC value within limits for Se 196.026 Recovery = 101.44%								
Si 251.611†	108118.9	5.18	mg/L	0.065	5.18	mg/L	0.065	1.25%

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QC value within limits for Si 251.611 Recovery = 103.57%

Sn 189.927†	3794.3	1.04 mg/L	0.011	1.04 mg/L	0.011	1.02%
QC value within limits for Sn 189.927 Recovery = 103.53%						
Ti 334.940†	554681.2	1.02 mg/L	0.010	1.02 mg/L	0.010	0.99%
QC value within limits for Ti 334.940 Recovery = 102.00%						
Tl 190.801†	581.3	0.534 mg/L	0.0060	0.534 mg/L	0.0060	1.13%
QC value within limits for Tl 190.801 Recovery = 106.79%						
V 290.880†	124917.8	1.03 mg/L	0.031	1.03 mg/L	0.031	3.03%
QC value within limits for V 290.880 Recovery = 102.59%						
Zn 206.200†	17288.6	1.06 mg/L	0.017	1.06 mg/L	0.017	1.58%
QC value within limits for Zn 206.200 Recovery = 106.14%						
K 766.490†	60211.3	52.1 mg/L	0.72	52.1 mg/L	0.72	1.39%
QC value within limits for K 766.490 Recovery = 104.16%						
Na 589.592†	451351.8	52.5 mg/L	0.65	52.5 mg/L	0.65	1.25%
QC value within limits for Na 589.592 Recovery = 104.93%						
Sr 407.771†	866318.2	1.03 mg/L	0.020	1.03 mg/L	0.020	1.94%
QC value within limits for Sr 407.771 Recovery = 102.69%						
Li 670.784†	58218.1	1.02 mg/L	0.010	1.02 mg/L	0.010	1.00%
QC value within limits for Li 670.784 Recovery = 102.09%						
P 214.914†	5973.4	10.2 mg/L	0.16	10.2 mg/L	0.16	1.58%
QC value within limits for P 214.914 Recovery = 101.74%						

All analyte(s) passed QC.

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Sequence No.: 2 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/5/2013 3:33:05 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1951827.3						29703.31	1.52%
YRADIAL	134111.0						4537.82	3.38%
Ga 417.206	685479.9						13682.34	2.00%
GaRADIAL	38680.6						648.86	1.68%
Ag 328.068†	147.4	0.00001	mg/L	0.000098	0.00001	mg/L	0.000098	>999.9%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	4.7	0.0218	mg/L	0.00197	0.0218	mg/L	0.00197	9.06%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	1.0	0.00281	mg/L	0.003920	0.00281	mg/L	0.003920	139.59%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-19.0	-0.00185	mg/L	0.000307	-0.00185	mg/L	0.000307	16.63%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	112.7	0.00022	mg/L	0.000031	0.00022	mg/L	0.000031	14.11%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	-64.2	0.00499	mg/L	0.001266	0.00499	mg/L	0.001266	25.35%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	17.1	0.148	mg/L	0.0087	0.148	mg/L	0.0087	5.87%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-10.0	-0.00051	mg/L	0.000460	-0.00051	mg/L	0.000460	90.00%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-7.6	-0.00089	mg/L	0.000759	-0.00089	mg/L	0.000759	85.29%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	7.7	-0.00056	mg/L	0.000142	-0.00056	mg/L	0.000142	25.49%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	9.0	-0.00028	mg/L	0.000792	-0.00028	mg/L	0.000792	285.38%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	2.0	0.0124	mg/L	0.00239	0.0124	mg/L	0.00239	19.36%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	22.9	0.0458	mg/L	0.00726	0.0458	mg/L	0.00726	15.87%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	53.1	-0.00017	mg/L	0.000073	-0.00017	mg/L	0.000073	43.58%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	4.9	0.00127	mg/L	0.000207	0.00127	mg/L	0.000207	16.36%

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QC value within limits for Mo 202.031 Recovery = Not calculated

Ni 231.604†	10.9	-0.00037 mg/L	0.000362	-0.00037 mg/L	0.000362	99.10%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	12.3	0.00066 mg/L	0.001246	0.00066 mg/L	0.001246	190.02%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	2.8	0.00163 mg/L	0.003471	0.00163 mg/L	0.003471	213.57%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-5.5	0.00084 mg/L	0.009106	0.00084 mg/L	0.009106	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	17.5	-0.00878 mg/L	0.003481	-0.00878 mg/L	0.003481	39.63%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	0.8	0.00002 mg/L	0.001444	0.00002 mg/L	0.001444	>999.9%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	-40.6	0.00092 mg/L	0.000125	0.00092 mg/L	0.000125	13.60%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-0.9	-0.00071 mg/L	0.005987	-0.00071 mg/L	0.005987	845.44%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	458.4	-0.00017 mg/L	0.001133	-0.00017 mg/L	0.001133	673.91%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	0.1	-0.00151 mg/L	0.000277	-0.00151 mg/L	0.000277	18.33%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	-11.7	-0.0542 mg/L	0.02608	-0.0542 mg/L	0.02608	48.15%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	615.8	0.0560 mg/L	0.00526	0.0560 mg/L	0.00526	9.39%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	15.9	-0.00297 mg/L	0.000057	-0.00297 mg/L	0.000057	1.93%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	-1.4	0.00163 mg/L	0.001106	0.00163 mg/L	0.001106	67.98%
QC value within limits for Li 670.784 Recovery = Not calculated						
P 214.914†	32.2	0.0448 mg/L	0.01101	0.0448 mg/L	0.01101	24.59%
QC value within limits for P 214.914 Recovery = Not calculated						

All analyte(s) passed QC.

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Sequence No.: 3 **Autosampler Location: 78**
Sample ID: LLCCV **Date Collected: 11/5/2013 3:36:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLCCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: LLCCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1888698.9						38162.30	2.02%
YRADIAL	128213.3						4104.15	3.20%
Ga 417.206	656246.3						15657.04	2.39%
GaRADIAL	37208.8						738.09	1.98%
Ag 328.068†	1220.7	0.00656	mg/L	0.000253	0.00656	mg/L	0.000253	3.86%
Al 396.153†	427.4	0.196	mg/L	0.0081	0.196	mg/L	0.0081	4.13%
As 188.979†	2.9	0.00463	mg/L	0.005685	0.00463	mg/L	0.005685	122.75%
Ba 233.527†	906.1	0.0162	mg/L	0.00010	0.0162	mg/L	0.00010	0.61%
Be 234.861†	426.2	0.00096	mg/L	0.000104	0.00096	mg/L	0.000104	10.90%
B 249.677†	142.1	0.0105	mg/L	0.00019	0.0105	mg/L	0.00019	1.76%
Ca 227.546†	34.0	0.290	mg/L	0.0925	0.290	mg/L	0.0925	31.93%
Cd 228.802†	7.6	0.00052	mg/L	0.000490	0.00052	mg/L	0.000490	94.08%
Co 228.616†	40.2	0.00256	mg/L	0.000165	0.00256	mg/L	0.000165	6.47%
Cr 267.716†	595.5	0.00862	mg/L	0.000080	0.00862	mg/L	0.000080	0.93%
Cu 327.393†	1151.4	0.00877	mg/L	0.000684	0.00877	mg/L	0.000684	7.80%
Fe 239.562†	160.3	0.0810	mg/L	0.00256	0.0810	mg/L	0.00256	3.16%
Mg 279.077†	179.0	0.226	mg/L	0.0134	0.226	mg/L	0.0134	5.92%
Mn 257.610†	3631.0	0.00938	mg/L	0.000091	0.00938	mg/L	0.000091	0.97%
Mo 202.031†	188.5	0.0180	mg/L	0.00041	0.0180	mg/L	0.00041	2.27%
Ni 231.604†	207.0	0.00827	mg/L	0.000259	0.00827	mg/L	0.000259	3.13%
Pb 220.353†	35.8	0.00678	mg/L	0.000677	0.00678	mg/L	0.000677	9.99%
Sb 206.836†	26.4	0.0209	mg/L	0.00069	0.0209	mg/L	0.00069	3.31%
Se 196.026†	-2.5	0.00663	mg/L	0.003383	0.00663	mg/L	0.003383	51.04%

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Si 251.611†	1894.6	0.0813 mg/L	0.00029	0.0813 mg/L	0.00029	0.36%
Sn 189.927†	68.2	0.0184 mg/L	0.00140	0.0184 mg/L	0.00140	7.57%
Ti 334.940†	9500.4	0.0184 mg/L	0.00019	0.0184 mg/L	0.00019	1.05%
Tl 190.801†	7.5	0.00704 mg/L	0.006424	0.00704 mg/L	0.006424	91.29%
V 290.880†	2828.1	0.0194 mg/L	0.00122	0.0194 mg/L	0.00122	6.29%
Zn 206.200†	385.1	0.0221 mg/L	0.00045	0.0221 mg/L	0.00045	2.02%
K 766.490†	1060.1	0.894 mg/L	0.0691	0.894 mg/L	0.0691	7.73%
Na 589.592†	8335.2	0.944 mg/L	0.0388	0.944 mg/L	0.0388	4.11%
Sr 407.771†	15623.2	0.0156 mg/L	0.00089	0.0156 mg/L	0.00089	5.70%
Li 670.784†	958.3	0.0184 mg/L	0.00136	0.0184 mg/L	0.00136	7.40%
P 214.914†	135.6	0.221 mg/L	0.0124	0.221 mg/L	0.0124	5.63%

Sequence No.: 4 **Autosampler Location: 79**
Sample ID: LLCCV **Date Collected: 11/5/2013 3:39:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LLCCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: LLCCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1923152.8						62117.08	3.23%
YRADIAL	127616.1						3363.47	2.64%
Ga 417.206	663319.0						25301.86	3.81%
GaRADIAL	36661.8						610.81	1.67%
Ag 328.068†	-23.8	-0.00099	mg/L	0.000300	-0.00099	mg/L	0.000300	30.44%
Al 396.153†	436.9	0.201	mg/L	0.0015	0.201	mg/L	0.0015	0.75%
As 188.979†	-3.8	-0.00201	mg/L	0.002347	-0.00201	mg/L	0.002347	116.78%
Ba 233.527†	-39.1	-0.00224	mg/L	0.000131	-0.00224	mg/L	0.000131	5.82%
Be 234.861†	804.4	0.00185	mg/L	0.000069	0.00185	mg/L	0.000069	3.71%
B 249.677†	-241.1	0.00013	mg/L	0.000421	0.00013	mg/L	0.000421	319.37%
Ca 227.546†	71.2	0.578	mg/L	0.0372	0.578	mg/L	0.0372	6.44%
Cd 228.802†	-1.9	-0.00001	mg/L	0.000098	-0.00001	mg/L	0.000098	872.53%
Co 228.616†	-7.1	-0.00085	mg/L	0.000087	-0.00085	mg/L	0.000087	10.12%
Cr 267.716†	-1.1	-0.00069	mg/L	0.000294	-0.00069	mg/L	0.000294	42.35%
Cu 327.393†	45.9	0.00002	mg/L	0.000086	0.00002	mg/L	0.000086	436.20%
Fe 239.562†	191.9	0.0947	mg/L	0.00076	0.0947	mg/L	0.00076	0.80%
Mg 279.077†	414.8	0.497	mg/L	0.0107	0.497	mg/L	0.0107	2.15%
Mn 257.610†	28.8	-0.00023	mg/L	0.000013	-0.00023	mg/L	0.000013	5.50%
Mo 202.031†	-10.2	-0.00010	mg/L	0.000545	-0.00010	mg/L	0.000545	552.79%
Ni 231.604†	-2.2	-0.00094	mg/L	0.000175	-0.00094	mg/L	0.000175	18.55%
Pb 220.353†	0.6	-0.00238	mg/L	0.000924	-0.00238	mg/L	0.000924	38.92%
Sb 206.836†	-3.3	-0.00343	mg/L	0.001655	-0.00343	mg/L	0.001655	48.26%
Se 196.026†	-5.1	0.00162	mg/L	0.003020	0.00162	mg/L	0.003020	186.47%
Si 251.611†	-10.0	-0.0101	mg/L	0.00191	-0.0101	mg/L	0.00191	18.89%
Sn 189.927†	1547.9	0.422	mg/L	0.0228	0.422	mg/L	0.0228	5.39%
Ti 334.940†	62.2	0.00117	mg/L	0.000145	0.00117	mg/L	0.000145	12.45%
Tl 190.801†	-2.3	-0.00190	mg/L	0.004117	-0.00190	mg/L	0.004117	216.29%
V 290.880†	713.7	0.00192	mg/L	0.001192	0.00192	mg/L	0.001192	62.10%
Zn 206.200†	30.7	0.00035	mg/L	0.000220	0.00035	mg/L	0.000220	62.03%
K 766.490†	1063.9	0.898	mg/L	0.0208	0.898	mg/L	0.0208	2.31%
Na 589.592†	4325.8	0.483	mg/L	0.0373	0.483	mg/L	0.0373	7.72%
Sr 407.771†	-39.8	-0.00305	mg/L	0.000195	-0.00305	mg/L	0.000195	6.39%
Li 670.784†	-39.6	0.00096	mg/L	0.000982	0.00096	mg/L	0.000982	102.46%
P 214.914†	34.4	0.0485	mg/L	0.01059	0.0485	mg/L	0.01059	21.82%

Sequence No.: 5 **Autosampler Location: 131**
Sample ID: PBW 3A WG451153-02 **Date Collected: 11/5/2013 3:42:06 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 3A WG451153-02

Approved: November 06, 2013

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: PBW 3A WG451153-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1907009.5						46360.40	2.43%
YRADIAL	129461.6						4449.67	3.44%
Ga 417.206	668328.0						16407.05	2.45%
GaRADIAL	37774.8						1054.64	2.79%
Ag 328.068†	69.6	-0.00046	mg/L	0.000395	-0.00046	mg/L	0.000395	85.13%
Al 396.153†	8.2	0.0233	mg/L	0.00620	0.0233	mg/L	0.00620	26.61%
As 188.979†	-4.1	-0.00238	mg/L	0.004158	-0.00238	mg/L	0.004158	175.00%
Ba 233.527†	-29.1	-0.00204	mg/L	0.000218	-0.00204	mg/L	0.000218	10.66%
Be 234.861†	49.5	0.00007	mg/L	0.000045	0.00007	mg/L	0.000045	67.34%
B 249.677†	-286.4	-0.00106	mg/L	0.000200	-0.00106	mg/L	0.000200	18.83%
Ca 227.546†	11.6	0.104	mg/L	0.0745	0.104	mg/L	0.0745	71.43%
Cd 228.802†	-3.7	-0.00012	mg/L	0.000061	-0.00012	mg/L	0.000061	53.23%
Co 228.616†	-8.2	-0.00093	mg/L	0.000656	-0.00093	mg/L	0.000656	70.33%
Cr 267.716†	9.3	-0.00053	mg/L	0.000119	-0.00053	mg/L	0.000119	22.49%
Cu 327.393†	-77.3	-0.00096	mg/L	0.000629	-0.00096	mg/L	0.000629	65.61%
Fe 239.562†	4.7	0.0136	mg/L	0.00276	0.0136	mg/L	0.00276	20.34%
Mg 279.077†	19.7	0.0421	mg/L	0.00657	0.0421	mg/L	0.00657	15.60%
Mn 257.610†	68.7	-0.00013	mg/L	0.000034	-0.00013	mg/L	0.000034	27.31%
Mo 202.031†	-10.5	-0.00013	mg/L	0.000295	-0.00013	mg/L	0.000295	228.42%
Ni 231.604†	4.3	-0.00066	mg/L	0.000259	-0.00066	mg/L	0.000259	39.24%
Pb 220.353†	4.7	-0.00133	mg/L	0.001166	-0.00133	mg/L	0.001166	87.83%
Sb 206.836†	-0.3	-0.00096	mg/L	0.001506	-0.00096	mg/L	0.001506	157.60%
Se 196.026†	-4.1	0.00357	mg/L	0.003785	0.00357	mg/L	0.003785	106.04%
Si 251.611†	0.1	-0.00961	mg/L	0.001557	-0.00961	mg/L	0.001557	16.21%
Sn 189.927†	-3.6	-0.00117	mg/L	0.000925	-0.00117	mg/L	0.000925	79.18%
Ti 334.940†	19.0	0.00102	mg/L	0.000106	0.00102	mg/L	0.000106	10.38%
Tl 190.801†	1.2	0.00116	mg/L	0.002379	0.00116	mg/L	0.002379	205.24%
V 290.880†	507.7	0.00024	mg/L	0.001360	0.00024	mg/L	0.001360	567.64%
Zn 206.200†	36.7	0.00072	mg/L	0.000076	0.00072	mg/L	0.000076	10.47%
K 766.490†	31.5	-0.0159	mg/L	0.06321	-0.0159	mg/L	0.06321	397.05%
Na 589.592†	397.8	0.0309	mg/L	0.01294	0.0309	mg/L	0.01294	41.82%
Sr 407.771†	-47.5	-0.00305	mg/L	0.000116	-0.00305	mg/L	0.000116	3.80%
Li 670.784†	-62.8	0.00055	mg/L	0.001732	0.00055	mg/L	0.001732	314.03%
P 214.914†	36.6	0.0523	mg/L	0.00594	0.0523	mg/L	0.00594	11.36%

Sequence No.: 6 **Autosampler Location: 132**
Sample ID: LCSW 3A WG451153-03 **Date Collected: 11/5/2013 3:45:07 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 3A WG451153-03

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: LCSW 3A WG451153-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1985930.1						19149.77	0.96%
YRADIAL	134962.5						7686.77	5.70%
Ga 417.206	706579.1						9683.59	1.37%
GaRADIAL	39966.4						630.00	1.58%
Ag 328.068†	32229.8	0.196	mg/L	0.0089	0.196	mg/L	0.0089	4.54%
Al 396.153†	12345.1	5.11	mg/L	0.024	5.11	mg/L	0.024	0.46%
As 188.979†	189.9	0.190	mg/L	0.0054	0.190	mg/L	0.0054	2.82%
Ba 233.527†	25429.5	0.496	mg/L	0.0177	0.496	mg/L	0.0177	3.58%
Be 234.861†	10081.0	0.0237	mg/L	0.00090	0.0237	mg/L	0.00090	3.82%
B 249.677†	34881.6	0.954	mg/L	0.0423	0.954	mg/L	0.0423	4.43%
Ca 227.546†	601.1	5.01	mg/L	0.139	5.01	mg/L	0.139	2.77%
Cd 228.802†	400.6	0.0229	mg/L	0.00076	0.0229	mg/L	0.00076	3.34%
Co 228.616†	1388.5	0.0997	mg/L	0.00142	0.0997	mg/L	0.00142	1.43%
Cr 267.716†	15809.8	0.246	mg/L	0.0100	0.246	mg/L	0.0100	4.07%

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Cu 327.393†	30372.9	0.240	mg/L	0.0122	0.240	mg/L	0.0122	5.09%
Fe 239.562†	4886.0	2.13	mg/L	0.114	2.13	mg/L	0.114	5.35%
Mg 279.077†	4614.4	5.35	mg/L	0.330	5.35	mg/L	0.330	6.17%
Mn 257.610†	94970.0	0.253	mg/L	0.0089	0.253	mg/L	0.0089	3.51%
Mo 202.031†	5615.7	0.512	mg/L	0.0086	0.512	mg/L	0.0086	1.68%
Ni 231.604†	5694.8	0.250	mg/L	0.0063	0.250	mg/L	0.0063	2.50%
Pb 220.353†	984.6	0.254	mg/L	0.0062	0.254	mg/L	0.0062	2.46%
Sb 206.836†	703.4	0.574	mg/L	0.0165	0.574	mg/L	0.0165	2.88%
Se 196.026†	88.0	0.187	mg/L	0.0136	0.187	mg/L	0.0136	7.24%
Si 251.611†	51042.0	2.44	mg/L	0.117	2.44	mg/L	0.117	4.78%
Sn 189.927†	1800.0	0.491	mg/L	0.0101	0.491	mg/L	0.0101	2.06%
Ti 334.940†	271997.6	0.501	mg/L	0.0017	0.501	mg/L	0.0017	0.33%
Tl 190.801†	277.4	0.255	mg/L	0.0088	0.255	mg/L	0.0088	3.47%
V 290.880†	60584.5	0.496	mg/L	0.0188	0.496	mg/L	0.0188	3.80%
Zn 206.200†	8208.2	0.503	mg/L	0.0145	0.503	mg/L	0.0145	2.88%
K 766.490†	30443.2	26.6	mg/L	0.19	26.6	mg/L	0.19	0.72%
Na 589.592†	218471.4	25.2	mg/L	1.43	25.2	mg/L	1.43	5.67%
Sr 407.771†	459474.0	0.543	mg/L	0.0070	0.543	mg/L	0.0070	1.30%
Li 670.784†	28850.3	0.507	mg/L	0.0034	0.507	mg/L	0.0034	0.67%
P 214.914†	-58.2	-0.109	mg/L	0.0349	-0.109	mg/L	0.0349	31.86%

Sequence No.: 7
Sample ID: L1310184207 WG451153-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 133
Date Collected: 11/5/2013 3:47:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310184207 WG451153-01

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1310184207 WG451153-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1931746.5						27937.22	1.45%
YRADIAL	133140.8						2723.30	2.05%
Ga 417.206	692218.0						9846.31	1.42%
GaRADIAL	39171.8						307.94	0.79%
Ag 328.068†	183.3	0.00029	mg/L	0.000147	0.00029	mg/L	0.000147	50.26%
Al 396.153†	5.8	0.0223	mg/L	0.00232	0.0223	mg/L	0.00232	10.38%
As 188.979†	1.3	0.00314	mg/L	0.002319	0.00314	mg/L	0.002319	73.76%
Ba 233.527†	237.0	0.00315	mg/L	0.000219	0.00315	mg/L	0.000219	6.95%
Be 234.861†	204.8	0.00040	mg/L	0.000052	0.00040	mg/L	0.000052	12.83%
B 249.677†	307.0	0.0150	mg/L	0.00127	0.0150	mg/L	0.00127	8.44%
Ca 227.546†	190.3	1.52	mg/L	0.046	1.52	mg/L	0.046	3.03%
Cd 228.802†	-11.5	-0.00060	mg/L	0.000248	-0.00060	mg/L	0.000248	41.52%
Co 228.616†	-6.9	-0.00085	mg/L	0.000406	-0.00085	mg/L	0.000406	47.94%
Cr 267.716†	-7.4	-0.00080	mg/L	0.000166	-0.00080	mg/L	0.000166	20.62%
Cu 327.393†	42.8	0.00000	mg/L	0.000348	0.00000	mg/L	0.000348	>999.9%
Fe 239.562†	355.6	0.166	mg/L	0.0090	0.166	mg/L	0.0090	5.42%
Mg 279.077†	288.6	0.352	mg/L	0.0216	0.352	mg/L	0.0216	6.14%
Mn 257.610†	4525.3	0.0118	mg/L	0.00037	0.0118	mg/L	0.00037	3.12%
Mo 202.031†	-9.9	-0.00007	mg/L	0.000247	-0.00007	mg/L	0.000247	362.72%
Ni 231.604†	8.4	-0.00048	mg/L	0.000239	-0.00048	mg/L	0.000239	50.03%
Pb 220.353†	17.5	0.00197	mg/L	0.001590	0.00197	mg/L	0.001590	80.62%
Sb 206.836†	2.1	0.00103	mg/L	0.001418	0.00103	mg/L	0.001418	137.16%
Se 196.026†	-5.8	0.00010	mg/L	0.002054	0.00010	mg/L	0.002054	>999.9%
Si 251.611†	2484.2	0.110	mg/L	0.0047	0.110	mg/L	0.0047	4.23%
Sn 189.927†	-17.8	-0.00504	mg/L	0.001079	-0.00504	mg/L	0.001079	21.41%
Ti 334.940†	-154.7	0.00091	mg/L	0.000286	0.00091	mg/L	0.000286	31.40%
Tl 190.801†	1.0	0.00103	mg/L	0.006629	0.00103	mg/L	0.006629	646.21%
V 290.880†	523.7	0.00035	mg/L	0.000174	0.00035	mg/L	0.000174	50.17%
Zn 206.200†	27.1	0.00014	mg/L	0.000114	0.00014	mg/L	0.000114	83.52%
K 766.490†	187.5	0.118	mg/L	0.0318	0.118	mg/L	0.0318	26.91%
Na 589.592†	35592.4	4.08	mg/L	0.130	4.08	mg/L	0.130	3.19%
Sr 407.771†	3246.0	0.00083	mg/L	0.000150	0.00083	mg/L	0.000150	18.22%
Li 670.784†	39.2	0.00234	mg/L	0.000559	0.00234	mg/L	0.000559	23.90%
P 214.914†	34.9	0.0493	mg/L	0.01647	0.0493	mg/L	0.01647	33.39%

Approved: November 06, 2013

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Sequence No.: 8 **Autosampler Location: 134**
Sample ID: L1310184209MS WG451153-04 **Date Collected: 11/5/2013 3:50:12 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310184209MS WG451153-04

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310184209MS WG451153-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1945135.1						5975.58	0.31%
YRADIAL	129944.6						4574.14	3.52%
Ga 417.206	696044.8						1851.35	0.27%
GaRADIAL	38428.3						1112.00	2.89%
Ag 328.068†	389.0	0.00156	mg/L	0.000090	0.00156	mg/L	0.000090	5.75%
Al 396.153†	119.3	0.0693	mg/L	0.00249	0.0693	mg/L	0.00249	3.60%
As 188.979†	-0.5	0.00131	mg/L	0.001309	0.00131	mg/L	0.001309	100.32%
Ba 233.527†	519.1	0.00867	mg/L	0.000164	0.00867	mg/L	0.000164	1.89%
Be 234.861†	312.5	0.00065	mg/L	0.000011	0.00065	mg/L	0.000011	1.74%
B 249.677†	458.0	0.0191	mg/L	0.00027	0.0191	mg/L	0.00027	1.41%
Ca 227.546†	200.9	1.61	mg/L	0.023	1.61	mg/L	0.023	1.40%
Cd 228.802†	-5.5	-0.00023	mg/L	0.000091	-0.00023	mg/L	0.000091	39.28%
Co 228.616†	11.9	0.00051	mg/L	0.000536	0.00051	mg/L	0.000536	105.69%
Cr 267.716†	157.3	0.00177	mg/L	0.000104	0.00177	mg/L	0.000104	5.90%
Cu 327.393†	265.3	0.00176	mg/L	0.000475	0.00176	mg/L	0.000475	26.95%
Fe 239.562†	433.2	0.199	mg/L	0.0075	0.199	mg/L	0.0075	3.78%
Mg 279.077†	343.4	0.415	mg/L	0.0169	0.415	mg/L	0.0169	4.07%
Mn 257.610†	5315.3	0.0139	mg/L	0.00031	0.0139	mg/L	0.00031	2.22%
Mo 202.031†	20.3	0.00268	mg/L	0.000374	0.00268	mg/L	0.000374	13.96%
Ni 231.604†	75.8	0.00249	mg/L	0.000320	0.00249	mg/L	0.000320	12.84%
Pb 220.353†	27.2	0.00450	mg/L	0.002359	0.00450	mg/L	0.002359	52.44%
Sb 206.836†	5.8	0.00404	mg/L	0.003842	0.00404	mg/L	0.003842	95.16%
Se 196.026†	-4.5	0.00283	mg/L	0.007092	0.00283	mg/L	0.007092	250.65%
Si 251.611†	3079.6	0.138	mg/L	0.0017	0.138	mg/L	0.0017	1.24%
Sn 189.927†	-3.6	-0.00117	mg/L	0.000634	-0.00117	mg/L	0.000634	54.16%
Ti 334.940†	2439.6	0.00568	mg/L	0.000064	0.00568	mg/L	0.000064	1.13%
Tl 190.801†	3.7	0.00347	mg/L	0.003663	0.00347	mg/L	0.003663	105.67%
V 290.880†	1131.7	0.00536	mg/L	0.001746	0.00536	mg/L	0.001746	32.59%
Zn 206.200†	111.3	0.00531	mg/L	0.000412	0.00531	mg/L	0.000412	7.75%
K 766.490†	427.1	0.330	mg/L	0.0253	0.330	mg/L	0.0253	7.66%
Na 589.592†	39797.5	4.57	mg/L	0.155	4.57	mg/L	0.155	3.41%
Sr 407.771†	8136.8	0.00664	mg/L	0.000738	0.00664	mg/L	0.000738	11.11%
Li 670.784†	208.4	0.00530	mg/L	0.000605	0.00530	mg/L	0.000605	11.41%
P 214.914†	33.9	0.0477	mg/L	0.00682	0.0477	mg/L	0.00682	14.29%

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Sequence No.: 9 **Autosampler Location: 135**
Sample ID: L1310184211SD WG451153-05 **Date Collected: 11/5/2013 3:53:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310184211SD WG451153-05

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310184211SD WG451153-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1954008.0						26169.77	1.34%
YRADIAL	133262.4						1790.42	1.34%
Ga 417.206	696591.0						11726.79	1.68%
GaRADIAL	39098.7						279.73	0.72%
Ag 328.068†	368.1	0.00143	mg/L	0.000314	0.00143	mg/L	0.000314	21.89%

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Al 396.153†	112.8	0.0665 mg/L	0.00371	0.0665 mg/L	0.00371	5.57%
As 188.979†	1.1	0.00299 mg/L	0.005176	0.00299 mg/L	0.005176	173.05%
Ba 233.527†	500.4	0.00830 mg/L	0.000298	0.00830 mg/L	0.000298	3.59%
Be 234.861†	292.8	0.00061 mg/L	0.000049	0.00061 mg/L	0.000049	8.13%
B 249.677†	369.5	0.0167 mg/L	0.00037	0.0167 mg/L	0.00037	2.20%
Ca 227.546†	209.2	1.68 mg/L	0.027	1.68 mg/L	0.027	1.60%
Cd 228.802†	-6.7	-0.00031 mg/L	0.000118	-0.00031 mg/L	0.000118	38.01%
Co 228.616†	9.8	0.00036 mg/L	0.000256	0.00036 mg/L	0.000256	71.23%
Cr 267.716†	155.8	0.00174 mg/L	0.000102	0.00174 mg/L	0.000102	5.86%
Cu 327.393†	228.3	0.00147 mg/L	0.000335	0.00147 mg/L	0.000335	22.73%
Fe 239.562†	417.7	0.192 mg/L	0.0046	0.192 mg/L	0.0046	2.37%
Mg 279.077†	342.4	0.414 mg/L	0.0111	0.414 mg/L	0.0111	2.68%
Mn 257.610†	5342.1	0.0139 mg/L	0.00020	0.0139 mg/L	0.00020	1.46%
Mo 202.031†	21.4	0.00278 mg/L	0.000460	0.00278 mg/L	0.000460	16.53%
Ni 231.604†	68.3	0.00216 mg/L	0.000681	0.00216 mg/L	0.000681	31.48%
Pb 220.353†	20.0	0.00263 mg/L	0.003053	0.00263 mg/L	0.003053	116.28%
Sb 206.836†	7.1	0.00510 mg/L	0.002825	0.00510 mg/L	0.002825	55.45%
Se 196.026†	-7.0	-0.00212 mg/L	0.002243	-0.00212 mg/L	0.002243	105.81%
Si 251.611†	3026.4	0.136 mg/L	0.0028	0.136 mg/L	0.0028	2.09%
Sn 189.927†	-7.9	-0.00233 mg/L	0.001954	-0.00233 mg/L	0.001954	83.75%
Ti 334.940†	2339.2	0.00551 mg/L	0.000260	0.00551 mg/L	0.000260	4.73%
Tl 190.801†	0.8	0.00084 mg/L	0.006496	0.00084 mg/L	0.006496	771.11%
V 290.880†	1299.5	0.00674 mg/L	0.000770	0.00674 mg/L	0.000770	11.42%
Zn 206.200†	105.4	0.00496 mg/L	0.000340	0.00496 mg/L	0.000340	6.87%
K 766.490†	481.4	0.378 mg/L	0.0186	0.378 mg/L	0.0186	4.92%
Na 589.592†	39104.1	4.49 mg/L	0.027	4.49 mg/L	0.027	0.59%
Sr 407.771†	7898.1	0.00635 mg/L	0.000281	0.00635 mg/L	0.000281	4.42%
Li 670.784†	226.2	0.00561 mg/L	0.001581	0.00561 mg/L	0.001581	28.18%
P 214.914†	34.7	0.0490 mg/L	0.02663	0.0490 mg/L	0.02663	54.32%

Sequence No.: 10 **Autosampler Location: 136**
Sample ID: L1310182301 **Date Collected: 11/5/2013 3:56:14 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310182301

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310182301

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1920367.9						10048.62	0.52%
YRADIAL	132428.6						3606.00	2.72%
Ga 417.206	708272.5						2120.01	0.30%
GaRADIAL	39666.5						462.09	1.16%
Ag 328.068†	235.3	0.00068	mg/L	0.000571	0.00068	mg/L	0.000571	84.26%
Al 396.153†	40.0	0.0363	mg/L	0.00005	0.0363	mg/L	0.00005	0.13%
As 188.979†	-5.1	-0.00230	mg/L	0.002164	-0.00230	mg/L	0.002164	93.94%
Ba 233.527†	1004.4	0.0181	mg/L	0.00031	0.0181	mg/L	0.00031	1.73%
Be 234.861†	165.6	0.00026	mg/L	0.000013	0.00026	mg/L	0.000013	4.82%
B 249.677†	478.1	0.0196	mg/L	0.00049	0.0196	mg/L	0.00049	2.48%
Ca 227.546†	5534.8	43.9	mg/L	0.33	43.9	mg/L	0.33	0.74%
Cd 228.802†	-2.5	-0.00004	mg/L	0.000250	-0.00004	mg/L	0.000250	621.80%
Co 228.616†	-4.2	-0.00064	mg/L	0.000556	-0.00064	mg/L	0.000556	87.07%
Cr 267.716†	54.1	0.00014	mg/L	0.000041	0.00014	mg/L	0.000041	28.55%
Cu 327.393†	416.0	0.00295	mg/L	0.000363	0.00295	mg/L	0.000363	12.30%
Fe 239.562†	851.1	0.380	mg/L	0.0030	0.380	mg/L	0.0030	0.79%
Mg 279.077†	6723.2	7.77	mg/L	0.123	7.77	mg/L	0.123	1.58%
Mn 257.610†	20930.8	0.0555	mg/L	0.00013	0.0555	mg/L	0.00013	0.23%
Mo 202.031†	25.4	0.00315	mg/L	0.000049	0.00315	mg/L	0.000049	1.54%
Ni 231.604†	9.5	-0.00042	mg/L	0.000393	-0.00042	mg/L	0.000393	93.17%
Pb 220.353†	12.1	0.00056	mg/L	0.001961	0.00056	mg/L	0.001961	351.73%
Sb 206.836†	-2.4	-0.00268	mg/L	0.002647	-0.00268	mg/L	0.002647	98.74%
Se 196.026†	-4.1	0.00356	mg/L	0.010524	0.00356	mg/L	0.010524	295.71%
Si 251.611†	71264.8	3.42	mg/L	0.024	3.42	mg/L	0.024	0.71%
Sn 189.927†	-176.5	-0.0484	mg/L	0.00030	-0.0484	mg/L	0.00030	0.62%
Ti 334.940†	-3872.9	0.00044	mg/L	0.000048	0.00044	mg/L	0.000048	10.82%

Approved: November 06, 2013

Tl 190.801†	-18.3	-0.0164	mg/L	0.00770	-0.0164	mg/L	0.00770	47.04%
V 290.880†	977.8	0.00388	mg/L	0.000589	0.00388	mg/L	0.000589	15.18%
Zn 206.200†	286.8	0.0160	mg/L	0.00059	0.0160	mg/L	0.00059	3.66%
K 766.490†	3082.6	2.68	mg/L	0.077	2.68	mg/L	0.077	2.89%
Na 589.592†	50487.2	5.80	mg/L	0.045	5.80	mg/L	0.045	0.78%
Sr 407.771†	135113.0	0.156	mg/L	0.0057	0.156	mg/L	0.0057	3.64%
Li 670.784†	-72.8	0.00038	mg/L	0.000873	0.00038	mg/L	0.000873	231.92%
P 214.914†	45.1	0.0668	mg/L	0.00466	0.0668	mg/L	0.00466	6.97%

Sequence No.: 11 **Autosampler Location: 137**
Sample ID: L1310182401 **Date Collected: 11/5/2013 3:59:15 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310182401

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310182401

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1885207.6						20860.69	1.11%
YRADIAL	129638.0						1659.25	1.28%
Ga 417.206	701583.5						6293.64	0.90%
GaRADIAL	39183.9						1095.82	2.80%
Ag 328.068†	222.7	0.00071	mg/L	0.000225	0.00071	mg/L	0.000225	31.79%
Al 396.153†	-5.4	0.0176	mg/L	0.00141	0.0176	mg/L	0.00141	8.01%
As 188.979†	-9.7	-0.00667	mg/L	0.005725	-0.00667	mg/L	0.005725	85.77%
Ba 233.527†	346.1	0.00527	mg/L	0.000039	0.00527	mg/L	0.000039	0.74%
Be 234.861†	187.0	0.00026	mg/L	0.000031	0.00026	mg/L	0.000031	11.82%
B 249.677†	665.8	0.0246	mg/L	0.00017	0.0246	mg/L	0.00017	0.71%
Ca 227.546†	6591.5	52.2	mg/L	0.53	52.2	mg/L	0.53	1.02%
Cd 228.802†	-5.5	-0.00019	mg/L	0.000317	-0.00019	mg/L	0.000317	166.83%
Co 228.616†	-11.1	-0.00114	mg/L	0.000162	-0.00114	mg/L	0.000162	14.31%
Cr 267.716†	79.2	0.00051	mg/L	0.000061	0.00051	mg/L	0.000061	11.92%
Cu 327.393†	-41.2	-0.00064	mg/L	0.000759	-0.00064	mg/L	0.000759	118.05%
Fe 239.562†	1457.1	0.642	mg/L	0.0048	0.642	mg/L	0.0048	0.75%
Mg 279.077†	13650.4	15.8	mg/L	0.07	15.8	mg/L	0.07	0.43%
Mn 257.610†	61722.9	0.164	mg/L	0.0007	0.164	mg/L	0.0007	0.44%
Mo 202.031†	14.8	0.00222	mg/L	0.000480	0.00222	mg/L	0.000480	21.67%
Ni 231.604†	-3.5	-0.00099	mg/L	0.000287	-0.00099	mg/L	0.000287	28.85%
Pb 220.353†	27.4	0.00445	mg/L	0.001582	0.00445	mg/L	0.001582	35.58%
Sb 206.836†	2.1	0.00099	mg/L	0.001948	0.00099	mg/L	0.001948	196.33%
Se 196.026†	-6.9	-0.00191	mg/L	0.010087	-0.00191	mg/L	0.010087	528.45%
Si 251.611†	110108.5	5.29	mg/L	0.037	5.29	mg/L	0.037	0.70%
Sn 189.927†	-185.1	-0.0507	mg/L	0.00205	-0.0507	mg/L	0.00205	4.04%
Ti 334.940†	-4875.9	-0.00015	mg/L	0.000262	-0.00015	mg/L	0.000262	179.55%
Tl 190.801†	-18.1	-0.0163	mg/L	0.00845	-0.0163	mg/L	0.00845	51.79%
V 290.880†	1102.8	0.00468	mg/L	0.000132	0.00468	mg/L	0.000132	2.82%
Zn 206.200†	104.5	0.00490	mg/L	0.000100	0.00490	mg/L	0.000100	2.03%
K 766.490†	1650.8	1.40	mg/L	0.012	1.40	mg/L	0.012	0.87%
Na 589.592†	134724.7	15.5	mg/L	0.14	15.5	mg/L	0.14	0.88%
Sr 407.771†	156167.7	0.181	mg/L	0.0057	0.181	mg/L	0.0057	3.16%
Li 670.784†	25.6	0.00210	mg/L	0.000163	0.00210	mg/L	0.000163	7.76%
P 214.914†	48.5	0.0725	mg/L	0.01826	0.0725	mg/L	0.01826	25.19%

Sequence No.: 12 **Autosampler Location: 138**
Sample ID: L1310182401PS WG451224-03 **Date Collected: 11/5/2013 4:02:16 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310182401PS WG451224-03

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Approved: November 06, 2013

Kim H. Rhoden

Mean Data: L1310182401PS WG451224-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1921220.4						6063.05	0.32%
YRADIAL	130508.9						1007.52	0.77%
Ga 417.206	702520.3						10673.12	1.52%
GaRADIAL	38387.4						650.54	1.69%
Ag 328.068†	34013.3	0.207	mg/L	0.0025	0.207	mg/L	0.0025	1.22%
Al 396.153†	12596.1	5.21	mg/L	0.026	5.21	mg/L	0.026	0.49%
As 188.979†	193.8	0.195	mg/L	0.0044	0.195	mg/L	0.0044	2.27%
Ba 233.527†	27548.0	0.537	mg/L	0.0069	0.537	mg/L	0.0069	1.28%
Be 234.861†	10714.7	0.0251	mg/L	0.00037	0.0251	mg/L	0.00037	1.49%
B 249.677†	38336.1	1.05	mg/L	0.012	1.05	mg/L	0.012	1.16%
Ca 227.546†	6719.5	53.5	mg/L	0.16	53.5	mg/L	0.16	0.30%
Cd 228.802†	405.3	0.0231	mg/L	0.00056	0.0231	mg/L	0.00056	2.42%
Co 228.616†	1439.9	0.103	mg/L	0.0020	0.103	mg/L	0.0020	1.95%
Cr 267.716†	16960.9	0.264	mg/L	0.0041	0.264	mg/L	0.0041	1.55%
Cu 327.393†	31275.0	0.248	mg/L	0.0030	0.248	mg/L	0.0030	1.23%
Fe 239.562†	6087.1	2.65	mg/L	0.074	2.65	mg/L	0.074	2.81%
Mg 279.077†	16891.1	19.5	mg/L	0.47	19.5	mg/L	0.47	2.40%
Mn 257.610†	152915.3	0.408	mg/L	0.0081	0.408	mg/L	0.0081	1.98%
Mo 202.031†	5848.9	0.534	mg/L	0.0039	0.534	mg/L	0.0039	0.73%
Ni 231.604†	5911.6	0.260	mg/L	0.0029	0.260	mg/L	0.0029	1.13%
Pb 220.353†	1051.0	0.271	mg/L	0.0047	0.271	mg/L	0.0047	1.75%
Sb 206.836†	736.1	0.601	mg/L	0.0017	0.601	mg/L	0.0017	0.28%
Se 196.026†	92.3	0.196	mg/L	0.0069	0.196	mg/L	0.0069	3.53%
Si 251.611†	151104.0	7.25	mg/L	0.034	7.25	mg/L	0.034	0.47%
Sn 189.927†	-178.3	-0.0489	mg/L	0.00127	-0.0489	mg/L	0.00127	2.59%
Ti 334.940†	278631.5	0.520	mg/L	0.0085	0.520	mg/L	0.0085	1.63%
Tl 190.801†	283.3	0.260	mg/L	0.0068	0.260	mg/L	0.0068	2.63%
V 290.880†	66234.5	0.542	mg/L	0.0093	0.542	mg/L	0.0093	1.72%
Zn 206.200†	8622.9	0.529	mg/L	0.0045	0.529	mg/L	0.0045	0.85%
K 766.490†	32721.5	28.6	mg/L	0.20	28.6	mg/L	0.20	0.70%
Na 589.592†	347131.1	40.2	mg/L	0.40	40.2	mg/L	0.40	0.99%
Sr 407.771†	602722.3	0.712	mg/L	0.0049	0.712	mg/L	0.0049	0.69%
Li 670.784†	29459.2	0.517	mg/L	0.0026	0.517	mg/L	0.0026	0.50%
P 214.914†	-38.8	-0.0762	mg/L	0.03771	-0.0762	mg/L	0.03771	49.47%

Sequence No.: 13
Sample ID: L1310182401DL WG451224-04
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 139
Date Collected: 11/5/2013 4:04:22 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310182401DL WG451224-04

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310182401DL WG451224-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1945492.0						46809.37	2.41%
YRADIAL	130586.4						2094.20	1.60%
Ga 417.206	692515.9						19316.72	2.79%
GaRADIAL	37895.5						538.49	1.42%
Ag 328.068†	50.9	-0.00053	mg/L	0.000368	-0.00053	mg/L	0.000368	69.89%
Al 396.153†	6.7	0.0226	mg/L	0.00580	0.0226	mg/L	0.00580	25.68%
As 188.979†	-3.4	-0.00136	mg/L	0.001506	-0.00136	mg/L	0.001506	110.42%
Ba 233.527†	56.5	-0.00037	mg/L	0.000041	-0.00037	mg/L	0.000041	10.89%
Be 234.861†	147.5	0.00027	mg/L	0.000078	0.00027	mg/L	0.000078	28.47%
B 249.677†	366.1	0.0167	mg/L	0.00246	0.0167	mg/L	0.00246	14.79%
Ca 227.546†	1332.2	10.6	mg/L	0.22	10.6	mg/L	0.22	2.09%
Cd 228.802†	-9.7	-0.00047	mg/L	0.000098	-0.00047	mg/L	0.000098	20.95%
Co 228.616†	-4.8	-0.00069	mg/L	0.000550	-0.00069	mg/L	0.000550	80.18%
Cr 267.716†	16.2	-0.00043	mg/L	0.000249	-0.00043	mg/L	0.000249	57.79%
Cu 327.393†	-30.6	-0.00058	mg/L	0.000749	-0.00058	mg/L	0.000749	128.40%
Fe 239.562†	297.8	0.140	mg/L	0.0033	0.140	mg/L	0.0033	2.34%
Mg 279.077†	2833.8	3.29	mg/L	0.010	3.29	mg/L	0.010	0.31%

Approved: November 06, 2013

Mn 257.610†	12239.2	0.0323 mg/L	0.00062	0.0323 mg/L	0.00062	1.91%
Mo 202.031†	6.3	0.00140 mg/L	0.000743	0.00140 mg/L	0.000743	52.94%
Ni 231.604†	8.9	-0.00045 mg/L	0.000227	-0.00045 mg/L	0.000227	50.47%
Pb 220.353†	14.3	0.00113 mg/L	0.002557	0.00113 mg/L	0.002557	225.70%
Sb 206.836†	4.9	0.00330 mg/L	0.002166	0.00330 mg/L	0.002166	65.63%
Se 196.026†	-7.0	-0.00219 mg/L	0.005760	-0.00219 mg/L	0.005760	262.96%
Si 251.611†	22386.5	1.07 mg/L	0.018	1.07 mg/L	0.018	1.68%
Sn 189.927†	-70.2	-0.0193 mg/L	0.00090	-0.0193 mg/L	0.00090	4.63%
Ti 334.940†	-1013.3	0.00069 mg/L	0.000192	0.00069 mg/L	0.000192	27.68%
Tl 190.801†	-11.6	-0.0103 mg/L	0.00438	-0.0103 mg/L	0.00438	42.66%
V 290.880†	624.4	0.00110 mg/L	0.001532	0.00110 mg/L	0.001532	138.66%
Zn 206.200†	58.4	0.00206 mg/L	0.000351	0.00206 mg/L	0.000351	17.08%
K 766.490†	275.2	0.197 mg/L	0.0500	0.197 mg/L	0.0500	25.38%
Na 589.592†	28291.9	3.24 mg/L	0.062	3.24 mg/L	0.062	1.92%
Sr 407.771†	31065.3	0.0336 mg/L	0.00117	0.0336 mg/L	0.00117	3.49%
Li 670.784†	-33.4	0.00107 mg/L	0.001594	0.00107 mg/L	0.001594	149.45%
P 214.914†	39.3	0.0568 mg/L	0.01310	0.0568 mg/L	0.01310	23.06%

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Sequence No.: 14 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 4:07:23 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1947848.2						25131.08	1.29%
YRADIAL	131231.3						3116.66	2.37%
Ga 417.206	691678.8						15599.47	2.26%
GaRADIAL	38270.6						864.37	2.26%
Ag 328.068†	67415.7	0.410	mg/L	0.0038	0.410	mg/L	0.0038	0.92%
QC value within limits for Ag 328.068 Recovery = 102.59%								
Al 396.153†	24620.5	10.2	mg/L	0.09	10.2	mg/L	0.09	0.87%
QC value within limits for Al 396.153 Recovery = 101.71%								
As 188.979†	403.2	0.402	mg/L	0.0023	0.402	mg/L	0.0023	0.57%
QC value within limits for As 188.979 Recovery = 100.59%								
Ba 233.527†	53745.6	1.05	mg/L	0.014	1.05	mg/L	0.014	1.29%
QC value within limits for Ba 233.527 Recovery = 104.92%								
Be 234.861†	21386.1	0.0504	mg/L	0.00055	0.0504	mg/L	0.00055	1.09%
QC value within limits for Be 234.861 Recovery = 100.70%								
B 249.677†	18454.4	0.505	mg/L	0.0102	0.505	mg/L	0.0102	2.02%
QC value within limits for B 249.677 Recovery = 101.02%								
Ca 227.546†	1240.7	10.3	mg/L	0.06	10.3	mg/L	0.06	0.63%
QC value within limits for Ca 227.546 Recovery = 103.19%								
Cd 228.802†	839.9	0.0478	mg/L	0.00071	0.0478	mg/L	0.00071	1.49%
QC value within limits for Cd 228.802 Recovery = 95.63%								
Co 228.616†	2869.7	0.206	mg/L	0.0020	0.206	mg/L	0.0020	0.95%
QC value within limits for Co 228.616 Recovery = 103.24%								
Cr 267.716†	33297.9	0.519	mg/L	0.0036	0.519	mg/L	0.0036	0.69%
QC value within limits for Cr 267.716 Recovery = 103.82%								
Cu 327.393†	64419.2	0.510	mg/L	0.0050	0.510	mg/L	0.0050	0.98%
QC value within limits for Cu 327.393 Recovery = 102.01%								
Fe 239.562†	9514.3	4.13	mg/L	0.029	4.13	mg/L	0.029	0.71%
QC value within limits for Fe 239.562 Recovery = 103.30%								
Mg 279.077†	8988.8	10.4	mg/L	0.04	10.4	mg/L	0.04	0.38%
QC value within limits for Mg 279.077 Recovery = 103.97%								
Mn 257.610†	195138.8	0.521	mg/L	0.0053	0.521	mg/L	0.0053	1.01%
QC value within limits for Mn 257.610 Recovery = 104.12%								
Mo 202.031†	11241.8	1.02	mg/L	0.012	1.02	mg/L	0.012	1.19%
QC value within limits for Mo 202.031 Recovery = 102.50%								
Ni 231.604†	11903.9	0.523	mg/L	0.0060	0.523	mg/L	0.0060	1.15%
QC value within limits for Ni 231.604 Recovery = 104.69%								
Pb 220.353†	2026.4	0.525	mg/L	0.0037	0.525	mg/L	0.0037	0.70%
QC value within limits for Pb 220.353 Recovery = 105.03%								

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Sb 206.836†	1459.0	1.19 mg/L	0.006	1.19 mg/L	0.006	0.52%
QC value within limits for Sb 206.836 Recovery = 99.26%						
Se 196.026†	197.7	0.405 mg/L	0.0065	0.405 mg/L	0.0065	1.60%
QC value within limits for Se 196.026 Recovery = 101.35%						
Si 251.611†	108252.4	5.18 mg/L	0.051	5.18 mg/L	0.051	0.98%
QC value within limits for Si 251.611 Recovery = 103.70%						
Sn 189.927†	3838.0	1.05 mg/L	0.008	1.05 mg/L	0.008	0.74%
QC value within limits for Sn 189.927 Recovery = 104.72%						
Ti 334.940†	553968.6	1.02 mg/L	0.006	1.02 mg/L	0.006	0.64%
QC value within limits for Ti 334.940 Recovery = 101.87%						
Tl 190.801†	582.9	0.536 mg/L	0.0082	0.536 mg/L	0.0082	1.54%
QC value within limits for Tl 190.801 Recovery = 107.11%						
V 290.880†	129050.8	1.06 mg/L	0.021	1.06 mg/L	0.021	2.02%
QC value within limits for V 290.880 Recovery = 106.00%						
Zn 206.200†	17390.1	1.07 mg/L	0.008	1.07 mg/L	0.008	0.73%
QC value within limits for Zn 206.200 Recovery = 106.76%						
K 766.490†	61791.1	53.4 mg/L	0.27	53.4 mg/L	0.27	0.50%
QC value within limits for K 766.490 Recovery = 106.84%						
Na 589.592†	440664.6	51.2 mg/L	1.41	51.2 mg/L	1.41	2.75%
QC value within limits for Na 589.592 Recovery = 102.42%						
Sr 407.771†	901400.9	1.07 mg/L	0.037	1.07 mg/L	0.037	3.50%
QC value within limits for Sr 407.771 Recovery = 106.86%						
Li 670.784†	58010.5	1.02 mg/L	0.008	1.02 mg/L	0.008	0.76%
QC value within limits for Li 670.784 Recovery = 101.73%						
P 214.914†	6086.9	10.4 mg/L	0.09	10.4 mg/L	0.09	0.91%
QC value within limits for P 214.914 Recovery = 103.67%						

All analyte(s) passed QC.

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Sequence No.: 15 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/5/2013 4:09:28 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1931386.6						51984.30	2.69%
YRADIAL	130154.9						3591.27	2.76%
Ga 417.206	673228.8						18388.40	2.73%
GaRADIAL	37584.8						509.13	1.35%
Ag 328.068†	111.5	-0.00021	mg/L	0.000612	-0.00021	mg/L	0.000612	290.93%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	3.6	0.0213	mg/L	0.00200	0.0213	mg/L	0.00200	9.41%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	1.5	0.00333	mg/L	0.002409	0.00333	mg/L	0.002409	72.27%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-26.9	-0.00200	mg/L	0.000093	-0.00200	mg/L	0.000093	4.65%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	84.1	0.00015	mg/L	0.000050	0.00015	mg/L	0.000050	33.12%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	74.7	0.00877	mg/L	0.001030	0.00877	mg/L	0.001030	11.74%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	18.3	0.158	mg/L	0.0734	0.158	mg/L	0.0734	46.61%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-7.7	-0.00038	mg/L	0.000364	-0.00038	mg/L	0.000364	96.51%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-9.8	-0.00105	mg/L	0.000220	-0.00105	mg/L	0.000220	20.94%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	6.4	-0.00058	mg/L	0.000071	-0.00058	mg/L	0.000071	12.39%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	87.5	0.00034	mg/L	0.000848	0.00034	mg/L	0.000848	247.45%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	1.7	0.0122	mg/L	0.00123	0.0122	mg/L	0.00123	10.07%
QC value within limits for Fe 239.562 Recovery = Not calculated								

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Mg 279.077†	20.6	0.0431 mg/L	0.00981	0.0431 mg/L	0.00981	22.73%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	22.9	-0.00025 mg/L	0.000017	-0.00025 mg/L	0.000017	7.03%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	6.4	0.00141 mg/L	0.000119	0.00141 mg/L	0.000119	8.47%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Ni 231.604†	4.2	-0.00066 mg/L	0.000281	-0.00066 mg/L	0.000281	42.67%
QC value within limits for Ni 231.604 Recovery = Not calculated						
Pb 220.353†	7.8	-0.00053 mg/L	0.001758	-0.00053 mg/L	0.001758	329.24%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	1.8	0.00080 mg/L	0.002974	0.00080 mg/L	0.002974	371.08%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	-4.3	0.00316 mg/L	0.003599	0.00316 mg/L	0.003599	114.06%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	-22.5	-0.0107 mg/L	0.00128	-0.0107 mg/L	0.00128	11.91%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	-2.1	-0.00076 mg/L	0.000936	-0.00076 mg/L	0.000936	123.89%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Ti 334.940†	66.5	0.00111 mg/L	0.000163	0.00111 mg/L	0.000163	14.68%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-1.3	-0.00103 mg/L	0.004005	-0.00103 mg/L	0.004005	387.00%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 290.880†	561.8	0.00068 mg/L	0.001731	0.00068 mg/L	0.001731	252.69%
QC value within limits for V 290.880 Recovery = Not calculated						
Zn 206.200†	0.9	-0.00146 mg/L	0.000093	-0.00146 mg/L	0.000093	6.34%
QC value within limits for Zn 206.200 Recovery = Not calculated						
K 766.490†	2.8	-0.0414 mg/L	0.03709	-0.0414 mg/L	0.03709	89.66%
QC value within limits for K 766.490 Recovery = Not calculated						
Na 589.592†	409.6	0.0323 mg/L	0.03221	0.0323 mg/L	0.03221	99.70%
QC value within limits for Na 589.592 Recovery = Not calculated						
Sr 407.771†	40.8	-0.00294 mg/L	0.000093	-0.00294 mg/L	0.000093	3.17%
QC value within limits for Sr 407.771 Recovery = Not calculated						
Li 670.784†	-11.4	0.00145 mg/L	0.001088	0.00145 mg/L	0.001088	74.93%
QC value within limits for Li 670.784 Recovery = Not calculated						
P 214.914†	35.5	0.0504 mg/L	0.01967	0.0504 mg/L	0.01967	39.00%
QC value within limits for P 214.914 Recovery = Not calculated						

All analyte(s) passed QC.

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Sequence No.: 16 **Autosampler Location: 140**
Sample ID: PBW 8A WG451138-02 **Date Collected: 11/5/2013 4:12:28 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW 8A WG451138-02

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: PBW 8A WG451138-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1975142.1						36461.91	1.85%
YRADIAL	135268.7						3525.58	2.61%
Ga 417.206	692452.1						11505.42	1.66%
GaRADIAL	39056.3						789.80	2.02%
Ag 328.068†	134.7	-0.00007	mg/L	0.001141	-0.00007	mg/L	0.001141	>999.9%
Al 396.153†	10.8	0.0244	mg/L	0.00110	0.0244	mg/L	0.00110	4.50%
As 188.979†	-0.6	0.00119	mg/L	0.002749	0.00119	mg/L	0.002749	231.84%
Ba 233.527†	-16.8	-0.00180	mg/L	0.000243	-0.00180	mg/L	0.000243	13.46%
Be 234.861†	99.5	0.00019	mg/L	0.000078	0.00019	mg/L	0.000078	41.57%
B 249.677†	-105.4	0.00387	mg/L	0.000510	0.00387	mg/L	0.000510	13.17%
Ca 227.546†	20.0	0.171	mg/L	0.0249	0.171	mg/L	0.0249	14.57%
Cd 228.802†	-8.2	-0.00040	mg/L	0.000034	-0.00040	mg/L	0.000034	8.43%
Co 228.616†	-7.6	-0.00089	mg/L	0.000116	-0.00089	mg/L	0.000116	12.96%
Cr 267.716†	-8.9	-0.00081	mg/L	0.000372	-0.00081	mg/L	0.000372	45.81%
Cu 327.393†	-6.7	-0.00040	mg/L	0.000599	-0.00040	mg/L	0.000599	149.07%
Fe 239.562†	0.9	0.0119	mg/L	0.00130	0.0119	mg/L	0.00130	10.90%
Mg 279.077†	20.9	0.0434	mg/L	0.00271	0.0434	mg/L	0.00271	6.24%
Mn 257.610†	68.8	-0.00013	mg/L	0.000022	-0.00013	mg/L	0.000022	17.92%

Approved: November 06, 2013

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Mo 202.031†	-8.5	0.00005	mg/L	0.000168	0.00005	mg/L	0.000168	357.41%
Ni 231.604†	1.1	-0.00080	mg/L	0.000228	-0.00080	mg/L	0.000228	28.54%
Pb 220.353†	14.4	0.00120	mg/L	0.001376	0.00120	mg/L	0.001376	114.64%
Sb 206.836†	-0.0	-0.00071	mg/L	0.001881	-0.00071	mg/L	0.001881	266.45%
Se 196.026†	-1.8	0.00809	mg/L	0.008863	0.00809	mg/L	0.008863	109.53%
Si 251.611†	5.5	-0.00935	mg/L	0.001555	-0.00935	mg/L	0.001555	16.63%
Sn 189.927†	-5.9	-0.00179	mg/L	0.000860	-0.00179	mg/L	0.000860	48.01%
Ti 334.940†	-60.3	0.00088	mg/L	0.000108	0.00088	mg/L	0.000108	12.23%
Tl 190.801†	-0.8	-0.00060	mg/L	0.003065	-0.00060	mg/L	0.003065	511.62%
V 290.880†	643.3	0.00136	mg/L	0.001641	0.00136	mg/L	0.001641	120.82%
Zn 206.200†	33.4	0.00052	mg/L	0.000150	0.00052	mg/L	0.000150	28.86%
K 766.490†	18.0	-0.0279	mg/L	0.02508	-0.0279	mg/L	0.02508	89.97%
Na 589.592†	377.8	0.0286	mg/L	0.01675	0.0286	mg/L	0.01675	58.49%
Sr 407.771†	29.5	-0.00296	mg/L	0.000027	-0.00296	mg/L	0.000027	0.93%
Li 670.784†	-60.5	0.00059	mg/L	0.000993	0.00059	mg/L	0.000993	167.44%
P 214.914†	39.6	0.0573	mg/L	0.01158	0.0573	mg/L	0.01158	20.21%

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Sequence No.: 17 **Autosampler Location: 141**
Sample ID: LCSW 8A WG451138-03 **Date Collected: 11/5/2013 4:15:29 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 8A WG451138-03

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: LCSW 8A WG451138-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1877987.0						46100.68	2.45%
YRADIAL	133542.0						1952.88	1.46%
Ga 417.206	676742.0						15171.94	2.24%
GaRADIAL	39094.7						281.36	0.72%
Ag 328.068†	33155.2	0.201	mg/L	0.0028	0.201	mg/L	0.0028	1.41%
Al 396.153†	11977.0	4.96	mg/L	0.017	4.96	mg/L	0.017	0.34%
As 188.979†	193.3	0.194	mg/L	0.0040	0.194	mg/L	0.0040	2.08%
Ba 233.527†	26432.3	0.515	mg/L	0.0040	0.515	mg/L	0.0040	0.78%
Be 234.861†	10282.4	0.0242	mg/L	0.00015	0.0242	mg/L	0.00015	0.64%
B 249.677†	36083.0	0.987	mg/L	0.0096	0.987	mg/L	0.0096	0.98%
Ca 227.546†	610.3	5.08	mg/L	0.036	5.08	mg/L	0.036	0.72%
Cd 228.802†	405.8	0.0232	mg/L	0.00059	0.0232	mg/L	0.00059	2.53%
Co 228.616†	1439.7	0.103	mg/L	0.0013	0.103	mg/L	0.0013	1.27%
Cr 267.716†	16438.9	0.256	mg/L	0.0014	0.256	mg/L	0.0014	0.54%
Cu 327.393†	31464.6	0.249	mg/L	0.0026	0.249	mg/L	0.0026	1.04%
Fe 239.562†	4642.6	2.02	mg/L	0.066	2.02	mg/L	0.066	3.27%
Mg 279.077†	4423.4	5.13	mg/L	0.148	5.13	mg/L	0.148	2.88%
Mn 257.610†	98645.3	0.263	mg/L	0.0030	0.263	mg/L	0.0030	1.15%
Mo 202.031†	5825.3	0.532	mg/L	0.0072	0.532	mg/L	0.0072	1.35%
Ni 231.604†	5934.3	0.261	mg/L	0.0041	0.261	mg/L	0.0041	1.56%
Pb 220.353†	1005.6	0.259	mg/L	0.0030	0.259	mg/L	0.0030	1.17%
Sb 206.836†	714.7	0.583	mg/L	0.0080	0.583	mg/L	0.0080	1.37%
Se 196.026†	87.9	0.187	mg/L	0.0047	0.187	mg/L	0.0047	2.52%
Si 251.611†	52422.8	2.51	mg/L	0.027	2.51	mg/L	0.027	1.07%
Sn 189.927†	1817.0	0.496	mg/L	0.0039	0.496	mg/L	0.0039	0.79%
Ti 334.940†	270558.7	0.498	mg/L	0.0047	0.498	mg/L	0.0047	0.94%
Tl 190.801†	282.4	0.260	mg/L	0.0043	0.260	mg/L	0.0043	1.66%
V 290.880†	63588.2	0.520	mg/L	0.0084	0.520	mg/L	0.0084	1.61%
Zn 206.200†	8518.4	0.522	mg/L	0.0065	0.522	mg/L	0.0065	1.25%
K 766.490†	30209.5	26.4	mg/L	0.10	26.4	mg/L	0.10	0.37%
Na 589.592†	217129.0	25.1	mg/L	0.49	25.1	mg/L	0.49	1.95%
Sr 407.771†	450196.2	0.532	mg/L	0.0031	0.532	mg/L	0.0031	0.59%
Li 670.784†	28265.6	0.497	mg/L	0.0009	0.497	mg/L	0.0009	0.17%
P 214.914†	-42.6	-0.0828	mg/L	0.03072	-0.0828	mg/L	0.03072	37.12%

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Sequence No.: 18 **Autosampler Location: 142**
Sample ID: L1310181906 WG451138-01 **Date Collected: 11/5/2013 4:17:33 PM**
Analyst: KHR **Data Type: Original**

Approved: November 06, 2013

Kim H. Rhoden

Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310181906 WG451138-01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310181906 WG451138-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1977013.6						21264.62	1.08%
YRADIAL	135979.1						914.63	0.67%
Ga 417.206	702972.0						8270.11	1.18%
GaRADIAL	39185.7						519.60	1.33%
Ag 328.068†	-1395.7	-0.00047	mg/L	0.000479	-0.00047	mg/L	0.000479	101.41%
Al 396.153†	99.7	0.0635	mg/L	0.00186	0.0635	mg/L	0.00186	2.93%
As 188.979†	6.7	0.0130	mg/L	0.00060	0.0130	mg/L	0.00060	4.61%
Ba 233.527†	2538.1	0.0476	mg/L	0.00041	0.0476	mg/L	0.00041	0.86%
Be 234.861†	2326.6	0.00098	mg/L	0.000348	0.00098	mg/L	0.000348	35.40%
B 249.677†	1255.9	0.0328	mg/L	0.00133	0.0328	mg/L	0.00133	4.04%
Ca 227.546†	329.6	3.08	mg/L	0.094	3.08	mg/L	0.094	3.06%
Cd 228.802†	-8.7	-0.00040	mg/L	0.000122	-0.00040	mg/L	0.000122	30.26%
Co 228.616†	7.3	-0.00033	mg/L	0.000176	-0.00033	mg/L	0.000176	54.06%
Cr 267.716†	-19.7	-0.00250	mg/L	0.000136	-0.00250	mg/L	0.000136	5.45%
Cu 327.393†	-57.5	0.00031	mg/L	0.000914	0.00031	mg/L	0.000914	296.48%
Fe 239.562†	43622.7	18.9	mg/L	0.11	18.9	mg/L	0.11	0.59%
Mg 279.077†	2039.6	2.36	mg/L	0.025	2.36	mg/L	0.025	1.04%
Mn 257.610†	30500.3	0.0821	mg/L	0.00018	0.0821	mg/L	0.00018	0.23%
Mo 202.031†	-12.1	0.00003	mg/L	0.000662	0.00003	mg/L	0.000662	>999.9%
Ni 231.604†	2.1	-0.00076	mg/L	0.000169	-0.00076	mg/L	0.000169	22.33%
Pb 220.353†	19.2	0.00176	mg/L	0.000635	0.00176	mg/L	0.000635	36.07%
Sb 206.836†	2.8	0.00228	mg/L	0.001563	0.00228	mg/L	0.001563	68.50%
Se 196.026†	-10.8	-0.00600	mg/L	0.003900	-0.00600	mg/L	0.003900	64.96%
Si 251.611†	54555.4	2.61	mg/L	0.029	2.61	mg/L	0.029	1.10%
Sn 189.927†	-28.5	-0.00795	mg/L	0.000391	-0.00795	mg/L	0.000391	4.91%
Ti 334.940†	20.0	0.00140	mg/L	0.000204	0.00140	mg/L	0.000204	14.60%
Tl 190.801†	-0.5	-0.00039	mg/L	0.004873	-0.00039	mg/L	0.004873	>999.9%
V 290.880†	869.2	0.00117	mg/L	0.000229	0.00117	mg/L	0.000229	19.47%
Zn 206.200†	65.7	0.00284	mg/L	0.000327	0.00284	mg/L	0.000327	11.51%
K 766.490†	890.8	0.739	mg/L	0.0165	0.739	mg/L	0.0165	2.23%
Na 589.592†	53281.1	6.12	mg/L	0.066	6.12	mg/L	0.066	1.08%
Sr 407.771†	39550.8	0.0440	mg/L	0.00126	0.0440	mg/L	0.00126	2.86%
Li 670.784†	-9.6	0.00148	mg/L	0.000219	0.00148	mg/L	0.000219	14.76%
P 214.914†	51.0	0.0769	mg/L	0.00753	0.0769	mg/L	0.00753	9.80%

Sequence No.: 19 **Autosampler Location: 143**
Sample ID: L1310181907MS WG451138-05 **Date Collected: 11/5/2013 4:20:34 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310181907MS WG451138-05

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310181907MS WG451138-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1971389.0						72083.24	3.66%
YRADIAL	150494.4						3848.91	2.56%
Ga 417.206	716391.3						31919.26	4.46%
GaRADIAL	42590.7						1049.60	2.46%
Ag 328.068†	31347.8	0.199	mg/L	0.0014	0.199	mg/L	0.0014	0.70%
Al 396.153†	12310.6	5.10	mg/L	0.009	5.10	mg/L	0.009	0.18%
As 188.979†	204.6	0.209	mg/L	0.0135	0.209	mg/L	0.0135	6.44%
Ba 233.527†	29175.7	0.568	mg/L	0.0063	0.568	mg/L	0.0063	1.11%
Be 234.861†	12231.7	0.0244	mg/L	0.00006	0.0244	mg/L	0.00006	0.25%

Approved: November 06, 2013

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B 249.677†	37381.4	1.01	mg/L	0.004	1.01	mg/L	0.004	0.40%
Ca 227.546†	930.2	8.07	mg/L	0.263	8.07	mg/L	0.263	3.25%
Cd 228.802†	403.5	0.0230	mg/L	0.00142	0.0230	mg/L	0.00142	6.19%
Co 228.616†	1462.6	0.105	mg/L	0.0042	0.105	mg/L	0.0042	3.98%
Cr 267.716†	16452.3	0.255	mg/L	0.0014	0.255	mg/L	0.0014	0.55%
Cu 327.393†	31115.6	0.247	mg/L	0.0008	0.247	mg/L	0.0008	0.33%
Fe 239.562†	47770.9	20.7	mg/L	0.09	20.7	mg/L	0.09	0.44%
Mg 279.077†	6268.9	7.24	mg/L	0.026	7.24	mg/L	0.026	0.35%
Mn 257.610†	127868.2	0.342	mg/L	0.0045	0.342	mg/L	0.0045	1.31%
Mo 202.031†	5811.4	0.531	mg/L	0.0201	0.531	mg/L	0.0201	3.79%
Ni 231.604†	6199.6	0.272	mg/L	0.0104	0.272	mg/L	0.0104	3.82%
Pb 220.353†	1027.1	0.264	mg/L	0.0118	0.264	mg/L	0.0118	4.48%
Sb 206.836†	719.4	0.588	mg/L	0.0237	0.588	mg/L	0.0237	4.04%
Se 196.026†	88.7	0.192	mg/L	0.0135	0.192	mg/L	0.0135	7.05%
Si 251.611†	104837.4	5.03	mg/L	0.013	5.03	mg/L	0.013	0.27%
Sn 189.927†	2037.3	0.556	mg/L	0.0219	0.556	mg/L	0.0219	3.94%
Ti 334.940†	281311.1	0.518	mg/L	0.0043	0.518	mg/L	0.0043	0.83%
Tl 190.801†	293.7	0.270	mg/L	0.0076	0.270	mg/L	0.0076	2.83%
V 290.880†	63677.9	0.519	mg/L	0.0083	0.519	mg/L	0.0083	1.60%
Zn 206.200†	8935.8	0.548	mg/L	0.0203	0.548	mg/L	0.0203	3.71%
K 766.490†	31163.1	27.2	mg/L	0.15	27.2	mg/L	0.15	0.55%
Na 589.592†	265732.1	30.7	mg/L	0.54	30.7	mg/L	0.54	1.75%
Sr 407.771†	470347.7	0.556	mg/L	0.0055	0.556	mg/L	0.0055	0.99%
Li 670.784†	29175.5	0.512	mg/L	0.0008	0.512	mg/L	0.0008	0.16%
P 214.914†	-25.5	-0.0537	mg/L	0.04279	-0.0537	mg/L	0.04279	79.70%

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Sequence No.: 20 **Autosampler Location: 144**
Sample ID: L1310181908SD WG451138-06 **Date Collected: 11/5/2013 4:22:38 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310181908SD WG451138-06

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310181908SD WG451138-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1988159.1						30313.98	1.52%
YRADIAL	134885.3						2488.86	1.85%
Ga 417.206	719940.8						11285.45	1.57%
GaRADIAL	38992.1						900.14	2.31%
Ag 328.068†	30635.4	0.195	mg/L	0.0054	0.195	mg/L	0.0054	2.76%
Al 396.153†	12141.1	5.03	mg/L	0.041	5.03	mg/L	0.041	0.82%
As 188.979†	195.5	0.200	mg/L	0.0057	0.200	mg/L	0.0057	2.84%
Ba 233.527†	28605.5	0.557	mg/L	0.0193	0.557	mg/L	0.0193	3.47%
Be 234.861†	11940.2	0.0236	mg/L	0.00013	0.0236	mg/L	0.00013	0.56%
B 249.677†	37224.2	1.01	mg/L	0.034	1.01	mg/L	0.034	3.40%
Ca 227.546†	904.2	7.87	mg/L	0.149	7.87	mg/L	0.149	1.89%
Cd 228.802†	389.8	0.0223	mg/L	0.00023	0.0223	mg/L	0.00023	1.04%
Co 228.616†	1409.0	0.101	mg/L	0.0024	0.101	mg/L	0.0024	2.36%
Cr 267.716†	16036.8	0.248	mg/L	0.0101	0.248	mg/L	0.0101	4.07%
Cu 327.393†	30524.3	0.243	mg/L	0.0077	0.243	mg/L	0.0077	3.19%
Fe 239.562†	48913.3	21.2	mg/L	0.64	21.2	mg/L	0.64	3.00%
Mg 279.077†	6372.9	7.36	mg/L	0.207	7.36	mg/L	0.207	2.81%
Mn 257.610†	127465.4	0.341	mg/L	0.0131	0.341	mg/L	0.0131	3.83%
Mo 202.031†	5616.1	0.513	mg/L	0.0111	0.513	mg/L	0.0111	2.16%
Ni 231.604†	5851.2	0.257	mg/L	0.0104	0.257	mg/L	0.0104	4.07%
Pb 220.353†	994.9	0.256	mg/L	0.0084	0.256	mg/L	0.0084	3.30%
Sb 206.836†	691.5	0.565	mg/L	0.0090	0.565	mg/L	0.0090	1.60%
Se 196.026†	85.3	0.185	mg/L	0.0034	0.185	mg/L	0.0034	1.85%
Si 251.611†	104986.4	5.03	mg/L	0.153	5.03	mg/L	0.153	3.03%
Sn 189.927†	1950.7	0.532	mg/L	0.0112	0.532	mg/L	0.0112	2.11%
Ti 334.940†	268698.0	0.495	mg/L	0.0026	0.495	mg/L	0.0026	0.53%
Tl 190.801†	275.6	0.253	mg/L	0.0051	0.253	mg/L	0.0051	2.02%
V 290.880†	62363.1	0.508	mg/L	0.0238	0.508	mg/L	0.0238	4.69%
Zn 206.200†	8438.6	0.518	mg/L	0.0159	0.518	mg/L	0.0159	3.07%
K 766.490†	30687.0	26.8	mg/L	0.12	26.8	mg/L	0.12	0.44%

Approved: November 06, 2013

Kim H. Rhoden

Na 589.592†	271403.2	31.4	mg/L	1.00	31.4	mg/L	1.00	3.20%
Sr 407.771†	482699.3	0.571	mg/L	0.0066	0.571	mg/L	0.0066	1.16%
Li 670.784†	28519.8	0.501	mg/L	0.0024	0.501	mg/L	0.0024	0.48%
P 214.914†	-26.9	-0.0560	mg/L	0.03591	-0.0560	mg/L	0.03591	64.15%

Sequence No.: 21 **Autosampler Location: 145**
Sample ID: L1310181905 0.5 **Date Collected: 11/5/2013 4:24:43 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310181905 0.5

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310181905 0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1945369.1						7380.61	0.38%
YRADIAL	136480.9						3424.65	2.51%
Ga 417.206	682055.6						3595.36	0.53%
GaRADIAL	39015.7						140.15	0.36%
Ag 328.068†	-848.2	-0.00075	mg/L	0.000533	-0.00075	mg/L	0.000533	70.86%
Al 396.153†	74.9	0.0523	mg/L	0.00099	0.0523	mg/L	0.00099	1.90%
As 188.979†	0.5	0.00495	mg/L	0.002950	0.00495	mg/L	0.002950	59.66%
Ba 233.527†	1136.8	0.0205	mg/L	0.00036	0.0205	mg/L	0.00036	1.74%
Be 234.861†	1368.3	0.00053	mg/L	0.000100	0.00053	mg/L	0.000100	18.85%
B 249.677†	1201.1	0.0346	mg/L	0.00383	0.0346	mg/L	0.00383	11.07%
Ca 227.546†	435.3	3.73	mg/L	0.059	3.73	mg/L	0.059	1.58%
Cd 228.802†	-9.1	-0.00042	mg/L	0.000394	-0.00042	mg/L	0.000394	92.90%
Co 228.616†	-3.1	-0.00087	mg/L	0.000069	-0.00087	mg/L	0.000069	7.97%
Cr 267.716†	-8.6	-0.00171	mg/L	0.000190	-0.00171	mg/L	0.000190	11.10%
Cu 327.393†	-11.7	0.00022	mg/L	0.000574	0.00022	mg/L	0.000574	262.04%
Fe 239.562†	25941.1	11.2	mg/L	0.12	11.2	mg/L	0.12	1.10%
Mg 279.077†	2271.1	2.63	mg/L	0.037	2.63	mg/L	0.037	1.40%
Mn 257.610†	18812.8	0.0505	mg/L	0.00103	0.0505	mg/L	0.00103	2.04%
Mo 202.031†	-5.2	0.00054	mg/L	0.000540	0.00054	mg/L	0.000540	100.84%
Ni 231.604†	4.1	-0.00067	mg/L	0.000109	-0.00067	mg/L	0.000109	16.31%
Pb 220.353†	15.8	0.00117	mg/L	0.001026	0.00117	mg/L	0.001026	87.59%
Sb 206.836†	1.8	0.00118	mg/L	0.002499	0.00118	mg/L	0.002499	211.41%
Se 196.026†	-6.9	0.00018	mg/L	0.007942	0.00018	mg/L	0.007942	>999.9%
Si 251.611†	15689.2	0.745	mg/L	0.0110	0.745	mg/L	0.0110	1.47%
Sn 189.927†	-24.5	-0.00687	mg/L	0.001007	-0.00687	mg/L	0.001007	14.66%
Ti 334.940†	-202.1	0.00112	mg/L	0.000146	0.00112	mg/L	0.000146	13.07%
Tl 190.801†	-7.2	-0.00638	mg/L	0.004146	-0.00638	mg/L	0.004146	64.94%
V 290.880†	669.2	0.00032	mg/L	0.000496	0.00032	mg/L	0.000496	153.26%
Zn 206.200†	81.4	0.00367	mg/L	0.000242	0.00367	mg/L	0.000242	6.60%
K 766.490†	336.4	0.251	mg/L	0.0201	0.251	mg/L	0.0201	7.99%
Na 589.592†	25891.1	2.96	mg/L	0.018	2.96	mg/L	0.018	0.60%
Sr 407.771†	27111.3	0.0291	mg/L	0.00089	0.0291	mg/L	0.00089	3.04%
Li 670.784†	2.5	0.00169	mg/L	0.000188	0.00169	mg/L	0.000188	11.12%
P 214.914†	53.2	0.0805	mg/L	0.00304	0.0805	mg/L	0.00304	3.78%

Sequence No.: 22 **Autosampler Location: 146**
Sample ID: L1310175703 **Date Collected: 11/5/2013 4:27:44 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310175703

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310175703

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD

Approved: November 06, 2013

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Y 371.029	1930529.7					20134.82	1.04%
YRADIAL	131544.6					530.87	0.40%
Ga 417.206	674388.7					5811.26	0.86%
GaRADIAL	38188.1					802.96	2.10%
Ag 328.068†	170.5	0.00015	mg/L	0.000106	0.00015 mg/L	0.000106	70.34%
Al 396.153†	4.1	0.0216	mg/L	0.00203	0.0216 mg/L	0.00203	9.42%
As 188.979†	1.0	0.00277	mg/L	0.004358	0.00277 mg/L	0.004358	157.57%
Ba 233.527†	-14.3	-0.00175	mg/L	0.000200	-0.00175 mg/L	0.000200	11.41%
Be 234.861†	59.3	0.00009	mg/L	0.000077	0.00009 mg/L	0.000077	86.95%
B 249.677†	194.5	0.0120	mg/L	0.00079	0.0120 mg/L	0.00079	6.53%
Ca 227.546†	20.2	0.172	mg/L	0.0822	0.172 mg/L	0.0822	47.73%
Cd 228.802†	-6.3	-0.00029	mg/L	0.000039	-0.00029 mg/L	0.000039	13.31%
Co 228.616†	-11.5	-0.00117	mg/L	0.000490	-0.00117 mg/L	0.000490	41.77%
Cr 267.716†	0.2	-0.00067	mg/L	0.000138	-0.00067 mg/L	0.000138	20.48%
Cu 327.393†	17.0	-0.00021	mg/L	0.000254	-0.00021 mg/L	0.000254	119.38%
Fe 239.562†	23.9	0.0219	mg/L	0.00226	0.0219 mg/L	0.00226	10.34%
Mg 279.077†	14.7	0.0363	mg/L	0.00420	0.0363 mg/L	0.00420	11.57%
Mn 257.610†	279.3	0.00044	mg/L	0.000036	0.00044 mg/L	0.000036	8.23%
Mo 202.031†	-4.5	0.00042	mg/L	0.000128	0.00042 mg/L	0.000128	30.57%
Ni 231.604†	0.4	-0.00083	mg/L	0.000385	-0.00083 mg/L	0.000385	46.56%
Pb 220.353†	14.6	0.00125	mg/L	0.001758	0.00125 mg/L	0.001758	140.95%
Sb 206.836†	1.9	0.00086	mg/L	0.001750	0.00086 mg/L	0.001750	202.80%
Se 196.026†	-7.2	-0.00262	mg/L	0.003393	-0.00262 mg/L	0.003393	129.51%
Si 251.611†	347.1	0.00707	mg/L	0.002152	0.00707 mg/L	0.002152	30.42%
Sn 189.927†	-0.2	-0.00023	mg/L	0.000125	-0.00023 mg/L	0.000125	55.11%
Ti 334.940†	-40.7	0.00092	mg/L	0.000027	0.00092 mg/L	0.000027	2.94%
Tl 190.801†	-5.7	-0.00500	mg/L	0.003508	-0.00500 mg/L	0.003508	70.23%
V 290.880†	621.7	0.00118	mg/L	0.001018	0.00118 mg/L	0.001018	86.41%
Zn 206.200†	36.4	0.00070	mg/L	0.000127	0.00070 mg/L	0.000127	18.00%
K 766.490†	-27.6	-0.0683	mg/L	0.01107	-0.0683 mg/L	0.01107	16.22%
Na 589.592†	738.6	0.0701	mg/L	0.00850	0.0701 mg/L	0.00850	12.12%
Sr 407.771†	2840.2	0.00039	mg/L	0.000041	0.00039 mg/L	0.000041	10.76%
Li 670.784†	-29.7	0.00113	mg/L	0.000408	0.00113 mg/L	0.000408	36.06%
P 214.914†	34.1	0.0480	mg/L	0.01089	0.0480 mg/L	0.01089	22.69%

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Sequence No.: 23 **Autosampler Location: 147**
Sample ID: L1310175703PS WG451163-03 **Date Collected: 11/5/2013 4:30:45 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310175703PS WG451163-03

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310175703PS WG451163-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1963238.6						13023.55	0.66%
YRADIAL	131516.5						2236.15	1.70%
Ga 417.206	713806.5						10962.80	1.54%
GaRADIAL	38915.1						766.38	1.97%
Ag 328.068†	33237.5	0.202	mg/L	0.0025	0.202	mg/L	0.0025	1.25%
Al 396.153†	12446.5	5.15	mg/L	0.023	5.15	mg/L	0.023	0.45%
As 188.979†	191.8	0.192	mg/L	0.0076	0.192	mg/L	0.0076	3.97%
Ba 233.527†	26631.8	0.519	mg/L	0.0082	0.519	mg/L	0.0082	1.58%
Be 234.861†	10280.3	0.0242	mg/L	0.00028	0.0242	mg/L	0.00028	1.16%
B 249.677†	35969.9	0.984	mg/L	0.0109	0.984	mg/L	0.0109	1.11%
Ca 227.546†	619.8	5.16	mg/L	0.084	5.16	mg/L	0.084	1.64%
Cd 228.802†	402.5	0.0230	mg/L	0.00049	0.0230	mg/L	0.00049	2.14%
Co 228.616†	1452.5	0.104	mg/L	0.0020	0.104	mg/L	0.0020	1.96%
Cr 267.716†	16520.7	0.257	mg/L	0.0020	0.257	mg/L	0.0020	0.79%
Cu 327.393†	31262.8	0.247	mg/L	0.0036	0.247	mg/L	0.0036	1.45%
Fe 239.562†	4847.5	2.11	mg/L	0.090	2.11	mg/L	0.090	4.27%
Mg 279.077†	4553.2	5.28	mg/L	0.192	5.28	mg/L	0.192	3.64%
Mn 257.610†	99591.2	0.266	mg/L	0.0052	0.266	mg/L	0.0052	1.96%
Mo 202.031†	5874.0	0.536	mg/L	0.0080	0.536	mg/L	0.0080	1.50%
Ni 231.604†	5981.5	0.263	mg/L	0.0023	0.263	mg/L	0.0023	0.88%
Pb 220.353†	1033.0	0.266	mg/L	0.0056	0.266	mg/L	0.0056	2.11%

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Sb 206.836†	723.8	0.591 mg/L	0.0151	0.591 mg/L	0.0151	2.56%
Se 196.026†	92.3	0.196 mg/L	0.0148	0.196 mg/L	0.0148	7.56%
Si 251.611†	53045.3	2.54 mg/L	0.041	2.54 mg/L	0.041	1.62%
Sn 189.927†	-24.3	-0.00681 mg/L	0.002487	-0.00681 mg/L	0.002487	36.51%
Ti 334.940†	280191.7	0.516 mg/L	0.0042	0.516 mg/L	0.0042	0.81%
Tl 190.801†	292.0	0.268 mg/L	0.0053	0.268 mg/L	0.0053	1.97%
V 290.880†	63662.2	0.521 mg/L	0.0130	0.521 mg/L	0.0130	2.49%
Zn 206.200†	8583.9	0.526 mg/L	0.0061	0.526 mg/L	0.0061	1.15%
K 766.490†	31066.4	27.1 mg/L	0.18	27.1 mg/L	0.18	0.66%
Na 589.592†	225872.4	26.1 mg/L	0.90	26.1 mg/L	0.90	3.46%
Sr 407.771†	471433.0	0.557 mg/L	0.0030	0.557 mg/L	0.0030	0.53%
Li 670.784†	29298.6	0.515 mg/L	0.0035	0.515 mg/L	0.0035	0.69%
P 214.914†	-48.6	-0.0929 mg/L	0.01972	-0.0929 mg/L	0.01972	21.22%

Sequence No.: 24 **Autosampler Location: 148**
Sample ID: L1310175703DL WG451163-04 **Date Collected: 11/5/2013 4:32:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310175703DL WG451163-04

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1310175703DL WG451163-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1944823.2						52835.13	2.72%
YRADIAL	138441.9						13346.86	9.64%
Ga 417.206	679087.3						23603.95	3.48%
GaRADIAL	40011.8						2487.57	6.22%
Ag 328.068†	108.7	-0.00023	mg/L	0.000781	-0.00023	mg/L	0.000781	346.51%
Al 396.153†	12.2	0.0249	mg/L	0.00382	0.0249	mg/L	0.00382	15.34%
As 188.979†	1.0	0.00284	mg/L	0.001407	0.00284	mg/L	0.001407	49.54%
Ba 233.527†	-22.4	-0.00191	mg/L	0.000146	-0.00191	mg/L	0.000146	7.66%
Be 234.861†	91.6	0.00017	mg/L	0.000115	0.00017	mg/L	0.000115	68.94%
B 249.677†	411.7	0.0179	mg/L	0.00290	0.0179	mg/L	0.00290	16.16%
Ca 227.546†	22.6	0.192	mg/L	0.0131	0.192	mg/L	0.0131	6.85%
Cd 228.802†	-5.8	-0.00026	mg/L	0.000286	-0.00026	mg/L	0.000286	108.46%
Co 228.616†	-11.6	-0.00117	mg/L	0.000173	-0.00117	mg/L	0.000173	14.75%
Cr 267.716†	1.2	-0.00066	mg/L	0.000318	-0.00066	mg/L	0.000318	48.44%
Cu 327.393†	83.4	0.00031	mg/L	0.001125	0.00031	mg/L	0.001125	361.71%
Fe 239.562†	15.8	0.0184	mg/L	0.00553	0.0184	mg/L	0.00553	30.12%
Mg 279.077†	23.8	0.0467	mg/L	0.01296	0.0467	mg/L	0.01296	27.73%
Mn 257.610†	298.9	0.00049	mg/L	0.000060	0.00049	mg/L	0.000060	12.38%
Mo 202.031†	-0.2	0.00081	mg/L	0.000044	0.00081	mg/L	0.000044	5.46%
Ni 231.604†	9.3	-0.00043	mg/L	0.000271	-0.00043	mg/L	0.000271	62.32%
Pb 220.353†	13.2	0.00089	mg/L	0.002451	0.00089	mg/L	0.002451	276.28%
Sb 206.836†	2.0	0.00090	mg/L	0.000560	0.00090	mg/L	0.000560	61.90%
Se 196.026†	-4.3	0.00313	mg/L	0.003708	0.00313	mg/L	0.003708	118.37%
Si 251.611†	123.1	-0.00370	mg/L	0.005031	-0.00370	mg/L	0.005031	135.90%
Sn 189.927†	-5.5	-0.00168	mg/L	0.001113	-0.00168	mg/L	0.001113	66.27%
Ti 334.940†	-101.2	0.00081	mg/L	0.000056	0.00081	mg/L	0.000056	6.90%
Tl 190.801†	-6.1	-0.00532	mg/L	0.005864	-0.00532	mg/L	0.005864	110.28%
V 290.880†	521.2	0.00035	mg/L	0.002119	0.00035	mg/L	0.002119	605.84%
Zn 206.200†	123.8	0.00605	mg/L	0.000333	0.00605	mg/L	0.000333	5.50%
K 766.490†	44.3	-0.00455	mg/L	0.042278	-0.00455	mg/L	0.042278	929.50%
Na 589.592†	545.7	0.0479	mg/L	0.00601	0.0479	mg/L	0.00601	12.53%
Sr 407.771†	605.6	-0.00227	mg/L	0.000114	-0.00227	mg/L	0.000114	5.01%
Li 670.784†	-4.0	0.00158	mg/L	0.001973	0.00158	mg/L	0.001973	124.80%
P 214.914†	39.9	0.0578	mg/L	0.00399	0.0578	mg/L	0.00399	6.90%

Sequence No.: 25 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 4:35:51 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1957237.2						16327.00	0.83%
YRADIAL	139032.4						1294.44	0.93%
Ga 417.206	712536.2						3626.91	0.51%
GaRADIAL	40238.6						531.60	1.32%
Ag 328.068†	65394.2	0.398	mg/L	0.0065	0.398	mg/L	0.0065	1.62%
QC value within limits for Ag 328.068 Recovery = 99.53%								
Al 396.153†	24872.5	10.3	mg/L	0.01	10.3	mg/L	0.01	0.11%
QC value within limits for Al 396.153 Recovery = 102.76%								
As 188.979†	392.2	0.391	mg/L	0.0109	0.391	mg/L	0.0109	2.78%
QC value within limits for As 188.979 Recovery = 97.83%								
Ba 233.527†	53556.8	1.05	mg/L	0.027	1.05	mg/L	0.027	2.54%
QC value within limits for Ba 233.527 Recovery = 104.55%								
Be 234.861†	20883.1	0.0492	mg/L	0.00058	0.0492	mg/L	0.00058	1.18%
QC value within limits for Be 234.861 Recovery = 98.30%								
B 249.677†	18064.0	0.495	mg/L	0.0115	0.495	mg/L	0.0115	2.33%
QC value within limits for B 249.677 Recovery = 98.90%								
Ca 227.546†	1232.2	10.3	mg/L	0.09	10.3	mg/L	0.09	0.84%
QC value within limits for Ca 227.546 Recovery = 102.52%								
Cd 228.802†	816.5	0.0465	mg/L	0.00023	0.0465	mg/L	0.00023	0.49%
QC value within limits for Cd 228.802 Recovery = 93.02%								
Co 228.616†	2896.6	0.208	mg/L	0.0032	0.208	mg/L	0.0032	1.55%
QC value within limits for Co 228.616 Recovery = 104.21%								
Cr 267.716†	33031.6	0.515	mg/L	0.0082	0.515	mg/L	0.0082	1.60%
QC value within limits for Cr 267.716 Recovery = 102.99%								
Cu 327.393†	62372.1	0.494	mg/L	0.0068	0.494	mg/L	0.0068	1.38%
QC value within limits for Cu 327.393 Recovery = 98.78%								
Fe 239.562†	9561.8	4.15	mg/L	0.026	4.15	mg/L	0.026	0.63%
QC value within limits for Fe 239.562 Recovery = 103.82%								
Mg 279.077†	9033.4	10.4	mg/L	0.09	10.4	mg/L	0.09	0.90%
QC value within limits for Mg 279.077 Recovery = 104.49%								
Mn 257.610†	196895.1	0.525	mg/L	0.0061	0.525	mg/L	0.0061	1.15%
QC value within limits for Mn 257.610 Recovery = 105.06%								
Mo 202.031†	11259.7	1.03	mg/L	0.023	1.03	mg/L	0.023	2.24%
QC value within limits for Mo 202.031 Recovery = 102.66%								
Ni 231.604†	11930.9	0.525	mg/L	0.0130	0.525	mg/L	0.0130	2.48%
QC value within limits for Ni 231.604 Recovery = 104.92%								
Pb 220.353†	2035.5	0.528	mg/L	0.0088	0.528	mg/L	0.0088	1.67%
QC value within limits for Pb 220.353 Recovery = 105.51%								
Sb 206.836†	1429.4	1.17	mg/L	0.004	1.17	mg/L	0.004	0.36%
QC value within limits for Sb 206.836 Recovery = 97.24%								
Se 196.026†	195.2	0.401	mg/L	0.0122	0.401	mg/L	0.0122	3.04%
QC value within limits for Se 196.026 Recovery = 100.14%								
Si 251.611†	104844.4	5.02	mg/L	0.091	5.02	mg/L	0.091	1.82%
QC value within limits for Si 251.611 Recovery = 100.42%								
Sn 189.927†	3865.7	1.05	mg/L	0.019	1.05	mg/L	0.019	1.76%
QC value within limits for Sn 189.927 Recovery = 105.48%								
Ti 334.940†	555925.7	1.02	mg/L	0.009	1.02	mg/L	0.009	0.89%
QC value within limits for Ti 334.940 Recovery = 102.22%								
Tl 190.801†	591.4	0.543	mg/L	0.0047	0.543	mg/L	0.0047	0.86%
QC value within limits for Tl 190.801 Recovery = 108.63%								
V 290.880†	128513.7	1.06	mg/L	0.029	1.06	mg/L	0.029	2.77%
QC value within limits for V 290.880 Recovery = 105.56%								
Zn 206.200†	17210.6	1.06	mg/L	0.018	1.06	mg/L	0.018	1.75%
QC value within limits for Zn 206.200 Recovery = 105.66%								
K 766.490†	62086.2	53.7	mg/L	0.38	53.7	mg/L	0.38	0.71%
QC value within limits for K 766.490 Recovery = 107.34%								
Na 589.592†	443180.7	51.5	mg/L	1.32	51.5	mg/L	1.32	2.57%
QC value within limits for Na 589.592 Recovery = 103.01%								
Sr 407.771†	913938.2	1.08	mg/L	0.021	1.08	mg/L	0.021	1.94%
QC value within limits for Sr 407.771 Recovery = 108.35%								
Li 670.784†	58502.5	1.03	mg/L	0.002	1.03	mg/L	0.002	0.21%
QC value within limits for Li 670.784 Recovery = 102.59%								
P 214.914†	6139.6	10.5	mg/L	0.20	10.5	mg/L	0.20	1.92%

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QC value within limits for P 214.914 Recovery = 104.57%
All analyte(s) passed QC.

Sequence No.: 26 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/5/2013 4:37:56 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1924185.9						21169.79	1.10%
YRADIAL	131077.3						634.31	0.48%
Ga 417.206	672110.3						9881.55	1.47%
GaRADIAL	38214.7						643.44	1.68%
Ag 328.068†	-15.5	-0.00098	mg/L	0.000369	-0.00098	mg/L	0.000369	37.69%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	7.9	0.0231	mg/L	0.00269	0.0231	mg/L	0.00269	11.68%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-0.1	0.00164	mg/L	0.005838	0.00164	mg/L	0.005838	356.81%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-17.4	-0.00181	mg/L	0.000423	-0.00181	mg/L	0.000423	23.33%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	98.4	0.00018	mg/L	0.000035	0.00018	mg/L	0.000035	18.82%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	222.5	0.0128	mg/L	0.00142	0.0128	mg/L	0.00142	11.07%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	6.0	0.0604	mg/L	0.04761	0.0604	mg/L	0.04761	78.86%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-7.6	-0.00036	mg/L	0.000145	-0.00036	mg/L	0.000145	40.04%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-3.1	-0.00056	mg/L	0.000319	-0.00056	mg/L	0.000319	56.72%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	9.2	-0.00053	mg/L	0.000065	-0.00053	mg/L	0.000065	12.16%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-53.1	-0.00077	mg/L	0.000333	-0.00077	mg/L	0.000333	43.40%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	1.6	0.0122	mg/L	0.00167	0.0122	mg/L	0.00167	13.67%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	13.2	0.0345	mg/L	0.00323	0.0345	mg/L	0.00323	9.35%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	47.7	-0.00018	mg/L	0.000174	-0.00018	mg/L	0.000174	96.02%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	8.9	0.00164	mg/L	0.000634	0.00164	mg/L	0.000634	38.70%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	8.2	-0.00048	mg/L	0.000426	-0.00048	mg/L	0.000426	88.01%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	9.2	-0.00017	mg/L	0.001589	-0.00017	mg/L	0.001589	941.16%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	1.9	0.00082	mg/L	0.002016	0.00082	mg/L	0.002016	245.87%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-3.8	0.00406	mg/L	0.007197	0.00406	mg/L	0.007197	177.34%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	46.9	-0.00737	mg/L	0.004884	-0.00737	mg/L	0.004884	66.22%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	2.0	0.00037	mg/L	0.000325	0.00037	mg/L	0.000325	87.44%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	41.1	0.00105	mg/L	0.000184	0.00105	mg/L	0.000184	17.44%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-7.6	-0.00670	mg/L	0.008891	-0.00670	mg/L	0.008891	132.75%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	503.9	0.00021	mg/L	0.001965	0.00021	mg/L	0.001965	943.89%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	6.3	-0.00113	mg/L	0.000555	-0.00113	mg/L	0.000555	48.94%

Approved: November 06, 2013

QC value within limits for Zn 206.200 Recovery = Not calculated

K 766.490†	-11.3	-0.0538 mg/L	0.03272	-0.0538 mg/L	0.03272	60.79%

QC value within limits for K 766.490 Recovery = Not calculated

Na 589.592†	346.3	0.0250 mg/L	0.02730	0.0250 mg/L	0.02730	109.11%

QC value within limits for Na 589.592 Recovery = Not calculated

Sr 407.771†	199.3	-0.00275 mg/L	0.000491	-0.00275 mg/L	0.000491	17.84%

QC value within limits for Sr 407.771 Recovery = Not calculated

Li 670.784†	57.1	0.00265 mg/L	0.001706	0.00265 mg/L	0.001706	64.35%

QC value within limits for Li 670.784 Recovery = Not calculated

P 214.914†	39.6	0.0574 mg/L	0.01386	0.0574 mg/L	0.01386	24.13%

QC value within limits for P 214.914 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 27 **Autosampler Location: 149**
Sample ID: PBW ZB WG451344-04 **Date Collected: 11/5/2013 4:40:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW ZB WG451344-04

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: PBW ZB WG451344-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1892709.1						28678.07	1.52%
YRADIAL	132214.8						3573.71	2.70%
Ga 417.206	663252.7						12702.82	1.92%
GaRADIAL	38357.4						538.44	1.40%
Ag 328.068†	-39.3	-0.00112	mg/L	0.000596	-0.00112	mg/L	0.000596	53.24%
Al 396.153†	4.1	0.0216	mg/L	0.00260	0.0216	mg/L	0.00260	12.06%
As 188.979†	-2.3	-0.00048	mg/L	0.001644	-0.00048	mg/L	0.001644	342.86%
Ba 233.527†	-41.1	-0.00228	mg/L	0.000123	-0.00228	mg/L	0.000123	5.42%
Be 234.861†	54.8	0.00008	mg/L	0.000086	0.00008	mg/L	0.000086	107.10%
B 249.677†	-11.1	0.00644	mg/L	0.000591	0.00644	mg/L	0.000591	9.18%
Ca 227.546†	15.4	0.135	mg/L	0.0180	0.135	mg/L	0.0180	13.40%
Cd 228.802†	-8.3	-0.00040	mg/L	0.000216	-0.00040	mg/L	0.000216	54.39%
Co 228.616†	-10.1	-0.00107	mg/L	0.000089	-0.00107	mg/L	0.000089	8.28%
Cr 267.716†	1.9	-0.00064	mg/L	0.000446	-0.00064	mg/L	0.000446	69.19%
Cu 327.393†	49.1	0.00004	mg/L	0.000929	0.00004	mg/L	0.000929	>999.9%
Fe 239.562†	-1.9	0.0107	mg/L	0.00207	0.0107	mg/L	0.00207	19.36%
Mg 279.077†	8.4	0.0291	mg/L	0.00773	0.0291	mg/L	0.00773	26.59%
Mn 257.610†	41.6	-0.00020	mg/L	0.000033	-0.00020	mg/L	0.000033	16.76%
Mo 202.031†	-6.4	0.00025	mg/L	0.000289	0.00025	mg/L	0.000289	118.04%
Ni 231.604†	0.2	-0.00083	mg/L	0.000399	-0.00083	mg/L	0.000399	47.95%
Pb 220.353†	12.9	0.00080	mg/L	0.001792	0.00080	mg/L	0.001792	224.00%
Sb 206.836†	0.7	-0.00014	mg/L	0.001380	-0.00014	mg/L	0.001380	>999.9%
Se 196.026†	-5.1	0.00161	mg/L	0.014483	0.00161	mg/L	0.014483	896.80%
Si 251.611†	-17.5	-0.0105	mg/L	0.00147	-0.0105	mg/L	0.00147	14.02%
Sn 189.927†	-5.1	-0.00158	mg/L	0.001135	-0.00158	mg/L	0.001135	72.00%
Ti 334.940†	34.6	0.00105	mg/L	0.000249	0.00105	mg/L	0.000249	23.71%
Tl 190.801†	-7.5	-0.00657	mg/L	0.003322	-0.00657	mg/L	0.003322	50.57%
V 290.880†	752.7	0.00226	mg/L	0.000138	0.00226	mg/L	0.000138	6.12%
Zn 206.200†	33.4	0.00052	mg/L	0.000306	0.00052	mg/L	0.000306	58.63%
K 766.490†	-68.1	-0.104	mg/L	0.0594	-0.104	mg/L	0.0594	57.02%
Na 589.592†	244.0	0.0133	mg/L	0.00819	0.0133	mg/L	0.00819	61.74%
Sr 407.771†	-150.2	-0.00317	mg/L	0.000026	-0.00317	mg/L	0.000026	0.82%
Li 670.784†	10.1	0.00183	mg/L	0.000978	0.00183	mg/L	0.000978	53.50%
P 214.914†	40.6	0.0591	mg/L	0.00645	0.0591	mg/L	0.00645	10.92%

Sequence No.: 28 **Autosampler Location: 150**
Sample ID: LCSW ZB WG451344-05 **Date Collected: 11/5/2013 4:43:58 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Nebulizer Parameters: LCSW ZB WG451344-05

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: LCSW ZB WG451344-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1937934.5						82621.43	4.26%
YRADIAL	138716.1						2771.67	2.00%
Ga 417.206	698983.7						26396.13	3.78%
GaRADIAL	40765.2						1295.16	3.18%
Ag 328.068†	31487.4	0.191	mg/L	0.0063	0.191	mg/L	0.0063	3.27%
Al 396.153†	12078.9	5.00	mg/L	0.030	5.00	mg/L	0.030	0.59%
As 188.979†	187.0	0.187	mg/L	0.0062	0.187	mg/L	0.0062	3.30%
Ba 233.527†	25255.6	0.492	mg/L	0.0230	0.492	mg/L	0.0230	4.66%
Be 234.861†	9835.9	0.0231	mg/L	0.00067	0.0231	mg/L	0.00067	2.90%
B 249.677†	34137.5	0.934	mg/L	0.0399	0.934	mg/L	0.0399	4.27%
Ca 227.546†	582.7	4.85	mg/L	0.209	4.85	mg/L	0.209	4.31%
Cd 228.802†	386.8	0.0221	mg/L	0.00059	0.0221	mg/L	0.00059	2.67%
Co 228.616†	1373.7	0.0987	mg/L	0.00494	0.0987	mg/L	0.00494	5.01%
Cr 267.716†	15537.8	0.242	mg/L	0.0082	0.242	mg/L	0.0082	3.40%
Cu 327.393†	29460.6	0.233	mg/L	0.0077	0.233	mg/L	0.0077	3.32%
Fe 239.562†	4689.4	2.04	mg/L	0.106	2.04	mg/L	0.106	5.19%
Mg 279.077†	4452.7	5.16	mg/L	0.336	5.16	mg/L	0.336	6.51%
Mn 257.610†	93904.5	0.250	mg/L	0.0118	0.250	mg/L	0.0118	4.73%
Mo 202.031†	5540.9	0.506	mg/L	0.0249	0.506	mg/L	0.0249	4.92%
Ni 231.604†	5597.2	0.246	mg/L	0.0096	0.246	mg/L	0.0096	3.89%
Pb 220.353†	972.1	0.251	mg/L	0.0104	0.251	mg/L	0.0104	4.14%
Sb 206.836†	687.7	0.561	mg/L	0.0223	0.561	mg/L	0.0223	3.98%
Se 196.026†	87.7	0.186	mg/L	0.0078	0.186	mg/L	0.0078	4.19%
Si 251.611†	49521.5	2.37	mg/L	0.090	2.37	mg/L	0.090	3.80%
Sn 189.927†	-29.2	-0.00815	mg/L	0.001472	-0.00815	mg/L	0.001472	18.06%
Ti 334.940†	266961.8	0.491	mg/L	0.0023	0.491	mg/L	0.0023	0.47%
Tl 190.801†	274.5	0.252	mg/L	0.0130	0.252	mg/L	0.0130	5.16%
V 290.880†	60102.3	0.492	mg/L	0.0278	0.492	mg/L	0.0278	5.66%
Zn 206.200†	8125.7	0.498	mg/L	0.0194	0.498	mg/L	0.0194	3.89%
K 766.490†	29936.8	26.2	mg/L	0.32	26.2	mg/L	0.32	1.23%
Na 589.592†	213463.6	24.7	mg/L	1.13	24.7	mg/L	1.13	4.57%
Sr 407.771†	445793.9	0.527	mg/L	0.0059	0.527	mg/L	0.0059	1.11%
Li 670.784†	28303.4	0.497	mg/L	0.0026	0.497	mg/L	0.0026	0.53%
P 214.914†	-41.5	-0.0810	mg/L	0.03487	-0.0810	mg/L	0.03487	43.06%

Sequence No.: 29
Sample ID: L1311003802 WG451344-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 151
Date Collected: 11/5/2013 4:46:03 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311003802 WG451344-01

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003802 WG451344-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1923432.0						17229.85	0.90%
YRADIAL	133457.4						6030.89	4.52%
Ga 417.206	713830.4						2798.22	0.39%
GaRADIAL	40418.5						1669.25	4.13%
Ag 328.068†	293.5	0.00086	mg/L	0.000157	0.00086	mg/L	0.000157	18.20%
Al 396.153†	0.7	0.0200	mg/L	0.00098	0.0200	mg/L	0.00098	4.90%
As 188.979†	-10.2	-0.00751	mg/L	0.006795	-0.00751	mg/L	0.006795	90.53%
Ba 233.527†	2097.9	0.0395	mg/L	0.00042	0.0395	mg/L	0.00042	1.06%
Be 234.861†	152.0	0.00030	mg/L	0.000012	0.00030	mg/L	0.000012	3.99%
B 249.677†	900.9	0.0313	mg/L	0.00232	0.0313	mg/L	0.00232	7.44%
Ca 227.546†	5382.6	42.6	mg/L	0.22	42.6	mg/L	0.22	0.52%
Cd 228.802†	-9.4	-0.00042	mg/L	0.000164	-0.00042	mg/L	0.000164	39.12%
Co 228.616†	-11.9	-0.00119	mg/L	0.000161	-0.00119	mg/L	0.000161	13.52%

Approved: November 06, 2013

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Cr 267.716†	62.3	0.00030	mg/L	0.000043	0.00030	mg/L	0.000043	14.35%
Cu 327.393†	14.2	-0.00024	mg/L	0.000248	-0.00024	mg/L	0.000248	103.32%
Fe 239.562†	88.6	0.0494	mg/L	0.00528	0.0494	mg/L	0.00528	10.70%
Mg 279.077†	21345.1	24.6	mg/L	0.23	24.6	mg/L	0.23	0.95%
Mn 257.610†	1927.0	0.00483	mg/L	0.000050	0.00483	mg/L	0.000050	1.04%
Mo 202.031†	20.1	0.00266	mg/L	0.000833	0.00266	mg/L	0.000833	31.31%
Ni 231.604†	8.6	-0.00046	mg/L	0.000304	-0.00046	mg/L	0.000304	65.33%
Pb 220.353†	19.9	0.00261	mg/L	0.003948	0.00261	mg/L	0.003948	151.36%
Sb 206.836†	-1.7	-0.00208	mg/L	0.000692	-0.00208	mg/L	0.000692	33.25%
Se 196.026†	-7.5	-0.00330	mg/L	0.008570	-0.00330	mg/L	0.008570	259.75%
Si 251.611†	51109.7	2.45	mg/L	0.040	2.45	mg/L	0.040	1.61%
Sn 189.927†	-168.5	-0.0462	mg/L	0.00071	-0.0462	mg/L	0.00071	1.54%
Ti 334.940†	-4174.9	-0.00030	mg/L	0.000334	-0.00030	mg/L	0.000334	113.09%
Tl 190.801†	-8.4	-0.00749	mg/L	0.005298	-0.00749	mg/L	0.005298	70.70%
V 290.880†	1246.8	0.00570	mg/L	0.002820	0.00570	mg/L	0.002820	49.51%
Zn 206.200†	59.8	0.00215	mg/L	0.000460	0.00215	mg/L	0.000460	21.42%
K 766.490†	3825.6	3.34	mg/L	0.033	3.34	mg/L	0.033	0.98%
Na 589.592†	52830.7	6.07	mg/L	0.033	6.07	mg/L	0.033	0.54%
Sr 407.771†	236799.0	0.277	mg/L	0.0070	0.277	mg/L	0.0070	2.51%
Li 670.784†	406.2	0.00876	mg/L	0.001088	0.00876	mg/L	0.001088	12.41%
P 214.914†	41.9	0.0612	mg/L	0.01095	0.0612	mg/L	0.01095	17.88%

Sequence No.: 30
Sample ID: L1311003802DU WG451344-06
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 152
Date Collected: 11/5/2013 4:49:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311003802DU WG451344-06

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311003802DU WG451344-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1944605.2						6801.38	0.35%
YRADIAL	135391.2						1766.91	1.31%
Ga 417.206	720479.9						5907.54	0.82%
GaRADIAL	40893.3						547.01	1.34%
Ag 328.068†	290.6	0.00084	mg/L	0.000341	0.00084	mg/L	0.000341	40.52%
Al 396.153†	-0.6	0.0195	mg/L	0.00113	0.0195	mg/L	0.00113	5.78%
As 188.979†	-9.0	-0.00636	mg/L	0.004923	-0.00636	mg/L	0.004923	77.37%
Ba 233.527†	2104.1	0.0396	mg/L	0.00055	0.0396	mg/L	0.00055	1.39%
Be 234.861†	164.1	0.00033	mg/L	0.000027	0.00033	mg/L	0.000027	8.05%
B 249.677†	633.5	0.0240	mg/L	0.00071	0.0240	mg/L	0.00071	2.97%
Ca 227.546†	5411.4	42.9	mg/L	0.71	42.9	mg/L	0.71	1.66%
Cd 228.802†	-9.2	-0.00041	mg/L	0.000309	-0.00041	mg/L	0.000309	75.06%
Co 228.616†	-12.8	-0.00126	mg/L	0.000435	-0.00126	mg/L	0.000435	34.40%
Cr 267.716†	54.9	0.00018	mg/L	0.000236	0.00018	mg/L	0.000236	130.29%
Cu 327.393†	-63.3	-0.00085	mg/L	0.000247	-0.00085	mg/L	0.000247	28.99%
Fe 239.562†	84.6	0.0477	mg/L	0.00119	0.0477	mg/L	0.00119	2.50%
Mg 279.077†	21620.3	24.9	mg/L	0.46	24.9	mg/L	0.46	1.83%
Mn 257.610†	1894.6	0.00474	mg/L	0.000061	0.00474	mg/L	0.000061	1.29%
Mo 202.031†	13.6	0.00207	mg/L	0.000523	0.00207	mg/L	0.000523	25.30%
Ni 231.604†	19.2	0.00001	mg/L	0.000760	0.00001	mg/L	0.000760	>999.9%
Pb 220.353†	19.9	0.00261	mg/L	0.002041	0.00261	mg/L	0.002041	78.19%
Sb 206.836†	-1.4	-0.00181	mg/L	0.000773	-0.00181	mg/L	0.000773	42.69%
Se 196.026†	-7.8	-0.00377	mg/L	0.003297	-0.00377	mg/L	0.003297	87.37%
Si 251.611†	51494.1	2.47	mg/L	0.055	2.47	mg/L	0.055	2.21%
Sn 189.927†	-171.7	-0.0471	mg/L	0.00141	-0.0471	mg/L	0.00141	2.99%
Ti 334.940†	-4176.2	-0.00026	mg/L	0.000135	-0.00026	mg/L	0.000135	50.98%
Tl 190.801†	-15.5	-0.0138	mg/L	0.00458	-0.0138	mg/L	0.00458	33.18%
V 290.880†	1177.7	0.00512	mg/L	0.001019	0.00512	mg/L	0.001019	19.90%
Zn 206.200†	54.1	0.00180	mg/L	0.000181	0.00180	mg/L	0.000181	10.06%
K 766.490†	3878.7	3.38	mg/L	0.067	3.38	mg/L	0.067	1.97%
Na 589.592†	53747.1	6.17	mg/L	0.009	6.17	mg/L	0.009	0.15%
Sr 407.771†	240213.7	0.281	mg/L	0.0089	0.281	mg/L	0.0089	3.15%
Li 670.784†	390.4	0.00849	mg/L	0.001103	0.00849	mg/L	0.001103	13.00%
P 214.914†	34.9	0.0494	mg/L	0.00821	0.0494	mg/L	0.00821	16.62%

Approved: November 06, 2013

Kim H. Rhoden

Sequence No.: 31 **Autosampler Location: 153**
Sample ID: L1311003804 WG451344-02 **Date Collected: 11/5/2013 4:52:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003804 WG451344-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311003804 WG451344-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1917422.6						33119.77	1.73%
YRADIAL	130249.1						2439.09	1.87%
Ga 417.206	722594.6						12921.00	1.79%
GaRADIAL	39764.3						1488.77	3.74%
Ag 328.068†	279.1	0.00077	mg/L	0.000278	0.00077	mg/L	0.000278	35.87%
Al 396.153†	13.6	0.0254	mg/L	0.00287	0.0254	mg/L	0.00287	11.31%
As 188.979†	-13.2	-0.0101	mg/L	0.00836	-0.0101	mg/L	0.00836	82.45%
Ba 233.527†	1244.3	0.0228	mg/L	0.00044	0.0228	mg/L	0.00044	1.94%
Be 234.861†	193.5	0.00041	mg/L	0.000080	0.00041	mg/L	0.000080	19.58%
B 249.677†	326.4	0.0156	mg/L	0.00074	0.0156	mg/L	0.00074	4.75%
Ca 227.546†	7909.3	62.7	mg/L	0.35	62.7	mg/L	0.35	0.56%
Cd 228.802†	-7.5	-0.00029	mg/L	0.000151	-0.00029	mg/L	0.000151	51.53%
Co 228.616†	-6.5	-0.00079	mg/L	0.000638	-0.00079	mg/L	0.000638	80.79%
Cr 267.716†	92.6	0.00077	mg/L	0.000117	0.00077	mg/L	0.000117	15.16%
Cu 327.393†	48.2	0.00002	mg/L	0.000732	0.00002	mg/L	0.000732	>999.9%
Fe 239.562†	12.0	0.0158	mg/L	0.00181	0.0158	mg/L	0.00181	11.43%
Mg 279.077†	40001.0	46.1	mg/L	0.58	46.1	mg/L	0.58	1.25%
Mn 257.610†	3388.2	0.00873	mg/L	0.000176	0.00873	mg/L	0.000176	2.02%
Mo 202.031†	13.9	0.00209	mg/L	0.000188	0.00209	mg/L	0.000188	8.97%
Ni 231.604†	166.1	0.00648	mg/L	0.000495	0.00648	mg/L	0.000495	7.64%
Pb 220.353†	22.2	0.00321	mg/L	0.001355	0.00321	mg/L	0.001355	42.26%
Sb 206.836†	0.6	-0.00024	mg/L	0.003610	-0.00024	mg/L	0.003610	>999.9%
Se 196.026†	-3.8	0.00413	mg/L	0.003186	0.00413	mg/L	0.003186	77.07%
Si 251.611†	72671.2	3.49	mg/L	0.033	3.49	mg/L	0.033	0.96%
Sn 189.927†	-200.3	-0.0549	mg/L	0.00086	-0.0549	mg/L	0.00086	1.58%
Ti 334.940†	-6060.6	-0.00075	mg/L	0.000143	-0.00075	mg/L	0.000143	18.94%
Tl 190.801†	-16.8	-0.0150	mg/L	0.00693	-0.0150	mg/L	0.00693	46.18%
V 290.880†	1416.6	0.00654	mg/L	0.001706	0.00654	mg/L	0.001706	26.08%
Zn 206.200†	129.5	0.00642	mg/L	0.000364	0.00642	mg/L	0.000364	5.67%
K 766.490†	5741.3	5.02	mg/L	0.111	5.02	mg/L	0.111	2.21%
Na 589.592†	89746.1	10.3	mg/L	0.05	10.3	mg/L	0.05	0.45%
Sr 407.771†	185673.3	0.216	mg/L	0.0082	0.216	mg/L	0.0082	3.82%
Li 670.784†	358.3	0.00792	mg/L	0.000680	0.00792	mg/L	0.000680	8.58%
P 214.914†	43.9	0.0648	mg/L	0.01447	0.0648	mg/L	0.01447	22.35%

Sequence No.: 32 **Autosampler Location: 154**
Sample ID: L1311003804MS WG451344-07 **Date Collected: 11/5/2013 4:55:07 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003804MS WG451344-07

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003804MS WG451344-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1941795.2						28601.13	1.47%
YRADIAL	133454.1						755.21	0.57%
Ga 417.206	713991.1						8510.65	1.19%
GaRADIAL	38227.1						744.74	1.95%

Approved: November 06, 2013

Kim H. Rhoden

Ag 328.068†	32181.7	0.195	mg/L	0.0033	0.195	mg/L	0.0033	1.67%
Al 396.153†	12309.1	5.09	mg/L	0.036	5.09	mg/L	0.036	0.71%
As 188.979†	181.6	0.183	mg/L	0.0048	0.183	mg/L	0.0048	2.60%
Ba 233.527†	26848.8	0.523	mg/L	0.0136	0.523	mg/L	0.0136	2.59%
Be 234.861†	10009.3	0.0235	mg/L	0.00052	0.0235	mg/L	0.00052	2.22%
B 249.677†	35847.4	0.981	mg/L	0.0248	0.981	mg/L	0.0248	2.53%
Ca 227.546†	8618.8	68.5	mg/L	1.89	68.5	mg/L	1.89	2.76%
Cd 228.802†	385.4	0.0220	mg/L	0.00027	0.0220	mg/L	0.00027	1.22%
Co 228.616†	1372.9	0.0987	mg/L	0.00159	0.0987	mg/L	0.00159	1.61%
Cr 267.716†	15772.5	0.246	mg/L	0.0063	0.246	mg/L	0.0063	2.56%
Cu 327.393†	28961.0	0.229	mg/L	0.0051	0.229	mg/L	0.0051	2.21%
Fe 239.562†	4602.3	2.00	mg/L	0.048	2.00	mg/L	0.048	2.41%
Mg 279.077†	43465.3	50.1	mg/L	1.02	50.1	mg/L	1.02	2.04%
Mn 257.610†	98757.7	0.263	mg/L	0.0079	0.263	mg/L	0.0079	2.99%
Mo 202.031†	5793.5	0.529	mg/L	0.0068	0.529	mg/L	0.0068	1.29%
Ni 231.604†	5759.7	0.253	mg/L	0.0087	0.253	mg/L	0.0087	3.44%
Pb 220.353†	995.4	0.257	mg/L	0.0047	0.257	mg/L	0.0047	1.84%
Sb 206.836†	710.6	0.580	mg/L	0.0042	0.580	mg/L	0.0042	0.73%
Se 196.026†	95.2	0.201	mg/L	0.0051	0.201	mg/L	0.0051	2.56%
Si 251.611†	123872.9	5.94	mg/L	0.149	5.94	mg/L	0.149	2.51%
Sn 189.927†	-207.0	-0.0567	mg/L	0.00383	-0.0567	mg/L	0.00383	6.75%
Ti 334.940†	268862.3	0.504	mg/L	0.0030	0.504	mg/L	0.0030	0.59%
Tl 190.801†	270.4	0.249	mg/L	0.0078	0.249	mg/L	0.0078	3.14%
V 290.880†	62992.4	0.514	mg/L	0.0156	0.514	mg/L	0.0156	3.03%
Zn 206.200†	8050.1	0.493	mg/L	0.0115	0.493	mg/L	0.0115	2.32%
K 766.490†	36330.3	31.7	mg/L	0.20	31.7	mg/L	0.20	0.62%
Na 589.592†	324063.5	37.5	mg/L	0.77	37.5	mg/L	0.77	2.04%
Sr 407.771†	643757.5	0.760	mg/L	0.0021	0.760	mg/L	0.0021	0.28%
Li 670.784†	29545.3	0.519	mg/L	0.0026	0.519	mg/L	0.0026	0.51%
P 214.914†	-36.4	-0.0722	mg/L	0.02457	-0.0722	mg/L	0.02457	34.02%

Sequence No.: 33 **Autosampler Location: 155**
Sample ID: L1311003806 **Date Collected: 11/5/2013 4:57:12 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003806

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1311003806

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1956019.7						26782.06	1.37%
YRADIAL	131985.5						1392.13	1.05%
Ga 417.206	729888.6						11416.42	1.56%
GaRADIAL	39862.3						470.88	1.18%
Ag 328.068†	218.5	0.00043	mg/L	0.000547	0.00043	mg/L	0.000547	126.71%
Al 396.153†	25.0	0.0301	mg/L	0.00377	0.0301	mg/L	0.00377	12.52%
As 188.979†	-9.4	-0.00638	mg/L	0.006151	-0.00638	mg/L	0.006151	96.42%
Ba 233.527†	1971.6	0.0371	mg/L	0.00065	0.0371	mg/L	0.00065	1.76%
Be 234.861†	183.5	0.00038	mg/L	0.000034	0.00038	mg/L	0.000034	9.00%
B 249.677†	733.1	0.0267	mg/L	0.00063	0.0267	mg/L	0.00063	2.37%
Ca 227.546†	7154.2	56.7	mg/L	1.00	56.7	mg/L	1.00	1.76%
Cd 228.802†	-7.7	-0.00032	mg/L	0.000043	-0.00032	mg/L	0.000043	13.27%
Co 228.616†	0.1	-0.00032	mg/L	0.000577	-0.00032	mg/L	0.000577	181.79%
Cr 267.716†	101.7	0.00091	mg/L	0.000103	0.00091	mg/L	0.000103	11.25%
Cu 327.393†	92.5	0.00038	mg/L	0.000254	0.00038	mg/L	0.000254	66.96%
Fe 239.562†	153.8	0.0768	mg/L	0.00335	0.0768	mg/L	0.00335	4.37%
Mg 279.077†	55733.2	64.3	mg/L	1.19	64.3	mg/L	1.19	1.85%
Mn 257.610†	18910.3	0.0501	mg/L	0.00074	0.0501	mg/L	0.00074	1.49%
Mo 202.031†	17.9	0.00247	mg/L	0.000480	0.00247	mg/L	0.000480	19.44%
Ni 231.604†	17.2	-0.00008	mg/L	0.000150	-0.00008	mg/L	0.000150	176.04%
Pb 220.353†	29.0	0.00494	mg/L	0.002077	0.00494	mg/L	0.002077	42.02%
Sb 206.836†	-1.2	-0.00170	mg/L	0.001433	-0.00170	mg/L	0.001433	84.44%
Se 196.026†	-6.7	-0.00157	mg/L	0.008083	-0.00157	mg/L	0.008083	515.38%
Si 251.611†	40938.6	1.96	mg/L	0.038	1.96	mg/L	0.038	1.93%
Sn 189.927†	-190.5	-0.0522	mg/L	0.00029	-0.0522	mg/L	0.00029	0.56%

Approved: November 06, 2013

Ti 334.940†	-5630.0	-0.00086 mg/L	0.000120	-0.00086 mg/L	0.000120	13.89%
Tl 190.801†	-13.4	-0.0120 mg/L	0.01102	-0.0120 mg/L	0.01102	91.57%
V 290.880†	1707.8	0.00847 mg/L	0.000790	0.00847 mg/L	0.000790	9.33%
Zn 206.200†	173.1	0.00909 mg/L	0.000345	0.00909 mg/L	0.000345	3.80%
K 766.490†	6059.3	5.29 mg/L	0.114	5.29 mg/L	0.114	2.16%
Na 589.592†	176197.9	20.3 mg/L	0.12	20.3 mg/L	0.12	0.59%
Sr 407.771†	203730.4	0.237 mg/L	0.0094	0.237 mg/L	0.0094	3.96%
Li 670.784†	229.3	0.00567 mg/L	0.001595	0.00567 mg/L	0.001595	28.14%
P 214.914†	40.3	0.0586 mg/L	0.00920	0.0586 mg/L	0.00920	15.70%

Sequence No.: 34 **Autosampler Location: 156**
Sample ID: L1311003808 **Date Collected: 11/5/2013 5:00:14 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003808

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311003808

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1934258.8						49622.42	2.57%
YRADIAL	132942.9						825.62	0.62%
Ga 417.206	724293.6						23495.49	3.24%
GaRADIAL	40336.2						845.38	2.10%
Ag 328.068†	328.5	0.00108	mg/L	0.000484	0.00108	mg/L	0.000484	44.71%
Al 396.153†	3.3	0.0211	mg/L	0.00094	0.0211	mg/L	0.00094	4.48%
As 188.979†	-6.4	-0.00336	mg/L	0.002466	-0.00336	mg/L	0.002466	73.35%
Ba 233.527†	1949.0	0.0366	mg/L	0.00091	0.0366	mg/L	0.00091	2.49%
Be 234.861†	159.3	0.00032	mg/L	0.000115	0.00032	mg/L	0.000115	35.69%
B 249.677†	449.4	0.0190	mg/L	0.00151	0.0190	mg/L	0.00151	7.95%
Ca 227.546†	7475.1	59.2	mg/L	2.14	59.2	mg/L	2.14	3.61%
Cd 228.802†	-6.7	-0.00028	mg/L	0.000421	-0.00028	mg/L	0.000421	152.33%
Co 228.616†	-3.9	-0.00060	mg/L	0.000187	-0.00060	mg/L	0.000187	30.84%
Cr 267.716†	105.6	0.00097	mg/L	0.000185	0.00097	mg/L	0.000185	19.00%
Cu 327.393†	80.7	0.00028	mg/L	0.000173	0.00028	mg/L	0.000173	60.99%
Fe 239.562†	95.0	0.0513	mg/L	0.00309	0.0513	mg/L	0.00309	6.01%
Mg 279.077†	57933.2	66.8	mg/L	0.44	66.8	mg/L	0.44	0.65%
Mn 257.610†	11604.5	0.0306	mg/L	0.00077	0.0306	mg/L	0.00077	2.52%
Mo 202.031†	21.8	0.00282	mg/L	0.000264	0.00282	mg/L	0.000264	9.35%
Ni 231.604†	8.7	-0.00046	mg/L	0.000417	-0.00046	mg/L	0.000417	90.73%
Pb 220.353†	28.8	0.00491	mg/L	0.001634	0.00491	mg/L	0.001634	33.29%
Sb 206.836†	-2.6	-0.00282	mg/L	0.000674	-0.00282	mg/L	0.000674	23.88%
Se 196.026†	-5.7	0.00025	mg/L	0.003415	0.00025	mg/L	0.003415	>999.9%
Si 251.611†	44772.8	2.14	mg/L	0.069	2.14	mg/L	0.069	3.21%
Sn 189.927†	-195.9	-0.0537	mg/L	0.00193	-0.0537	mg/L	0.00193	3.61%
Ti 334.940†	-5883.2	-0.00094	mg/L	0.000113	-0.00094	mg/L	0.000113	11.95%
Tl 190.801†	-16.8	-0.0150	mg/L	0.00694	-0.0150	mg/L	0.00694	46.14%
V 290.880†	1594.0	0.00746	mg/L	0.002172	0.00746	mg/L	0.002172	29.10%
Zn 206.200†	22.0	-0.00016	mg/L	0.000046	-0.00016	mg/L	0.000046	29.24%
K 766.490†	5965.5	5.23	mg/L	0.097	5.23	mg/L	0.097	1.85%
Na 589.592†	51038.6	5.86	mg/L	0.025	5.86	mg/L	0.025	0.42%
Sr 407.771†	211480.9	0.247	mg/L	0.0046	0.247	mg/L	0.0046	1.87%
Li 670.784†	160.9	0.00447	mg/L	0.000433	0.00447	mg/L	0.000433	9.70%
P 214.914†	42.5	0.0622	mg/L	0.00571	0.0622	mg/L	0.00571	9.18%

Sequence No.: 35 **Autosampler Location: 157**
Sample ID: L1311003808PS WG451453-01 **Date Collected: 11/5/2013 5:03:15 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003808PS WG451453-01

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Approved: November 06, 2013

Kim H. Rhoden

Mean Data: L1311003808PS WG451453-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1929720.9						28440.38	1.47%
YRADIAL	132910.3						2474.19	1.86%
Ga 417.206	713555.2						17403.38	2.44%
GaRADIAL	39833.7						717.43	1.80%
Ag 328.068†	33367.0	0.203	mg/L	0.0063	0.203	mg/L	0.0063	3.13%
Al 396.153†	12495.7	5.17	mg/L	0.011	5.17	mg/L	0.011	0.22%
As 188.979†	197.7	0.199	mg/L	0.0028	0.199	mg/L	0.0028	1.42%
Ba 233.527†	28700.9	0.560	mg/L	0.0137	0.560	mg/L	0.0137	2.45%
Be 234.861†	10432.8	0.0245	mg/L	0.00079	0.0245	mg/L	0.00079	3.22%
B 249.677†	37824.3	1.03	mg/L	0.031	1.03	mg/L	0.031	2.95%
Ca 227.546†	7559.3	60.1	mg/L	1.96	60.1	mg/L	1.96	3.26%
Cd 228.802†	396.8	0.0226	mg/L	0.00065	0.0226	mg/L	0.00065	2.86%
Co 228.616†	1412.9	0.102	mg/L	0.0006	0.102	mg/L	0.0006	0.62%
Cr 267.716†	16634.2	0.259	mg/L	0.0050	0.259	mg/L	0.0050	1.95%
Cu 327.393†	30122.5	0.238	mg/L	0.0070	0.238	mg/L	0.0070	2.94%
Fe 239.562†	4966.3	2.16	mg/L	0.021	2.16	mg/L	0.021	0.96%
Mg 279.077†	56581.4	65.3	mg/L	0.18	65.3	mg/L	0.18	0.27%
Mn 257.610†	112406.8	0.300	mg/L	0.0067	0.300	mg/L	0.0067	2.23%
Mo 202.031†	5809.5	0.530	mg/L	0.0107	0.530	mg/L	0.0107	2.01%
Ni 231.604†	5861.9	0.257	mg/L	0.0031	0.257	mg/L	0.0031	1.21%
Pb 220.353†	1025.1	0.264	mg/L	0.0040	0.264	mg/L	0.0040	1.50%
Sb 206.836†	724.2	0.591	mg/L	0.0133	0.591	mg/L	0.0133	2.26%
Se 196.026†	92.9	0.197	mg/L	0.0038	0.197	mg/L	0.0038	1.94%
Si 251.611†	93763.3	4.49	mg/L	0.145	4.49	mg/L	0.145	3.23%
Sn 189.927†	-183.8	-0.0504	mg/L	0.00278	-0.0504	mg/L	0.00278	5.53%
Ti 334.940†	277323.9	0.519	mg/L	0.0018	0.519	mg/L	0.0018	0.35%
Tl 190.801†	276.8	0.255	mg/L	0.0114	0.255	mg/L	0.0114	4.49%
V 290.880†	66596.3	0.544	mg/L	0.0116	0.544	mg/L	0.0116	2.14%
Zn 206.200†	8432.3	0.517	mg/L	0.0142	0.517	mg/L	0.0142	2.75%
K 766.490†	36279.3	31.6	mg/L	0.06	31.6	mg/L	0.06	0.20%
Na 589.592†	272097.6	31.5	mg/L	0.13	31.5	mg/L	0.13	0.40%
Sr 407.771†	662060.6	0.782	mg/L	0.0063	0.782	mg/L	0.0063	0.81%
Li 670.784†	29547.9	0.519	mg/L	0.0018	0.519	mg/L	0.0018	0.35%
P 214.914†	-37.3	-0.0738	mg/L	0.02491	-0.0738	mg/L	0.02491	33.75%

Sequence No.: 36 **Autosampler Location: 158**
Sample ID: L1311003808DL WG451453-02 **Date Collected: 11/5/2013 5:05:20 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003808DL WG451453-02

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003808DL WG451453-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	2025874.2						15274.91	0.75%
YRADIAL	137531.2						923.55	0.67%
Ga 417.206	734883.6						7400.63	1.01%
GaRADIAL	40039.6						644.98	1.61%
Ag 328.068†	214.1	0.00040	mg/L	0.000306	0.00040	mg/L	0.000306	75.77%
Al 396.153†	0.2	0.0199	mg/L	0.00302	0.0199	mg/L	0.00302	15.19%
As 188.979†	-3.0	-0.00101	mg/L	0.003654	-0.00101	mg/L	0.003654	362.68%
Ba 233.527†	362.4	0.00561	mg/L	0.000252	0.00561	mg/L	0.000252	4.49%
Be 234.861†	191.5	0.00040	mg/L	0.000021	0.00040	mg/L	0.000021	5.22%
B 249.677†	316.4	0.0153	mg/L	0.00214	0.0153	mg/L	0.00214	13.97%
Ca 227.546†	1471.1	11.7	mg/L	0.11	11.7	mg/L	0.11	0.91%
Cd 228.802†	-6.7	-0.00030	mg/L	0.000097	-0.00030	mg/L	0.000097	32.68%
Co 228.616†	-5.2	-0.00071	mg/L	0.000462	-0.00071	mg/L	0.000462	64.97%
Cr 267.716†	14.8	-0.00044	mg/L	0.000214	-0.00044	mg/L	0.000214	48.14%
Cu 327.393†	203.3	0.00126	mg/L	0.000108	0.00126	mg/L	0.000108	8.58%
Fe 239.562†	20.7	0.0202	mg/L	0.00016	0.0202	mg/L	0.00016	0.78%

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Mg 279.077†	11111.3	12.8	mg/L	0.09	12.8	mg/L	0.09	0.67%
Mn 257.610†	2372.3	0.00602	mg/L	0.000077	0.00602	mg/L	0.000077	1.27%
Mo 202.031†	4.5	0.00124	mg/L	0.000329	0.00124	mg/L	0.000329	26.57%
Ni 231.604†	3.7	-0.00068	mg/L	0.000293	-0.00068	mg/L	0.000293	43.00%
Pb 220.353†	24.8	0.00389	mg/L	0.004778	0.00389	mg/L	0.004778	122.98%
Sb 206.836†	-1.9	-0.00227	mg/L	0.001340	-0.00227	mg/L	0.001340	59.08%
Se 196.026†	-2.7	0.00628	mg/L	0.009363	0.00628	mg/L	0.009363	149.00%
Si 251.611†	8691.7	0.408	mg/L	0.0082	0.408	mg/L	0.0082	2.00%
Sn 189.927†	-70.0	-0.0193	mg/L	0.00087	-0.0193	mg/L	0.00087	4.53%
Ti 334.940†	-1107.6	0.00069	mg/L	0.000085	0.00069	mg/L	0.000085	12.38%
Tl 190.801†	-5.6	-0.00490	mg/L	0.002227	-0.00490	mg/L	0.002227	45.47%
V 290.880†	625.1	0.00087	mg/L	0.000755	0.00087	mg/L	0.000755	86.31%
Zn 206.200†	34.4	0.00058	mg/L	0.000457	0.00058	mg/L	0.000457	78.13%
K 766.490†	1141.1	0.966	mg/L	0.0335	0.966	mg/L	0.0335	3.47%
Na 589.592†	10399.0	1.18	mg/L	0.018	1.18	mg/L	0.018	1.56%
Sr 407.771†	40538.0	0.0448	mg/L	0.00099	0.0448	mg/L	0.00099	2.21%
Li 670.784†	69.2	0.00286	mg/L	0.000710	0.00286	mg/L	0.000710	24.81%
P 214.914†	29.3	0.0398	mg/L	0.01637	0.0398	mg/L	0.01637	41.12%

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Sequence No.: 37 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 5:08:22 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1944078.0						12888.19	0.66%
YRADIAL	135775.5						1980.76	1.46%
Ga 417.206	705445.3						5434.57	0.77%
GaRADIAL	39250.4						323.96	0.83%
Ag 328.068†	67250.1	0.409	mg/L	0.0057	0.409	mg/L	0.0057	1.39%
QC value within limits for Ag 328.068 Recovery = 102.36%								
Al 396.153†	25294.7	10.4	mg/L	0.05	10.4	mg/L	0.05	0.52%
QC value within limits for Al 396.153 Recovery = 104.49%								
As 188.979†	403.4	0.402	mg/L	0.0084	0.402	mg/L	0.0084	2.08%
QC value within limits for As 188.979 Recovery = 100.61%								
Ba 233.527†	55185.2	1.08	mg/L	0.012	1.08	mg/L	0.012	1.13%
QC value within limits for Ba 233.527 Recovery = 107.74%								
Be 234.861†	21338.5	0.0502	mg/L	0.00069	0.0502	mg/L	0.00069	1.38%
QC value within limits for Be 234.861 Recovery = 100.48%								
B 249.677†	18431.6	0.504	mg/L	0.0093	0.504	mg/L	0.0093	1.84%
QC value within limits for B 249.677 Recovery = 100.89%								
Ca 227.546†	1269.8	10.6	mg/L	0.13	10.6	mg/L	0.13	1.26%
QC value within limits for Ca 227.546 Recovery = 105.60%								
Cd 228.802†	835.4	0.0476	mg/L	0.00115	0.0476	mg/L	0.00115	2.42%
QC value within limits for Cd 228.802 Recovery = 95.14%								
Co 228.616†	2952.6	0.212	mg/L	0.0020	0.212	mg/L	0.0020	0.95%
QC value within limits for Co 228.616 Recovery = 106.23%								
Cr 267.716†	33959.2	0.529	mg/L	0.0075	0.529	mg/L	0.0075	1.43%
QC value within limits for Cr 267.716 Recovery = 105.89%								
Cu 327.393†	64298.4	0.509	mg/L	0.0078	0.509	mg/L	0.0078	1.53%
QC value within limits for Cu 327.393 Recovery = 101.83%								
Fe 239.562†	9635.7	4.18	mg/L	0.022	4.18	mg/L	0.022	0.52%
QC value within limits for Fe 239.562 Recovery = 104.62%								
Mg 279.077†	9177.6	10.6	mg/L	0.04	10.6	mg/L	0.04	0.35%
QC value within limits for Mg 279.077 Recovery = 106.16%								
Mn 257.610†	200931.2	0.536	mg/L	0.0085	0.536	mg/L	0.0085	1.58%
QC value within limits for Mn 257.610 Recovery = 107.21%								
Mo 202.031†	11532.1	1.05	mg/L	0.012	1.05	mg/L	0.012	1.11%
QC value within limits for Mo 202.031 Recovery = 105.14%								
Ni 231.604†	12221.5	0.537	mg/L	0.0083	0.537	mg/L	0.0083	1.54%
QC value within limits for Ni 231.604 Recovery = 107.49%								
Pb 220.353†	2083.6	0.540	mg/L	0.0056	0.540	mg/L	0.0056	1.03%

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   QC value within limits for Pb 220.353  Recovery = 108.01%
Sb 206.836†            1470.1        1.20 mg/L        0.014        1.20 mg/L        0.014   1.14%
   QC value within limits for Sb 206.836  Recovery = 100.01%
Se 196.026†             192.5       0.395 mg/L       0.0120       0.395 mg/L       0.0120   3.03%
   QC value within limits for Se 196.026  Recovery = 98.78%
Si 251.611†          108408.2        5.19 mg/L        0.062        5.19 mg/L        0.062   1.20%
   QC value within limits for Si 251.611  Recovery = 103.84%
Sn 189.927†            3959.1        1.08 mg/L        0.008        1.08 mg/L        0.008   0.74%
   QC value within limits for Sn 189.927  Recovery = 108.03%
Ti 334.940†          568346.7        1.05 mg/L        0.015        1.05 mg/L        0.015   1.43%
   QC value within limits for Ti 334.940  Recovery = 104.51%
Tl 190.801†             592.1       0.544 mg/L       0.0035       0.544 mg/L       0.0035   0.65%
   QC value within limits for Tl 190.801  Recovery = 108.81%
V 290.880†           132342.3        1.09 mg/L        0.023        1.09 mg/L        0.023   2.07%
   QC value within limits for V 290.880  Recovery = 108.72%
Zn 206.200†           17615.3        1.08 mg/L        0.015        1.08 mg/L        0.015   1.35%
   QC value within limits for Zn 206.200  Recovery = 108.15%
K 766.490†            64059.9        55.3 mg/L         0.12        55.3 mg/L         0.12   0.22%
   QC value greater than the upper limit for K 766.490  Recovery = 110.67%
Na 589.592†          458329.9        53.3 mg/L         0.60        53.3 mg/L         0.60   1.13%
   QC value within limits for Na 589.592  Recovery = 106.57%
Sr 407.771†          943444.7        1.12 mg/L        0.007        1.12 mg/L        0.007   0.65%
   QC value greater than the upper limit for Sr 407.771  Recovery = 111.86%
Li 670.784†           60115.9        1.05 mg/L        0.002        1.05 mg/L        0.002   0.20%
   QC value within limits for Li 670.784  Recovery = 105.41%
P 214.914†             6271.2        10.7 mg/L         0.10        10.7 mg/L         0.10   0.96%
   QC value within limits for P 214.914  Recovery = 106.82%
QC Failed.  Continue with analysis.

==========================================================================================
Sequence No.: 38                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/5/2013 5:10:27 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     178.0 kPa        0.47 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029           1943516.4                                                     14284.36   0.73%
YRADIAL              131569.1                                                      1546.33   1.18%
Ga 417.206           675881.2                                                      7430.49   1.10%
GaRADIAL              38236.1                                                       663.08   1.73%
Ag 328.068†              74.1    -0.00044 mg/L      0.000156    -0.00044 mg/L      0.000156  35.68%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†              -0.9      0.0194 mg/L       0.00104      0.0194 mg/L       0.00104   5.34%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†              -1.8     0.00002 mg/L      0.002616     0.00002 mg/L      0.002616 >999.9%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†             -22.1    -0.00191 mg/L      0.000155    -0.00191 mg/L      0.000155   8.12%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†             107.9     0.00021 mg/L      0.000050     0.00021 mg/L      0.000050  24.22%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              168.4      0.0113 mg/L       0.00120      0.0113 mg/L       0.00120  10.57%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              20.1       0.172 mg/L        0.0776       0.172 mg/L        0.0776  45.19%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -6.2    -0.00027 mg/L      0.000188    -0.00027 mg/L      0.000188  69.05%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†             -15.2    -0.00144 mg/L      0.000238    -0.00144 mg/L      0.000238  16.53%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              12.0    -0.00049 mg/L      0.000086    -0.00049 mg/L      0.000086  17.66%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†             144.2     0.00079 mg/L      0.000501     0.00079 mg/L      0.000501  63.34%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               2.0      0.0124 mg/L       0.00170      0.0124 mg/L       0.00170  13.71%
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   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              23.4      0.0464 mg/L       0.01022      0.0464 mg/L       0.01022  22.04%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              32.0    -0.00022 mg/L      0.000113    -0.00022 mg/L      0.000113  50.64%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               5.3     0.00131 mg/L      0.000182     0.00131 mg/L      0.000182  13.91%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               0.5    -0.00083 mg/L      0.000060    -0.00083 mg/L      0.000060   7.26%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               9.1    -0.00020 mg/L      0.000777    -0.00020 mg/L      0.000777 395.89%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               2.1     0.00104 mg/L      0.001777     0.00104 mg/L      0.001777 170.69%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -6.3    -0.00086 mg/L      0.007326    -0.00086 mg/L      0.007326 851.64%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              19.7    -0.00868 mg/L      0.002312    -0.00868 mg/L      0.002312  26.63%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              -1.2    -0.00052 mg/L      0.000556    -0.00052 mg/L      0.000556 106.72%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               6.4     0.00101 mg/L      0.000185     0.00101 mg/L      0.000185  18.38%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               0.1     0.00023 mg/L      0.006787     0.00023 mg/L      0.006787 >999.9%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              502.0     0.00019 mg/L      0.000531     0.00019 mg/L      0.000531 276.08%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†              15.1    -0.00060 mg/L      0.000346    -0.00060 mg/L      0.000346  58.18%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               20.5     -0.0257 mg/L       0.01890     -0.0257 mg/L       0.01890  73.68%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             203.2     0.00857 mg/L      0.003607     0.00857 mg/L      0.003607  42.12%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              20.1    -0.00297 mg/L      0.000106    -0.00297 mg/L      0.000106   3.57%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              25.6     0.00210 mg/L      0.000529     0.00210 mg/L      0.000529  25.19%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†               35.9      0.0510 mg/L       0.02025      0.0510 mg/L       0.02025  39.69%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 39                                    Autosampler Location: 159
Sample ID: L1311004502                              Date Collected: 11/5/2013 5:13:27 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: L1311004502
Analyte                 Back Pressure    Flow
All                    178.0 kPa        0.47 L/min

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Mean Data: L1311004502
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1955399.6                                                    13672.14   0.70%
YRADIAL               133113.3                                                      421.69   0.32%
Ga 417.206            728674.6                                                     6370.79   0.87%
GaRADIAL               40034.3                                                      974.69   2.43%
Ag 328.068†              302.0     0.00090 mg/L      0.000554     0.00090 mg/L      0.000554  61.65%
Al 396.153†                9.5      0.0236 mg/L       0.00153      0.0236 mg/L       0.00153   6.46%
As 188.979†               -9.2    -0.00649 mg/L      0.004111    -0.00649 mg/L      0.004111  63.33%
Ba 233.527†             2211.6      0.0417 mg/L       0.00036      0.0417 mg/L       0.00036   0.87%
Be 234.861†              186.1     0.00039 mg/L      0.000033     0.00039 mg/L      0.000033   8.48%
B 249.677†               544.7      0.0215 mg/L       0.00095      0.0215 mg/L       0.00095   4.40%
Ca 227.546†             5731.7        45.4 mg/L          0.39        45.4 mg/L          0.39   0.86%
Cd 228.802†               -8.2    -0.00035 mg/L      0.000235    -0.00035 mg/L      0.000235  67.09%
Co 228.616†               -5.6    -0.00074 mg/L      0.000467    -0.00074 mg/L      0.000467  63.16%
Cr 267.716†               73.2     0.00047 mg/L      0.000118     0.00047 mg/L      0.000118  25.41%
Cu 327.393†              125.7     0.00064 mg/L      0.000648     0.00064 mg/L      0.000648 101.37%
Fe 239.562†              135.6      0.0695 mg/L       0.00205      0.0695 mg/L       0.00205   2.95%
Mg 279.077†            31444.1        36.3 mg/L          0.89        36.3 mg/L          0.89   2.45%
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Mn 257.610†	20013.1	0.0530	mg/L	0.00019	0.0530	mg/L	0.00019	0.36%
Mo 202.031†	21.3	0.00278	mg/L	0.000646	0.00278	mg/L	0.000646	23.21%
Ni 231.604†	13.5	-0.00025	mg/L	0.000125	-0.00025	mg/L	0.000125	50.18%
Pb 220.353†	23.1	0.00342	mg/L	0.000335	0.00342	mg/L	0.000335	9.78%
Sb 206.836†	-1.8	-0.00215	mg/L	0.002860	-0.00215	mg/L	0.002860	132.98%
Se 196.026†	-6.7	-0.00157	mg/L	0.008119	-0.00157	mg/L	0.008119	516.36%
Si 251.611†	51565.8	2.47	mg/L	0.018	2.47	mg/L	0.018	0.72%
Sn 189.927†	-173.5	-0.0475	mg/L	0.00026	-0.0475	mg/L	0.00026	0.55%
Ti 334.940†	-4459.8	-0.00040	mg/L	0.000197	-0.00040	mg/L	0.000197	48.74%
Tl 190.801†	-10.7	-0.00954	mg/L	0.001580	-0.00954	mg/L	0.001580	16.56%
V 290.880†	1311.4	0.00592	mg/L	0.001329	0.00592	mg/L	0.001329	22.43%
Zn 206.200†	38.1	0.00082	mg/L	0.000225	0.00082	mg/L	0.000225	27.43%
K 766.490†	4905.8	4.29	mg/L	0.083	4.29	mg/L	0.083	1.93%
Na 589.592†	58800.0	6.76	mg/L	0.021	6.76	mg/L	0.021	0.31%
Sr 407.771†	318088.3	0.374	mg/L	0.0160	0.374	mg/L	0.0160	4.27%
Li 670.784†	924.8	0.0178	mg/L	0.00053	0.0178	mg/L	0.00053	2.96%
P 214.914†	38.2	0.0550	mg/L	0.01912	0.0550	mg/L	0.01912	34.77%

Sequence No.: 40 **Autosampler Location: 160**
Sample ID: L1311004504 **Date Collected: 11/5/2013 5:16:32 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004504

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311004504

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1958548.5						12904.88	0.66%
YRADIAL	134534.8						2505.69	1.86%
Ga 417.206	729865.3						11237.03	1.54%
GaRADIAL	39726.3						117.71	0.30%
Ag 328.068†	214.1	0.00036	mg/L	0.000177	0.00036	mg/L	0.000177	48.90%
Al 396.153†	15.0	0.0259	mg/L	0.00061	0.0259	mg/L	0.00061	2.34%
As 188.979†	-7.0	-0.00425	mg/L	0.002094	-0.00425	mg/L	0.002094	49.29%
Ba 233.527†	2211.4	0.0417	mg/L	0.00068	0.0417	mg/L	0.00068	1.63%
Be 234.861†	181.9	0.00037	mg/L	0.000075	0.00037	mg/L	0.000075	19.92%
B 249.677†	476.9	0.0197	mg/L	0.00081	0.0197	mg/L	0.00081	4.11%
Ca 227.546†	5761.1	45.6	mg/L	1.14	45.6	mg/L	1.14	2.49%
Cd 228.802†	-7.8	-0.00034	mg/L	0.000113	-0.00034	mg/L	0.000113	32.99%
Co 228.616†	-6.2	-0.00078	mg/L	0.000132	-0.00078	mg/L	0.000132	16.95%
Cr 267.716†	70.7	0.00043	mg/L	0.000039	0.00043	mg/L	0.000039	9.10%
Cu 327.393†	170.9	0.00100	mg/L	0.000369	0.00100	mg/L	0.000369	37.06%
Fe 239.562†	141.0	0.0719	mg/L	0.00122	0.0719	mg/L	0.00122	1.70%
Mg 279.077†	31361.8	36.2	mg/L	0.66	36.2	mg/L	0.66	1.81%
Mn 257.610†	20442.7	0.0542	mg/L	0.00037	0.0542	mg/L	0.00037	0.69%
Mo 202.031†	17.3	0.00242	mg/L	0.000410	0.00242	mg/L	0.000410	16.98%
Ni 231.604†	19.0	0.00000	mg/L	0.000645	0.00000	mg/L	0.000645	>999.9%
Pb 220.353†	13.5	0.00093	mg/L	0.002469	0.00093	mg/L	0.002469	265.43%
Sb 206.836†	-0.5	-0.00113	mg/L	0.001706	-0.00113	mg/L	0.001706	150.78%
Se 196.026†	-5.2	0.00137	mg/L	0.005604	0.00137	mg/L	0.005604	408.84%
Si 251.611†	52209.3	2.50	mg/L	0.015	2.50	mg/L	0.015	0.59%
Sn 189.927†	-173.1	-0.0474	mg/L	0.00057	-0.0474	mg/L	0.00057	1.21%
Ti 334.940†	-4478.0	-0.00040	mg/L	0.000529	-0.00040	mg/L	0.000529	131.36%
Tl 190.801†	-16.8	-0.0150	mg/L	0.00654	-0.0150	mg/L	0.00654	43.59%
V 290.880†	1144.9	0.00455	mg/L	0.002122	0.00455	mg/L	0.002122	46.62%
Zn 206.200†	38.7	0.00086	mg/L	0.000443	0.00086	mg/L	0.000443	51.65%
K 766.490†	5058.7	4.42	mg/L	0.139	4.42	mg/L	0.139	3.14%
Na 589.592†	62172.9	7.14	mg/L	0.135	7.14	mg/L	0.135	1.89%
Sr 407.771†	330397.8	0.388	mg/L	0.0038	0.388	mg/L	0.0038	0.98%
Li 670.784†	945.1	0.0182	mg/L	0.00077	0.0182	mg/L	0.00077	4.21%
P 214.914†	41.3	0.0603	mg/L	0.01591	0.0603	mg/L	0.01591	26.39%

Sequence No.: 41 **Autosampler Location: 161**
Sample ID: L1311004506 **Date Collected: 11/5/2013 5:19:37 PM**

Approved: November 06, 2013

Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004506

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311004506

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1891904.3						19265.89	1.02%
YRADIAL	134945.0						5193.87	3.85%
Ga 417.206	707766.7						4322.92	0.61%
GaRADIAL	39844.9						889.69	2.23%
Ag 328.068†	335.9	0.00107	mg/L	0.000201	0.00107	mg/L	0.000201	18.71%
Al 396.153†	19.4	0.0277	mg/L	0.00169	0.0277	mg/L	0.00169	6.08%
As 188.979†	-8.2	-0.00524	mg/L	0.006234	-0.00524	mg/L	0.006234	119.02%
Ba 233.527†	2519.8	0.0478	mg/L	0.00074	0.0478	mg/L	0.00074	1.55%
Be 234.861†	138.1	0.00028	mg/L	0.000016	0.00028	mg/L	0.000016	5.84%
B 249.677†	578.9	0.0225	mg/L	0.00022	0.0225	mg/L	0.00022	0.96%
Ca 227.546†	7091.1	56.2	mg/L	1.76	56.2	mg/L	1.76	3.14%
Cd 228.802†	-7.0	-0.00029	mg/L	0.000185	-0.00029	mg/L	0.000185	64.10%
Co 228.616†	-12.8	-0.00125	mg/L	0.000364	-0.00125	mg/L	0.000364	29.04%
Cr 267.716†	110.2	0.00105	mg/L	0.000128	0.00105	mg/L	0.000128	12.27%
Cu 327.393†	274.1	0.00181	mg/L	0.000736	0.00181	mg/L	0.000736	40.71%
Fe 239.562†	53.0	0.0336	mg/L	0.00296	0.0336	mg/L	0.00296	8.82%
Mg 279.077†	38444.1	44.3	mg/L	1.04	44.3	mg/L	1.04	2.35%
Mn 257.610†	5051.3	0.0132	mg/L	0.00044	0.0132	mg/L	0.00044	3.31%
Mo 202.031†	24.0	0.00302	mg/L	0.000323	0.00302	mg/L	0.000323	10.69%
Ni 231.604†	42.4	0.00103	mg/L	0.000016	0.00103	mg/L	0.000016	1.55%
Pb 220.353†	28.9	0.00494	mg/L	0.002760	0.00494	mg/L	0.002760	55.86%
Sb 206.836†	-1.7	-0.00207	mg/L	0.002455	-0.00207	mg/L	0.002455	118.85%
Se 196.026†	-3.6	0.00448	mg/L	0.007942	0.00448	mg/L	0.007942	177.47%
Si 251.611†	48541.3	2.32	mg/L	0.077	2.32	mg/L	0.077	3.32%
Sn 189.927†	-196.3	-0.0538	mg/L	0.00240	-0.0538	mg/L	0.00240	4.46%
Ti 334.940†	-5539.6	-0.00077	mg/L	0.000102	-0.00077	mg/L	0.000102	13.18%
Tl 190.801†	-20.0	-0.0179	mg/L	0.00224	-0.0179	mg/L	0.00224	12.54%
V 290.880†	1524.1	0.00747	mg/L	0.002048	0.00747	mg/L	0.002048	27.42%
Zn 206.200†	291.6	0.0163	mg/L	0.00021	0.0163	mg/L	0.00021	1.30%
K 766.490†	5950.5	5.21	mg/L	0.126	5.21	mg/L	0.126	2.42%
Na 589.592†	77503.4	8.91	mg/L	0.171	8.91	mg/L	0.171	1.92%
Sr 407.771†	415675.8	0.490	mg/L	0.0216	0.490	mg/L	0.0216	4.41%
Li 670.784†	1626.0	0.0301	mg/L	0.00019	0.0301	mg/L	0.00019	0.63%
P 214.914†	50.8	0.0765	mg/L	0.00105	0.0765	mg/L	0.00105	1.37%

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Sequence No.: 42 **Autosampler Location: 162**
Sample ID: L1311004508 **Date Collected: 11/5/2013 5:22:42 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004508

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311004508

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1937773.1						6606.12	0.34%
YRADIAL	135076.1						3791.95	2.81%
Ga 417.206	721180.9						2575.37	0.36%
GaRADIAL	40039.6						191.08	0.48%
Ag 328.068†	301.4	0.00090	mg/L	0.000603	0.00090	mg/L	0.000603	67.09%
Al 396.153†	30.8	0.0325	mg/L	0.00147	0.0325	mg/L	0.00147	4.53%
As 188.979†	-8.3	-0.00554	mg/L	0.004825	-0.00554	mg/L	0.004825	87.06%
Ba 233.527†	2255.7	0.0426	mg/L	0.00050	0.0426	mg/L	0.00050	1.18%

Approved: November 06, 2013

Kim H. Rhoden

Be 234.861†	177.4	0.00036	mg/L	0.000049	0.00036	mg/L	0.000049	13.63%
B 249.677†	459.0	0.0192	mg/L	0.00019	0.0192	mg/L	0.00019	0.97%
Ca 227.546†	5916.9	46.9	mg/L	0.35	46.9	mg/L	0.35	0.75%
Cd 228.802†	-11.2	-0.00053	mg/L	0.000092	-0.00053	mg/L	0.000092	17.24%
Co 228.616†	-5.7	-0.00075	mg/L	0.000080	-0.00075	mg/L	0.000080	10.70%
Cr 267.716†	112.1	0.00107	mg/L	0.000134	0.00107	mg/L	0.000134	12.50%
Cu 327.393†	591.6	0.00432	mg/L	0.000454	0.00432	mg/L	0.000454	10.51%
Fe 239.562†	163.8	0.0817	mg/L	0.00107	0.0817	mg/L	0.00107	1.31%
Mg 279.077†	32131.8	37.1	mg/L	0.51	37.1	mg/L	0.51	1.38%
Mn 257.610†	21772.2	0.0577	mg/L	0.00093	0.0577	mg/L	0.00093	1.61%
Mo 202.031†	18.1	0.00249	mg/L	0.000545	0.00249	mg/L	0.000545	21.88%
Ni 231.604†	88.2	0.00305	mg/L	0.000222	0.00305	mg/L	0.000222	7.27%
Pb 220.353†	21.8	0.00308	mg/L	0.002819	0.00308	mg/L	0.002819	91.64%
Sb 206.836†	4.1	0.00268	mg/L	0.002084	0.00268	mg/L	0.002084	77.70%
Se 196.026†	-2.2	0.00724	mg/L	0.001669	0.00724	mg/L	0.001669	23.06%
Si 251.611†	53788.6	2.58	mg/L	0.049	2.58	mg/L	0.049	1.92%
Sn 189.927†	-174.1	-0.0477	mg/L	0.00144	-0.0477	mg/L	0.00144	3.01%
Ti 334.940†	-4568.8	-0.00038	mg/L	0.000458	-0.00038	mg/L	0.000458	119.19%
Tl 190.801†	-16.0	-0.0143	mg/L	0.00763	-0.0143	mg/L	0.00763	53.45%
V 290.880†	1421.0	0.00681	mg/L	0.000405	0.00681	mg/L	0.000405	5.95%
Zn 206.200†	390.5	0.0224	mg/L	0.00041	0.0224	mg/L	0.00041	1.83%
K 766.490†	6778.4	5.94	mg/L	0.188	5.94	mg/L	0.188	3.16%
Na 589.592†	85806.2	9.87	mg/L	0.090	9.87	mg/L	0.090	0.91%
Sr 407.771†	328835.1	0.387	mg/L	0.0164	0.387	mg/L	0.0164	4.25%
Li 670.784†	958.7	0.0184	mg/L	0.00091	0.0184	mg/L	0.00091	4.96%
P 214.914†	49.2	0.0737	mg/L	0.01156	0.0737	mg/L	0.01156	15.68%

Sequence No.: 43
Sample ID: L1311004602 WG451344-03
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 163
Date Collected: 11/5/2013 5:25:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311004602 WG451344-03

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004602 WG451344-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1947015.3						24985.85	1.28%
YRADIAL	135398.7						2510.09	1.85%
Ga 417.206	724563.0						8241.56	1.14%
GaRADIAL	40285.0						1039.62	2.58%
Ag 328.068†	329.0	0.00102	mg/L	0.000591	0.00102	mg/L	0.000591	57.76%
Al 396.153†	13.0	0.0251	mg/L	0.00384	0.0251	mg/L	0.00384	15.35%
As 188.979†	-7.8	-0.00475	mg/L	0.004428	-0.00475	mg/L	0.004428	93.15%
Ba 233.527†	2550.2	0.0484	mg/L	0.00049	0.0484	mg/L	0.00049	1.01%
Be 234.861†	158.7	0.00033	mg/L	0.000043	0.00033	mg/L	0.000043	13.32%
B 249.677†	441.6	0.0188	mg/L	0.00047	0.0188	mg/L	0.00047	2.52%
Ca 227.546†	7323.1	58.0	mg/L	0.85	58.0	mg/L	0.85	1.46%
Cd 228.802†	-8.2	-0.00036	mg/L	0.000384	-0.00036	mg/L	0.000384	106.09%
Co 228.616†	-11.7	-0.00117	mg/L	0.000636	-0.00117	mg/L	0.000636	54.23%
Cr 267.716†	68.4	0.00040	mg/L	0.000182	0.00040	mg/L	0.000182	45.98%
Cu 327.393†	-34.0	-0.00063	mg/L	0.000993	-0.00063	mg/L	0.000993	158.09%
Fe 239.562†	41.9	0.0288	mg/L	0.00107	0.0288	mg/L	0.00107	3.72%
Mg 279.077†	39559.4	45.6	mg/L	0.98	45.6	mg/L	0.98	2.16%
Mn 257.610†	5117.3	0.0133	mg/L	0.00030	0.0133	mg/L	0.00030	2.27%
Mo 202.031†	23.1	0.00293	mg/L	0.000451	0.00293	mg/L	0.000451	15.38%
Ni 231.604†	6.4	-0.00056	mg/L	0.000456	-0.00056	mg/L	0.000456	81.93%
Pb 220.353†	12.4	0.00067	mg/L	0.003505	0.00067	mg/L	0.003505	519.72%
Sb 206.836†	-4.3	-0.00425	mg/L	0.002401	-0.00425	mg/L	0.002401	56.48%
Se 196.026†	-3.4	0.00494	mg/L	0.005276	0.00494	mg/L	0.005276	106.75%
Si 251.611†	50266.5	2.41	mg/L	0.017	2.41	mg/L	0.017	0.72%
Sn 189.927†	-202.1	-0.0553	mg/L	0.00126	-0.0553	mg/L	0.00126	2.29%
Ti 334.940†	-5746.2	-0.00087	mg/L	0.000183	-0.00087	mg/L	0.000183	20.98%
Tl 190.801†	-20.1	-0.0180	mg/L	0.00384	-0.0180	mg/L	0.00384	21.35%
V 290.880†	1468.4	0.00698	mg/L	0.001637	0.00698	mg/L	0.001637	23.46%
Zn 206.200†	47.3	0.00138	mg/L	0.000065	0.00138	mg/L	0.000065	4.68%

Approved: November 06, 2013

K 766.490†	5346.4	4.68	mg/L	0.139	4.68	mg/L	0.139	2.98%
Na 589.592†	71253.0	8.19	mg/L	0.246	8.19	mg/L	0.246	3.00%
Sr 407.771†	434899.9	0.512	mg/L	0.0068	0.512	mg/L	0.0068	1.33%
Li 670.784†	1667.0	0.0308	mg/L	0.00118	0.0308	mg/L	0.00118	3.82%
P 214.914†	44.2	0.0651	mg/L	0.02335	0.0651	mg/L	0.02335	35.86%

Sequence No.: 44 **Autosampler Location: 164**
Sample ID: L1311004602MS WG451344-08 **Date Collected: 11/5/2013 5:28:52 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004602MS WG451344-08

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004602MS WG451344-08

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1929357.3						17910.00	0.93%
YRADIAL	134162.9						3550.07	2.65%
Ga 417.206	704112.6						11845.67	1.68%
GaRADIAL	38657.8						315.64	0.82%
Ag 328.068†	32726.3	0.199	mg/L	0.0017	0.199	mg/L	0.0017	0.84%
Al 396.153†	12177.7	5.04	mg/L	0.022	5.04	mg/L	0.022	0.43%
As 188.979†	191.0	0.193	mg/L	0.0017	0.193	mg/L	0.0017	0.89%
Ba 233.527†	28549.5	0.557	mg/L	0.0065	0.557	mg/L	0.0065	1.17%
Be 234.861†	10191.3	0.0240	mg/L	0.00018	0.0240	mg/L	0.00018	0.73%
B 249.677†	36768.8	1.01	mg/L	0.009	1.01	mg/L	0.009	0.87%
Ca 227.546†	7674.0	61.0	mg/L	0.78	61.0	mg/L	0.78	1.28%
Cd 228.802†	387.7	0.0221	mg/L	0.00055	0.0221	mg/L	0.00055	2.50%
Co 228.616†	1374.3	0.0988	mg/L	0.00023	0.0988	mg/L	0.00023	0.23%
Cr 267.716†	16111.2	0.251	mg/L	0.0029	0.251	mg/L	0.0029	1.16%
Cu 327.393†	29433.7	0.233	mg/L	0.0014	0.233	mg/L	0.0014	0.62%
Fe 239.562†	4588.5	2.00	mg/L	0.076	2.00	mg/L	0.076	3.79%
Mg 279.077†	41366.9	47.7	mg/L	1.47	47.7	mg/L	1.47	3.09%
Mn 257.610†	102292.1	0.273	mg/L	0.0027	0.273	mg/L	0.0027	0.99%
Mo 202.031†	5840.7	0.533	mg/L	0.0032	0.533	mg/L	0.0032	0.59%
Ni 231.604†	5629.1	0.247	mg/L	0.0023	0.247	mg/L	0.0023	0.94%
Pb 220.353†	1004.6	0.259	mg/L	0.0019	0.259	mg/L	0.0019	0.74%
Sb 206.836†	716.2	0.584	mg/L	0.0124	0.584	mg/L	0.0124	2.13%
Se 196.026†	92.5	0.196	mg/L	0.0109	0.196	mg/L	0.0109	5.54%
Si 251.611†	100005.6	4.79	mg/L	0.011	4.79	mg/L	0.011	0.22%
Sn 189.927†	-191.3	-0.0524	mg/L	0.00179	-0.0524	mg/L	0.00179	3.42%
Ti 334.940†	267210.7	0.500	mg/L	0.0067	0.500	mg/L	0.0067	1.34%
Tl 190.801†	274.0	0.252	mg/L	0.0045	0.252	mg/L	0.0045	1.80%
V 290.880†	64349.3	0.525	mg/L	0.0071	0.525	mg/L	0.0071	1.34%
Zn 206.200†	8071.9	0.495	mg/L	0.0064	0.495	mg/L	0.0064	1.29%
K 766.490†	35250.6	30.7	mg/L	0.15	30.7	mg/L	0.15	0.48%
Na 589.592†	289043.9	33.5	mg/L	0.75	33.5	mg/L	0.75	2.25%
Sr 407.771†	844606.9	0.999	mg/L	0.0056	0.999	mg/L	0.0056	0.56%
Li 670.784†	30325.4	0.533	mg/L	0.0009	0.533	mg/L	0.0009	0.17%
P 214.914†	-40.9	-0.0799	mg/L	0.03601	-0.0799	mg/L	0.03601	45.05%

Sequence No.: 45 **Autosampler Location: 165**
Sample ID: L1311004605 **Date Collected: 11/5/2013 5:30:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004605

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004605

Mean Corrected	Calib.	Sample

Approved: November 06, 2013

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	1936911.4						26310.73	1.36%
YRADIAL	135218.1						5157.49	3.81%
Ga 417.206	730673.8						5990.75	0.82%
GaRADIAL	39903.7						433.64	1.09%
Ag 328.068†	369.0	0.00126	mg/L	0.000626	0.00126	mg/L	0.000626	49.82%
Al 396.153†	81.2	0.0534	mg/L	0.00307	0.0534	mg/L	0.00307	5.75%
As 188.979†	-3.6	-0.00039	mg/L	0.004362	-0.00039	mg/L	0.004362	>999.9%
Ba 233.527†	2154.0	0.0406	mg/L	0.00057	0.0406	mg/L	0.00057	1.42%
Be 234.861†	178.6	0.00040	mg/L	0.000028	0.00040	mg/L	0.000028	6.90%
B 249.677†	690.3	0.0255	mg/L	0.00291	0.0255	mg/L	0.00291	11.40%
Ca 227.546†	8396.2	66.5	mg/L	0.80	66.5	mg/L	0.80	1.20%
Cd 228.802†	-0.8	0.00005	mg/L	0.000236	0.00005	mg/L	0.000236	429.48%
Co 228.616†	-2.4	-0.00050	mg/L	0.000467	-0.00050	mg/L	0.000467	93.66%
Cr 267.716†	98.7	0.00087	mg/L	0.000242	0.00087	mg/L	0.000242	27.81%
Cu 327.393†	186.9	0.00112	mg/L	0.000738	0.00112	mg/L	0.000738	66.04%
Fe 239.562†	24.5	0.0210	mg/L	0.00096	0.0210	mg/L	0.00096	4.57%
Mg 279.077†	50734.5	58.5	mg/L	1.00	58.5	mg/L	1.00	1.71%
Mn 257.610†	99271.6	0.264	mg/L	0.0008	0.264	mg/L	0.0008	0.31%
Mo 202.031†	22.8	0.00296	mg/L	0.000753	0.00296	mg/L	0.000753	25.40%
Ni 231.604†	18.7	-0.00002	mg/L	0.000709	-0.00002	mg/L	0.000709	>999.9%
Pb 220.353†	17.2	0.00178	mg/L	0.000931	0.00178	mg/L	0.000931	52.40%
Sb 206.836†	0.1	-0.00061	mg/L	0.005537	-0.00061	mg/L	0.005537	904.22%
Se 196.026†	-5.1	0.00143	mg/L	0.006459	0.00143	mg/L	0.006459	450.72%
Si 251.611†	18063.0	0.859	mg/L	0.0026	0.859	mg/L	0.0026	0.30%
Sn 189.927†	-214.6	-0.0587	mg/L	0.00366	-0.0587	mg/L	0.00366	6.23%
Ti 334.940†	-6564.7	-0.00110	mg/L	0.000228	-0.00110	mg/L	0.000228	20.72%
Tl 190.801†	-19.5	-0.0176	mg/L	0.01275	-0.0176	mg/L	0.01275	72.23%
V 290.880†	1593.9	0.00768	mg/L	0.001758	0.00768	mg/L	0.001758	22.89%
Zn 206.200†	56.7	0.00196	mg/L	0.000353	0.00196	mg/L	0.000353	17.99%
K 766.490†	8144.3	7.14	mg/L	0.151	7.14	mg/L	0.151	2.11%
Na 589.592†	106947.4	12.3	mg/L	0.06	12.3	mg/L	0.06	0.53%
Sr 407.771†	326395.6	0.383	mg/L	0.0171	0.383	mg/L	0.0171	4.47%
Li 670.784†	555.3	0.0114	mg/L	0.00059	0.0114	mg/L	0.00059	5.21%
P 214.914†	40.7	0.0593	mg/L	0.00154	0.0593	mg/L	0.00154	2.60%

Sequence No.: 46 **Autosampler Location: 166**
Sample ID: L1311004607 **Date Collected: 11/5/2013 5:34:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004607

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004607

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1959803.9						26787.32	1.37%
YRADIAL	133127.8						1409.79	1.06%
Ga 417.206	714744.7						13073.44	1.83%
GaRADIAL	39820.5						503.35	1.26%
Ag 328.068†	173.5	0.00012	mg/L	0.000651	0.00012	mg/L	0.000651	559.71%
Al 396.153†	30.8	0.0326	mg/L	0.00246	0.0326	mg/L	0.00246	7.57%
As 188.979†	-5.8	-0.00357	mg/L	0.003119	-0.00357	mg/L	0.003119	87.45%
Ba 233.527†	1668.2	0.0311	mg/L	0.00081	0.0311	mg/L	0.00081	2.59%
Be 234.861†	167.5	0.00034	mg/L	0.000082	0.00034	mg/L	0.000082	24.00%
B 249.677†	632.2	0.0239	mg/L	0.00145	0.0239	mg/L	0.00145	6.05%
Ca 227.546†	2712.5	21.5	mg/L	0.66	21.5	mg/L	0.66	3.07%
Cd 228.802†	-11.6	-0.00057	mg/L	0.000265	-0.00057	mg/L	0.000265	46.44%
Co 228.616†	-6.5	-0.00081	mg/L	0.000696	-0.00081	mg/L	0.000696	85.99%
Cr 267.716†	70.0	0.00042	mg/L	0.000190	0.00042	mg/L	0.000190	45.68%
Cu 327.393†	685.8	0.00507	mg/L	0.000337	0.00507	mg/L	0.000337	6.65%
Fe 239.562†	95.0	0.0524	mg/L	0.00142	0.0524	mg/L	0.00142	2.71%
Mg 279.077†	12903.9	14.9	mg/L	0.18	14.9	mg/L	0.18	1.21%
Mn 257.610†	9085.8	0.0239	mg/L	0.00029	0.0239	mg/L	0.00029	1.20%
Mo 202.031†	8.7	0.00163	mg/L	0.000754	0.00163	mg/L	0.000754	46.37%
Ni 231.604†	89.2	0.00309	mg/L	0.000422	0.00309	mg/L	0.000422	13.66%

Approved: November 06, 2013

Pb 220.353†	21.3	0.00297	mg/L	0.003060	0.00297	mg/L	0.003060	103.05%
Sb 206.836†	-0.7	-0.00126	mg/L	0.005415	-0.00126	mg/L	0.005415	428.89%
Se 196.026†	-1.2	0.00919	mg/L	0.007137	0.00919	mg/L	0.007137	77.67%
Si 251.611†	61207.0	2.93	mg/L	0.062	2.93	mg/L	0.062	2.10%
Sn 189.927†	-112.1	-0.0308	mg/L	0.00024	-0.0308	mg/L	0.00024	0.77%
Ti 334.940†	-2092.9	0.00035	mg/L	0.000128	0.00035	mg/L	0.000128	36.46%
Tl 190.801†	-14.5	-0.0129	mg/L	0.00346	-0.0129	mg/L	0.00346	26.76%
V 290.880†	849.2	0.00267	mg/L	0.001856	0.00267	mg/L	0.001856	69.63%
Zn 206.200†	393.5	0.0226	mg/L	0.00087	0.0226	mg/L	0.00087	3.86%
K 766.490†	5345.3	4.68	mg/L	0.060	4.68	mg/L	0.060	1.28%
Na 589.592†	58890.8	6.77	mg/L	0.090	6.77	mg/L	0.090	1.33%
Sr 407.771†	289171.6	0.340	mg/L	0.0086	0.340	mg/L	0.0086	2.51%
Li 670.784†	786.6	0.0154	mg/L	0.00063	0.0154	mg/L	0.00063	4.11%
P 214.914†	44.6	0.0658	mg/L	0.02186	0.0658	mg/L	0.02186	33.21%

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Sequence No.: 47 **Autosampler Location: 167**
Sample ID: L1311004634 **Date Collected: 11/5/2013 5:37:03 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004634

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311004634

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1945033.7						8967.46	0.46%
YRADIAL	137089.8						1658.91	1.21%
Ga 417.206	729931.0						846.65	0.12%
GaRADIAL	40707.0						921.79	2.26%
Ag 328.068†	277.5	0.00072	mg/L	0.000482	0.00072	mg/L	0.000482	67.00%
Al 396.153†	12.2	0.0247	mg/L	0.00286	0.0247	mg/L	0.00286	11.56%
As 188.979†	-11.3	-0.00839	mg/L	0.001596	-0.00839	mg/L	0.001596	19.01%
Ba 233.527†	2472.9	0.0469	mg/L	0.00055	0.0469	mg/L	0.00055	1.18%
Be 234.861†	181.1	0.00038	mg/L	0.000033	0.00038	mg/L	0.000033	8.68%
B 249.677†	511.0	0.0206	mg/L	0.00058	0.0206	mg/L	0.00058	2.81%
Ca 227.546†	6962.4	55.2	mg/L	1.48	55.2	mg/L	1.48	2.67%
Cd 228.802†	-8.3	-0.00035	mg/L	0.000036	-0.00035	mg/L	0.000036	10.38%
Co 228.616†	-7.2	-0.00085	mg/L	0.000206	-0.00085	mg/L	0.000206	24.32%
Cr 267.716†	93.7	0.00079	mg/L	0.000228	0.00079	mg/L	0.000228	28.83%
Cu 327.393†	-11.7	-0.00045	mg/L	0.000812	-0.00045	mg/L	0.000812	180.07%
Fe 239.562†	52.6	0.0334	mg/L	0.00177	0.0334	mg/L	0.00177	5.30%
Mg 279.077†	38359.5	44.2	mg/L	0.25	44.2	mg/L	0.25	0.56%
Mn 257.610†	4851.5	0.0126	mg/L	0.00021	0.0126	mg/L	0.00021	1.65%
Mo 202.031†	26.0	0.00320	mg/L	0.000557	0.00320	mg/L	0.000557	17.44%
Ni 231.604†	21.0	0.00008	mg/L	0.000717	0.00008	mg/L	0.000717	852.10%
Pb 220.353†	22.4	0.00326	mg/L	0.002669	0.00326	mg/L	0.002669	81.81%
Sb 206.836†	1.8	0.00079	mg/L	0.003200	0.00079	mg/L	0.003200	406.52%
Se 196.026†	-3.0	0.00575	mg/L	0.005773	0.00575	mg/L	0.005773	100.41%
Si 251.611†	48116.7	2.30	mg/L	0.038	2.30	mg/L	0.038	1.66%
Sn 189.927†	-189.9	-0.0520	mg/L	0.00009	-0.0520	mg/L	0.00009	0.17%
Ti 334.940†	-5556.5	-0.00095	mg/L	0.000070	-0.00095	mg/L	0.000070	7.30%
Tl 190.801†	-18.1	-0.0161	mg/L	0.00567	-0.0161	mg/L	0.00567	35.13%
V 290.880†	1528.1	0.00751	mg/L	0.000623	0.00751	mg/L	0.000623	8.29%
Zn 206.200†	127.3	0.00628	mg/L	0.000530	0.00628	mg/L	0.000530	8.44%
K 766.490†	5520.3	4.83	mg/L	0.128	4.83	mg/L	0.128	2.65%
Na 589.592†	71614.3	8.23	mg/L	0.264	8.23	mg/L	0.264	3.21%
Sr 407.771†	414624.4	0.488	mg/L	0.0050	0.488	mg/L	0.0050	1.01%
Li 670.784†	1645.0	0.0305	mg/L	0.00047	0.0305	mg/L	0.00047	1.53%
P 214.914†	42.0	0.0615	mg/L	0.00961	0.0615	mg/L	0.00961	15.62%

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Sequence No.: 48 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/5/2013 5:40:08 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1928823.4						27164.10	1.41%
YRADIAL	135916.5						3197.87	2.35%
Ga 417.206	699820.3						18160.85	2.60%
GaRADIAL	39541.9						759.71	1.92%
Ag 328.068†	66176.8	0.403	mg/L	0.0080	0.403	mg/L	0.0080	1.98%
QC value within limits for Ag 328.068 Recovery = 100.71%								
Al 396.153†	24647.3	10.2	mg/L	0.08	10.2	mg/L	0.08	0.75%
QC value within limits for Al 396.153 Recovery = 101.82%								
As 188.979†	395.3	0.394	mg/L	0.0080	0.394	mg/L	0.0080	2.02%
QC value within limits for As 188.979 Recovery = 98.60%								
Ba 233.527†	53904.2	1.05	mg/L	0.014	1.05	mg/L	0.014	1.31%
QC value within limits for Ba 233.527 Recovery = 105.23%								
Be 234.861†	21082.9	0.0496	mg/L	0.00114	0.0496	mg/L	0.00114	2.29%
QC value within limits for Be 234.861 Recovery = 99.29%								
B 249.677†	17891.9	0.490	mg/L	0.0067	0.490	mg/L	0.0067	1.37%
QC value within limits for B 249.677 Recovery = 97.97%								
Ca 227.546†	1254.4	10.4	mg/L	0.18	10.4	mg/L	0.18	1.77%
QC value within limits for Ca 227.546 Recovery = 104.29%								
Cd 228.802†	821.8	0.0468	mg/L	0.00141	0.0468	mg/L	0.00141	3.02%
QC value within limits for Cd 228.802 Recovery = 93.60%								
Co 228.616†	2902.3	0.209	mg/L	0.0008	0.209	mg/L	0.0008	0.36%
QC value within limits for Co 228.616 Recovery = 104.42%								
Cr 267.716†	33198.2	0.518	mg/L	0.0061	0.518	mg/L	0.0061	1.18%
QC value within limits for Cr 267.716 Recovery = 103.51%								
Cu 327.393†	63366.1	0.502	mg/L	0.0117	0.502	mg/L	0.0117	2.34%
QC value within limits for Cu 327.393 Recovery = 100.35%								
Fe 239.562†	9408.6	4.09	mg/L	0.030	4.09	mg/L	0.030	0.73%
QC value within limits for Fe 239.562 Recovery = 102.16%								
Mg 279.077†	8998.2	10.4	mg/L	0.08	10.4	mg/L	0.08	0.81%
QC value within limits for Mg 279.077 Recovery = 104.08%								
Mn 257.610†	196161.7	0.523	mg/L	0.0100	0.523	mg/L	0.0100	1.90%
QC value within limits for Mn 257.610 Recovery = 104.67%								
Mo 202.031†	11314.9	1.03	mg/L	0.011	1.03	mg/L	0.011	1.07%
QC value within limits for Mo 202.031 Recovery = 103.16%								
Ni 231.604†	12009.6	0.528	mg/L	0.0034	0.528	mg/L	0.0034	0.64%
QC value within limits for Ni 231.604 Recovery = 105.62%								
Pb 220.353†	2045.4	0.530	mg/L	0.0005	0.530	mg/L	0.0005	0.09%
QC value within limits for Pb 220.353 Recovery = 106.02%								
Sb 206.836†	1440.0	1.18	mg/L	0.024	1.18	mg/L	0.024	2.01%
QC value within limits for Sb 206.836 Recovery = 97.96%								
Se 196.026†	193.5	0.397	mg/L	0.0052	0.397	mg/L	0.0052	1.32%
QC value within limits for Se 196.026 Recovery = 99.30%								
Si 251.611†	105962.5	5.07	mg/L	0.091	5.07	mg/L	0.091	1.80%
QC value within limits for Si 251.611 Recovery = 101.49%								
Sn 189.927†	3887.4	1.06	mg/L	0.005	1.06	mg/L	0.005	0.52%
QC value within limits for Sn 189.927 Recovery = 106.07%								
Ti 334.940†	555618.5	1.02	mg/L	0.017	1.02	mg/L	0.017	1.66%
QC value within limits for Ti 334.940 Recovery = 102.17%								
Tl 190.801†	591.2	0.543	mg/L	0.0022	0.543	mg/L	0.0022	0.40%
QC value within limits for Tl 190.801 Recovery = 108.60%								
V 290.880†	129820.2	1.07	mg/L	0.015	1.07	mg/L	0.015	1.37%
QC value within limits for V 290.880 Recovery = 106.64%								
Zn 206.200†	17260.4	1.06	mg/L	0.014	1.06	mg/L	0.014	1.31%
QC value within limits for Zn 206.200 Recovery = 105.96%								
K 766.490†	61586.1	53.2	mg/L	0.18	53.2	mg/L	0.18	0.33%
QC value within limits for K 766.490 Recovery = 106.49%								
Na 589.592†	441627.0	51.3	mg/L	1.41	51.3	mg/L	1.41	2.74%
QC value within limits for Na 589.592 Recovery = 102.65%								
Sr 407.771†	908126.9	1.08	mg/L	0.031	1.08	mg/L	0.031	2.92%
QC value within limits for Sr 407.771 Recovery = 107.66%								
Li 670.784†	58605.1	1.03	mg/L	0.003	1.03	mg/L	0.003	0.29%
QC value within limits for Li 670.784 Recovery = 102.77%								

Approved: November 06, 2013

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P 214.914† 6157.4 10.5 mg/L 0.10 10.5 mg/L 0.10 0.93%
QC value within limits for P 214.914 Recovery = 104.87%
All analyte(s) passed QC.

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Sequence No.: 49 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/5/2013 5:42:13 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1945563.8						65972.22	3.39%
YRADIAL	129589.0						5168.31	3.99%
Ga 417.206	683193.1						24626.01	3.60%
GaRADIAL	37769.6						1334.28	3.53%
Ag 328.068†	77.8	-0.00041	mg/L	0.000088	-0.00041	mg/L	0.000088	21.35%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	6.7	0.0226	mg/L	0.00485	0.0226	mg/L	0.00485	21.46%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-3.5	-0.00168	mg/L	0.005718	-0.00168	mg/L	0.005718	339.37%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-26.7	-0.00200	mg/L	0.000145	-0.00200	mg/L	0.000145	7.24%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	123.4	0.00024	mg/L	0.000136	0.00024	mg/L	0.000136	55.73%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	-14.2	0.00636	mg/L	0.001359	0.00636	mg/L	0.001359	21.39%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	26.6	0.222	mg/L	0.0230	0.222	mg/L	0.0230	10.33%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-11.9	-0.00060	mg/L	0.000256	-0.00060	mg/L	0.000256	42.77%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-3.6	-0.00060	mg/L	0.000040	-0.00060	mg/L	0.000040	6.66%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	6.6	-0.00057	mg/L	0.000100	-0.00057	mg/L	0.000100	17.51%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-0.3	-0.00035	mg/L	0.000795	-0.00035	mg/L	0.000795	227.21%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	1.3	0.0121	mg/L	0.00158	0.0121	mg/L	0.00158	13.09%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	23.4	0.0464	mg/L	0.00590	0.0464	mg/L	0.00590	12.72%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	27.7	-0.00023	mg/L	0.000039	-0.00023	mg/L	0.000039	16.52%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.8	0.00118	mg/L	0.000346	0.00118	mg/L	0.000346	29.38%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-2.8	-0.00097	mg/L	0.000520	-0.00097	mg/L	0.000520	53.59%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	13.2	0.00087	mg/L	0.002171	0.00087	mg/L	0.002171	249.39%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	0.4	-0.00036	mg/L	0.002212	-0.00036	mg/L	0.002212	612.29%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-3.5	0.00469	mg/L	0.004449	0.00469	mg/L	0.004449	94.83%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	13.7	-0.00897	mg/L	0.002497	-0.00897	mg/L	0.002497	27.85%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-0.2	-0.00024	mg/L	0.000179	-0.00024	mg/L	0.000179	73.80%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	107.9	0.00120	mg/L	0.000199	0.00120	mg/L	0.000199	16.62%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-2.9	-0.00252	mg/L	0.005407	-0.00252	mg/L	0.005407	214.93%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	764.8	0.00236	mg/L	0.002706	0.00236	mg/L	0.002706	114.60%
QC value within limits for V 290.880 Recovery = Not calculated								

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Zn 206.200†	9.9	-0.00091	mg/L	0.000379	-0.00091	mg/L	0.000379	41.47%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	12.6	-0.0326	mg/L	0.05040	-0.0326	mg/L	0.05040	154.58%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	230.3	0.0117	mg/L	0.01201	0.0117	mg/L	0.01201	102.78%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	-2.8	-0.00300	mg/L	0.000112	-0.00300	mg/L	0.000112	3.72%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	17.0	0.00195	mg/L	0.000203	0.00195	mg/L	0.000203	10.43%
QC value within limits for Li 670.784 Recovery = Not calculated								
P 214.914†	37.0	0.0530	mg/L	0.01808	0.0530	mg/L	0.01808	34.13%
QC value within limits for P 214.914 Recovery = Not calculated								

All analyte(s) passed QC.

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Sequence No.: 50 **Autosampler Location: 168**
Sample ID: L1311004636 **Date Collected: 11/5/2013 5:45:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004636

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004636

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1923959.0						28900.67	1.50%
YRADIAL	130736.8						1170.56	0.90%
Ga 417.206	707848.7						15377.86	2.17%
GaRADIAL	39544.0						609.80	1.54%
Ag 328.068†	227.5	0.00045	mg/L	0.000391	0.00045	mg/L	0.000391	86.91%
Al 396.153†	11.5	0.0244	mg/L	0.00305	0.0244	mg/L	0.00305	12.46%
As 188.979†	-7.2	-0.00477	mg/L	0.003370	-0.00477	mg/L	0.003370	70.66%
Ba 233.527†	1976.0	0.0371	mg/L	0.00057	0.0371	mg/L	0.00057	1.54%
Be 234.861†	147.1	0.00029	mg/L	0.000039	0.00029	mg/L	0.000039	13.24%
B 249.677†	375.1	0.0169	mg/L	0.00080	0.0169	mg/L	0.00080	4.73%
Ca 227.546†	3799.6	30.1	mg/L	0.65	30.1	mg/L	0.65	2.15%
Cd 228.802†	-10.2	-0.00048	mg/L	0.000230	-0.00048	mg/L	0.000230	47.48%
Co 228.616†	-11.5	-0.00117	mg/L	0.000224	-0.00117	mg/L	0.000224	19.14%
Cr 267.716†	48.7	0.00009	mg/L	0.000456	0.00009	mg/L	0.000456	535.32%
Cu 327.393†	42.8	-0.00001	mg/L	0.000211	-0.00001	mg/L	0.000211	>999.9%
Fe 239.562†	84.7	0.0478	mg/L	0.00071	0.0478	mg/L	0.00071	1.48%
Mg 279.077†	18726.5	21.6	mg/L	0.20	21.6	mg/L	0.20	0.91%
Mn 257.610†	3790.1	0.00980	mg/L	0.000192	0.00980	mg/L	0.000192	1.96%
Mo 202.031†	21.1	0.00275	mg/L	0.000162	0.00275	mg/L	0.000162	5.87%
Ni 231.604†	1.0	-0.00080	mg/L	0.000774	-0.00080	mg/L	0.000774	97.18%
Pb 220.353†	16.5	0.00172	mg/L	0.001600	0.00172	mg/L	0.001600	92.96%
Sb 206.836†	0.3	-0.00047	mg/L	0.001201	-0.00047	mg/L	0.001201	254.87%
Se 196.026†	-2.5	0.00674	mg/L	0.008072	0.00674	mg/L	0.008072	119.79%
Si 251.611†	52900.4	2.53	mg/L	0.017	2.53	mg/L	0.017	0.66%
Sn 189.927†	-132.7	-0.0364	mg/L	0.00160	-0.0364	mg/L	0.00160	4.40%
Ti 334.940†	-2899.4	0.00016	mg/L	0.000094	0.00016	mg/L	0.000094	57.56%
Tl 190.801†	-10.5	-0.00932	mg/L	0.007811	-0.00932	mg/L	0.007811	83.85%
V 290.880†	1229.6	0.00563	mg/L	0.001028	0.00563	mg/L	0.001028	18.26%
Zn 206.200†	48.4	0.00145	mg/L	0.000227	0.00145	mg/L	0.000227	15.69%
K 766.490†	4075.6	3.56	mg/L	0.108	3.56	mg/L	0.108	3.03%
Na 589.592†	50627.3	5.81	mg/L	0.052	5.81	mg/L	0.052	0.90%
Sr 407.771†	282000.4	0.331	mg/L	0.0093	0.331	mg/L	0.0093	2.81%
Li 670.784†	356.0	0.00788	mg/L	0.000498	0.00788	mg/L	0.000498	6.32%
P 214.914†	39.1	0.0564	mg/L	0.00796	0.0564	mg/L	0.00796	14.10%

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Sequence No.: 51 **Autosampler Location: 169**
Sample ID: L1311004638 **Date Collected: 11/5/2013 5:48:14 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Nebulizer Parameters: L1311004638

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004638

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1967122.3						32178.53	1.64%
YRADIAL	135070.6						1400.01	1.04%
Ga 417.206	735549.7						13997.14	1.90%
GaRADIAL	40316.1						375.94	0.93%
Ag 328.068†	277.7	0.00072	mg/L	0.000608	0.00072	mg/L	0.000608	84.37%
Al 396.153†	16.8	0.0267	mg/L	0.00374	0.0267	mg/L	0.00374	14.03%
As 188.979†	-5.1	-0.00218	mg/L	0.000674	-0.00218	mg/L	0.000674	30.90%
Ba 233.527†	2455.6	0.0465	mg/L	0.00108	0.0465	mg/L	0.00108	2.33%
Be 234.861†	196.3	0.00041	mg/L	0.000086	0.00041	mg/L	0.000086	20.87%
B 249.677†	535.7	0.0213	mg/L	0.00028	0.0213	mg/L	0.00028	1.31%
Ca 227.546†	6955.5	55.1	mg/L	1.96	55.1	mg/L	1.96	3.55%
Cd 228.802†	-8.0	-0.00036	mg/L	0.000075	-0.00036	mg/L	0.000075	20.87%
Co 228.616†	-6.8	-0.00082	mg/L	0.000299	-0.00082	mg/L	0.000299	36.50%
Cr 267.716†	115.8	0.00113	mg/L	0.000406	0.00113	mg/L	0.000406	35.78%
Cu 327.393†	409.4	0.00288	mg/L	0.001127	0.00288	mg/L	0.001127	39.20%
Fe 239.562†	58.8	0.0361	mg/L	0.00062	0.0361	mg/L	0.00062	1.70%
Mg 279.077†	38303.1	44.2	mg/L	0.62	44.2	mg/L	0.62	1.41%
Mn 257.610†	5262.8	0.0137	mg/L	0.00043	0.0137	mg/L	0.00043	3.14%
Mo 202.031†	25.8	0.00318	mg/L	0.000196	0.00318	mg/L	0.000196	6.17%
Ni 231.604†	63.3	0.00195	mg/L	0.000557	0.00195	mg/L	0.000557	28.60%
Pb 220.353†	29.1	0.00501	mg/L	0.000901	0.00501	mg/L	0.000901	17.98%
Sb 206.836†	-2.9	-0.00311	mg/L	0.002392	-0.00311	mg/L	0.002392	76.83%
Se 196.026†	-1.6	0.00846	mg/L	0.009340	0.00846	mg/L	0.009340	110.44%
Si 251.611†	47399.5	2.27	mg/L	0.078	2.27	mg/L	0.078	3.43%
Sn 189.927†	-193.3	-0.0529	mg/L	0.00126	-0.0529	mg/L	0.00126	2.38%
Ti 334.940†	-5532.1	-0.00092	mg/L	0.000158	-0.00092	mg/L	0.000158	17.18%
Tl 190.801†	-16.7	-0.0149	mg/L	0.00560	-0.0149	mg/L	0.00560	37.55%
V 290.880†	1454.6	0.00690	mg/L	0.002221	0.00690	mg/L	0.002221	32.18%
Zn 206.200†	342.8	0.0195	mg/L	0.00059	0.0195	mg/L	0.00059	3.04%
K 766.490†	6437.4	5.64	mg/L	0.110	5.64	mg/L	0.110	1.95%
Na 589.592†	81787.8	9.41	mg/L	0.114	9.41	mg/L	0.114	1.21%
Sr 407.771†	414030.6	0.488	mg/L	0.0114	0.488	mg/L	0.0114	2.33%
Li 670.784†	1551.3	0.0288	mg/L	0.00105	0.0288	mg/L	0.00105	3.63%
P 214.914†	44.7	0.0661	mg/L	0.00212	0.0661	mg/L	0.00212	3.20%

Sequence No.: 52
Sample ID: L1311004640
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 170
Date Collected: 11/5/2013 5:51:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311004640

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004640

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1945327.6						12904.37	0.66%
YRADIAL	133200.5						1353.63	1.02%
Ga 417.206	716354.8						6306.97	0.88%
GaRADIAL	39952.3						271.84	0.68%
Ag 328.068†	144.2	-0.00005	mg/L	0.000450	-0.00005	mg/L	0.000450	841.04%
Al 396.153†	13.2	0.0253	mg/L	0.00113	0.0253	mg/L	0.00113	4.48%
As 188.979†	-7.6	-0.00522	mg/L	0.003200	-0.00522	mg/L	0.003200	61.36%
Ba 233.527†	1967.1	0.0370	mg/L	0.00020	0.0370	mg/L	0.00020	0.54%
Be 234.861†	148.8	0.00030	mg/L	0.000033	0.00030	mg/L	0.000033	11.09%
B 249.677†	262.3	0.0139	mg/L	0.00013	0.0139	mg/L	0.00013	0.93%
Ca 227.546†	3758.6	29.8	mg/L	0.18	29.8	mg/L	0.18	0.60%
Cd 228.802†	-10.4	-0.00049	mg/L	0.000098	-0.00049	mg/L	0.000098	19.89%

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Co 228.616†	-8.0	-0.00091	mg/L	0.000519	-0.00091	mg/L	0.000519	56.74%
Cr 267.716†	43.8	0.00001	mg/L	0.000051	0.00001	mg/L	0.000051	651.10%
Cu 327.393†	-38.0	-0.00065	mg/L	0.000427	-0.00065	mg/L	0.000427	65.61%
Fe 239.562†	85.4	0.0481	mg/L	0.00126	0.0481	mg/L	0.00126	2.62%
Mg 279.077†	18677.6	21.6	mg/L	0.37	21.6	mg/L	0.37	1.72%
Mn 257.610†	3707.0	0.00958	mg/L	0.000032	0.00958	mg/L	0.000032	0.33%
Mo 202.031†	9.0	0.00165	mg/L	0.000150	0.00165	mg/L	0.000150	9.10%
Ni 231.604†	-1.4	-0.00090	mg/L	0.000324	-0.00090	mg/L	0.000324	35.90%
Pb 220.353†	18.3	0.00220	mg/L	0.000633	0.00220	mg/L	0.000633	28.75%
Sb 206.836†	-0.3	-0.00098	mg/L	0.002199	-0.00098	mg/L	0.002199	224.90%
Se 196.026†	-3.1	0.00551	mg/L	0.002515	0.00551	mg/L	0.002515	45.68%
Si 251.611†	53069.9	2.54	mg/L	0.017	2.54	mg/L	0.017	0.67%
Sn 189.927†	-133.6	-0.0367	mg/L	0.00158	-0.0367	mg/L	0.00158	4.32%
Ti 334.940†	-2893.7	0.00013	mg/L	0.000123	0.00013	mg/L	0.000123	97.83%
Tl 190.801†	-14.1	-0.0125	mg/L	0.01062	-0.0125	mg/L	0.01062	84.82%
V 290.880†	1146.7	0.00495	mg/L	0.001394	0.00495	mg/L	0.001394	28.17%
Zn 206.200†	21.3	-0.00021	mg/L	0.000070	-0.00021	mg/L	0.000070	33.22%
K 766.490†	4004.5	3.49	mg/L	0.138	3.49	mg/L	0.138	3.95%
Na 589.592†	49816.2	5.72	mg/L	0.030	5.72	mg/L	0.030	0.53%
Sr 407.771†	280160.9	0.329	mg/L	0.0111	0.329	mg/L	0.0111	3.38%
Li 670.784†	365.8	0.00806	mg/L	0.000106	0.00806	mg/L	0.000106	1.32%
P 214.914†	40.0	0.0580	mg/L	0.01095	0.0580	mg/L	0.01095	18.89%

Sequence No.: 53
Sample ID: L1311004642
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 171
Date Collected: 11/5/2013 5:54:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311004642

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311004642

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1970012.5						11464.90	0.58%
YRADIAL	136471.0						1435.04	1.05%
Ga 417.206	718630.7						2886.56	0.40%
GaRADIAL	40064.6						801.67	2.00%
Ag 328.068†	186.9	0.00019	mg/L	0.000300	0.00019	mg/L	0.000300	156.63%
Al 396.153†	10.6	0.0242	mg/L	0.00351	0.0242	mg/L	0.00351	14.50%
As 188.979†	-4.0	-0.00177	mg/L	0.001831	-0.00177	mg/L	0.001831	103.35%
Ba 233.527†	1713.8	0.0320	mg/L	0.00018	0.0320	mg/L	0.00018	0.55%
Be 234.861†	150.2	0.00030	mg/L	0.000045	0.00030	mg/L	0.000045	14.67%
B 249.677†	390.1	0.0173	mg/L	0.00032	0.0173	mg/L	0.00032	1.86%
Ca 227.546†	2747.9	21.8	mg/L	0.12	21.8	mg/L	0.12	0.53%
Cd 228.802†	-9.5	-0.00046	mg/L	0.000191	-0.00046	mg/L	0.000191	41.86%
Co 228.616†	-3.4	-0.00059	mg/L	0.000705	-0.00059	mg/L	0.000705	120.42%
Cr 267.716†	37.1	-0.00010	mg/L	0.000300	-0.00010	mg/L	0.000300	312.49%
Cu 327.393†	-26.1	-0.00056	mg/L	0.000588	-0.00056	mg/L	0.000588	105.10%
Fe 239.562†	63.2	0.0386	mg/L	0.00102	0.0386	mg/L	0.00102	2.65%
Mg 279.077†	13167.5	15.2	mg/L	0.19	15.2	mg/L	0.19	1.24%
Mn 257.610†	8471.9	0.0223	mg/L	0.00037	0.0223	mg/L	0.00037	1.66%
Mo 202.031†	7.7	0.00153	mg/L	0.000182	0.00153	mg/L	0.000182	11.87%
Ni 231.604†	39.3	0.00089	mg/L	0.000210	0.00089	mg/L	0.000210	23.66%
Pb 220.353†	13.8	0.00103	mg/L	0.000210	0.00103	mg/L	0.000210	20.29%
Sb 206.836†	0.2	-0.00056	mg/L	0.002260	-0.00056	mg/L	0.002260	402.65%
Se 196.026†	-0.7	0.0102	mg/L	0.00508	0.0102	mg/L	0.00508	49.95%
Si 251.611†	63631.8	3.05	mg/L	0.043	3.05	mg/L	0.043	1.40%
Sn 189.927†	-112.5	-0.0309	mg/L	0.00121	-0.0309	mg/L	0.00121	3.90%
Ti 334.940†	-2232.6	0.00014	mg/L	0.000104	0.00014	mg/L	0.000104	75.78%
Tl 190.801†	-0.4	-0.00028	mg/L	0.003135	-0.00028	mg/L	0.003135	>999.9%
V 290.880†	913.7	0.00319	mg/L	0.001241	0.00319	mg/L	0.001241	38.89%
Zn 206.200†	47.8	0.00141	mg/L	0.000274	0.00141	mg/L	0.000274	19.47%
K 766.490†	3910.9	3.41	mg/L	0.117	3.41	mg/L	0.117	3.43%
Na 589.592†	40165.6	4.61	mg/L	0.015	4.61	mg/L	0.015	0.33%
Sr 407.771†	293486.6	0.345	mg/L	0.0013	0.345	mg/L	0.0013	0.38%
Li 670.784†	807.4	0.0158	mg/L	0.00127	0.0158	mg/L	0.00127	8.05%

Approved: November 06, 2013

P 214.914†	46.5	0.0692	mg/L	0.01094	0.0692	mg/L	0.01094 15.81%

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Sequence No.: 54 **Autosampler Location: 172**
Sample ID: L1311004644 **Date Collected: 11/5/2013 5:57:25 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004644

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311004644

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1974518.2						46691.78	2.36%
YRADIAL	133002.2						336.00	0.25%
Ga 417.206	715643.9						17552.11	2.45%
GaRADIAL	39675.8						702.83	1.77%
Ag 328.068†	91.5	-0.00032	mg/L	0.000375	-0.00032	mg/L	0.000375	117.86%
Al 396.153†	9.0	0.0236	mg/L	0.00469	0.0236	mg/L	0.00469	19.88%
As 188.979†	-5.5	-0.00343	mg/L	0.001646	-0.00343	mg/L	0.001646	47.92%
Ba 233.527†	1345.0	0.0248	mg/L	0.00062	0.0248	mg/L	0.00062	2.51%
Be 234.861†	163.3	0.00033	mg/L	0.000051	0.00033	mg/L	0.000051	15.52%
B 249.677†	87.5	0.00909	mg/L	0.000239	0.00909	mg/L	0.000239	2.63%
Ca 227.546†	1543.8	12.2	mg/L	0.33	12.2	mg/L	0.33	2.74%
Cd 228.802†	-11.1	-0.00054	mg/L	0.000151	-0.00054	mg/L	0.000151	27.97%
Co 228.616†	-11.6	-0.00119	mg/L	0.000361	-0.00119	mg/L	0.000361	30.43%
Cr 267.716†	15.3	-0.00044	mg/L	0.000075	-0.00044	mg/L	0.000075	16.91%
Cu 327.393†	97.1	0.00042	mg/L	0.000977	0.00042	mg/L	0.000977	231.08%
Fe 239.562†	200.8	0.0983	mg/L	0.00149	0.0983	mg/L	0.00149	1.52%
Mg 279.077†	8097.2	9.35	mg/L	0.066	9.35	mg/L	0.066	0.70%
Mn 257.610†	29758.8	0.0790	mg/L	0.00120	0.0790	mg/L	0.00120	1.51%
Mo 202.031†	-1.9	0.00067	mg/L	0.000902	0.00067	mg/L	0.000902	134.18%
Ni 231.604†	23.9	0.00021	mg/L	0.000187	0.00021	mg/L	0.000187	89.25%
Pb 220.353†	22.7	0.00331	mg/L	0.000811	0.00331	mg/L	0.000811	24.54%
Sb 206.836†	-0.5	-0.00112	mg/L	0.001061	-0.00112	mg/L	0.001061	94.47%
Se 196.026†	-6.1	-0.00046	mg/L	0.002731	-0.00046	mg/L	0.002731	594.32%
Si 251.611†	58739.2	2.82	mg/L	0.033	2.82	mg/L	0.033	1.16%
Sn 189.927†	-78.7	-0.0217	mg/L	0.00172	-0.0217	mg/L	0.00172	7.95%
Ti 334.940†	-1101.3	0.00078	mg/L	0.000269	0.00078	mg/L	0.000269	34.32%
Tl 190.801†	-10.0	-0.00888	mg/L	0.004177	-0.00888	mg/L	0.004177	47.04%
V 290.880†	742.6	0.00193	mg/L	0.001243	0.00193	mg/L	0.001243	64.55%
Zn 206.200†	107.5	0.00506	mg/L	0.000454	0.00506	mg/L	0.000454	8.97%
K 766.490†	3237.7	2.82	mg/L	0.083	2.82	mg/L	0.083	2.94%
Na 589.592†	28940.9	3.32	mg/L	0.026	3.32	mg/L	0.026	0.77%
Sr 407.771†	84569.6	0.0972	mg/L	0.00243	0.0972	mg/L	0.00243	2.50%
Li 670.784†	-18.0	0.00134	mg/L	0.000431	0.00134	mg/L	0.000431	32.25%
P 214.914†	47.3	0.0705	mg/L	0.01636	0.0705	mg/L	0.01636	23.22%

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Sequence No.: 55 **Autosampler Location: 173**
Sample ID: L1311004646 **Date Collected: 11/5/2013 6:00:29 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004646

Analyte	Back Pressure	Flow
All	177.0 kPa	0.47 L/min

Mean Data: L1311004646

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1958893.0						12512.77	0.64%
YRADIAL	137159.0						2145.53	1.56%
Ga 417.206	713758.2						6080.24	0.85%

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GaRADIAL	40374.6					723.24	1.79%
Ag 328.068†	152.2	-0.00002	mg/L	0.000561	-0.00002 mg/L	0.000561	>999.9%
Al 396.153†	16.0	0.0264	mg/L	0.00192	0.0264 mg/L	0.00192	7.25%
As 188.979†	-10.3	-0.00812	mg/L	0.002909	-0.00812 mg/L	0.002909	35.82%
Ba 233.527†	1651.1	0.0308	mg/L	0.00019	0.0308 mg/L	0.00019	0.63%
Be 234.861†	148.1	0.00030	mg/L	0.000054	0.00030 mg/L	0.000054	18.08%
B 249.677†	375.5	0.0169	mg/L	0.00023	0.0169 mg/L	0.00023	1.36%
Ca 227.546†	2677.0	21.2	mg/L	0.22	21.2 mg/L	0.22	1.04%
Cd 228.802†	-8.2	-0.00035	mg/L	0.000187	-0.00035 mg/L	0.000187	54.13%
Co 228.616†	-8.3	-0.00094	mg/L	0.000117	-0.00094 mg/L	0.000117	12.41%
Cr 267.716†	42.8	-0.00001	mg/L	0.000135	-0.00001 mg/L	0.000135	>999.9%
Cu 327.393†	193.6	0.00118	mg/L	0.000679	0.00118 mg/L	0.000679	57.62%
Fe 239.562†	72.4	0.0426	mg/L	0.00177	0.0426 mg/L	0.00177	4.16%
Mg 279.077†	12486.0	14.4	mg/L	0.10	14.4 mg/L	0.10	0.70%
Mn 257.610†	8408.3	0.0221	mg/L	0.00009	0.0221 mg/L	0.00009	0.40%
Mo 202.031†	3.9	0.00119	mg/L	0.000644	0.00119 mg/L	0.000644	54.11%
Ni 231.604†	46.4	0.00120	mg/L	0.000583	0.00120 mg/L	0.000583	48.49%
Pb 220.353†	12.2	0.00062	mg/L	0.001778	0.00062 mg/L	0.001778	288.39%
Sb 206.836†	-2.6	-0.00279	mg/L	0.002005	-0.00279 mg/L	0.002005	71.87%
Se 196.026†	-7.1	-0.00251	mg/L	0.008003	-0.00251 mg/L	0.008003	318.33%
Si 251.611†	61259.6	2.94	mg/L	0.027	2.94 mg/L	0.027	0.93%
Sn 189.927†	-115.6	-0.0317	mg/L	0.00015	-0.0317 mg/L	0.00015	0.47%
Ti 334.940†	-2128.7	0.00024	mg/L	0.000289	0.00024 mg/L	0.000289	118.18%
Tl 190.801†	-9.9	-0.00882	mg/L	0.003372	-0.00882 mg/L	0.003372	38.22%
V 290.880†	846.7	0.00266	mg/L	0.001887	0.00266 mg/L	0.001887	70.91%
Zn 206.200†	136.1	0.00681	mg/L	0.000108	0.00681 mg/L	0.000108	1.58%
K 766.490†	4175.1	3.65	mg/L	0.084	3.65 mg/L	0.084	2.30%
Na 589.592†	43671.8	5.01	mg/L	0.042	5.01 mg/L	0.042	0.83%
Sr 407.771†	283900.8	0.334	mg/L	0.0103	0.334 mg/L	0.0103	3.09%
Li 670.784†	814.1	0.0159	mg/L	0.00031	0.0159 mg/L	0.00031	1.97%
P 214.914†	50.1	0.0752	mg/L	0.00550	0.0752 mg/L	0.00550	7.31%

Sequence No.: 56 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/5/2013 6:03:34 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1933390.2						11320.32	0.59%
YRADIAL	134917.4						1950.21	1.45%
Ga 417.206	697144.2						11571.75	1.66%
GaRADIAL	39294.0						462.61	1.18%
Ag 328.068†	67410.6	0.410	mg/L	0.0060	0.410	mg/L	0.0060	1.46%
QC value within limits for Ag 328.068 Recovery = 102.59%								
Al 396.153†	25153.8	10.4	mg/L	0.04	10.4	mg/L	0.04	0.35%
QC value within limits for Al 396.153 Recovery = 103.91%								
As 188.979†	403.7	0.403	mg/L	0.0052	0.403	mg/L	0.0052	1.30%
QC value within limits for As 188.979 Recovery = 100.69%								
Ba 233.527†	54625.3	1.07	mg/L	0.008	1.07	mg/L	0.008	0.76%
QC value within limits for Ba 233.527 Recovery = 106.64%								
Be 234.861†	21471.6	0.0506	mg/L	0.00069	0.0506	mg/L	0.00069	1.36%
QC value within limits for Be 234.861 Recovery = 101.13%								
B 249.677†	18133.5	0.496	mg/L	0.0060	0.496	mg/L	0.0060	1.21%
QC value within limits for B 249.677 Recovery = 99.27%								
Ca 227.546†	1262.1	10.5	mg/L	0.07	10.5	mg/L	0.07	0.66%
QC value within limits for Ca 227.546 Recovery = 104.94%								
Cd 228.802†	836.2	0.0476	mg/L	0.00119	0.0476	mg/L	0.00119	2.49%
QC value within limits for Cd 228.802 Recovery = 95.22%								
Co 228.616†	2935.3	0.211	mg/L	0.0014	0.211	mg/L	0.0014	0.67%
QC value within limits for Co 228.616 Recovery = 105.61%								
Cr 267.716†	33778.9	0.527	mg/L	0.0028	0.527	mg/L	0.0028	0.54%
QC value within limits for Cr 267.716 Recovery = 105.33%								

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Cu 327.393†            64627.7       0.512 mg/L        0.0054       0.512 mg/L        0.0054   1.05%
   QC value within limits for Cu 327.393  Recovery = 102.35%
Fe 239.562†             9554.7        4.15 mg/L         0.011        4.15 mg/L         0.011   0.27%
   QC value within limits for Fe 239.562  Recovery = 103.74%
Mg 279.077†             9141.3        10.6 mg/L          0.11        10.6 mg/L          0.11   1.09%
   QC value within limits for Mg 279.077  Recovery = 105.74%
Mn 257.610†           199465.1       0.532 mg/L        0.0041       0.532 mg/L        0.0041   0.78%
   QC value within limits for Mn 257.610  Recovery = 106.43%
Mo 202.031†            11530.6        1.05 mg/L         0.005        1.05 mg/L         0.005   0.47%
   QC value within limits for Mo 202.031  Recovery = 105.13%
Ni 231.604†            12079.6       0.531 mg/L        0.0043       0.531 mg/L        0.0043   0.81%
   QC value within limits for Ni 231.604  Recovery = 106.24%
Pb 220.353†             2061.3       0.534 mg/L        0.0040       0.534 mg/L        0.0040   0.75%
   QC value within limits for Pb 220.353  Recovery = 106.86%
Sb 206.836†             1464.3        1.20 mg/L         0.013        1.20 mg/L         0.013   1.07%
   QC value within limits for Sb 206.836  Recovery = 99.62%
Se 196.026†              197.2       0.405 mg/L        0.0098       0.405 mg/L        0.0098   2.42%
   QC value within limits for Se 196.026  Recovery = 101.13%
Si 251.611†           107803.4        5.16 mg/L         0.065        5.16 mg/L         0.065   1.26%
   QC value within limits for Si 251.611  Recovery = 103.26%
Sn 189.927†             3924.8        1.07 mg/L         0.010        1.07 mg/L         0.010   0.97%
   QC value within limits for Sn 189.927  Recovery = 107.09%
Ti 334.940†           564998.4        1.04 mg/L         0.003        1.04 mg/L         0.003   0.30%
   QC value within limits for Ti 334.940  Recovery = 103.89%
Tl 190.801†              591.1       0.543 mg/L        0.0085       0.543 mg/L        0.0085   1.56%
   QC value within limits for Tl 190.801  Recovery = 108.62%
V 290.880†            131769.6        1.08 mg/L         0.014        1.08 mg/L         0.014   1.26%
   QC value within limits for V 290.880  Recovery = 108.24%
Zn 206.200†            17453.3        1.07 mg/L         0.006        1.07 mg/L         0.006   0.60%
   QC value within limits for Zn 206.200  Recovery = 107.15%
K 766.490†             62686.6        54.2 mg/L          0.60        54.2 mg/L          0.60   1.11%
   QC value within limits for K 766.490  Recovery = 108.35%
Na 589.592†           463774.6        53.9 mg/L          1.57        53.9 mg/L          1.57   2.92%
   QC value within limits for Na 589.592  Recovery = 107.86%
Sr 407.771†           959205.9        1.14 mg/L         0.028        1.14 mg/L         0.028   2.45%
   QC value greater than the upper limit for Sr 407.771  Recovery = 113.73%
Li 670.784†            59427.2        1.04 mg/L         0.007        1.04 mg/L         0.007   0.67%
   QC value within limits for Li 670.784  Recovery = 104.21%
P 214.914†              6212.1        10.6 mg/L          0.13        10.6 mg/L          0.13   1.26%
   QC value within limits for P 214.914  Recovery = 105.81%
QC Failed.  Continue with analysis.

==========================================================================================
Sequence No.: 57                                    Autosampler Location: 8
Sample ID: CCB                                      Date Collected: 11/5/2013 6:05:40 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                  Back Pressure    Flow
All                     178.0 kPa        0.47 L/min

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Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1920056.6                                                     28702.00   1.49%
YRADIAL               128650.1                                                      1979.12   1.54%
Ga 417.206            670660.2                                                     14498.55   2.16%
GaRADIAL               37236.3                                                       253.40   0.68%
Ag 328.068†              133.2    -0.00008 mg/L      0.000470    -0.00008 mg/L      0.000470 606.96%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                6.4      0.0225 mg/L       0.00114      0.0225 mg/L       0.00114   5.07%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                1.3     0.00312 mg/L      0.002437     0.00312 mg/L      0.002437  77.99%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -30.9    -0.00208 mg/L      0.000052    -0.00208 mg/L      0.000052   2.50%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               87.3     0.00016 mg/L      0.000046     0.00016 mg/L      0.000046  29.26%
   QC value within limits for Be 234.861  Recovery = Not calculated
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B 249.677†              -68.0     0.00489 mg/L      0.000974     0.00489 mg/L      0.000974  19.90%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†              16.3       0.141 mg/L        0.0964       0.141 mg/L        0.0964  68.25%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -7.6    -0.00038 mg/L      0.000282    -0.00038 mg/L      0.000282  75.05%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†             -16.8    -0.00155 mg/L      0.000466    -0.00155 mg/L      0.000466  30.00%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               2.6    -0.00063 mg/L      0.000096    -0.00063 mg/L      0.000096  15.18%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†             -26.6    -0.00056 mg/L      0.000544    -0.00056 mg/L      0.000544  97.40%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               1.4      0.0121 mg/L       0.00069      0.0121 mg/L       0.00069   5.67%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              18.7      0.0409 mg/L       0.00295      0.0409 mg/L       0.00295   7.22%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              39.6    -0.00020 mg/L      0.000027    -0.00020 mg/L      0.000027  13.45%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               1.4     0.00095 mg/L      0.000450     0.00095 mg/L      0.000450  47.20%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               3.0    -0.00071 mg/L      0.000075    -0.00071 mg/L      0.000075  10.46%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†              11.6     0.00046 mg/L      0.002492     0.00046 mg/L      0.002492 542.60%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               0.2    -0.00050 mg/L      0.002486    -0.00050 mg/L      0.002486 492.57%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†              -2.1     0.00748 mg/L      0.005659     0.00748 mg/L      0.005659  75.71%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              -8.4     -0.0100 mg/L       0.00272     -0.0100 mg/L       0.00272  27.10%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               4.0     0.00090 mg/L      0.000896     0.00090 mg/L      0.000896  99.02%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             -29.0     0.00094 mg/L      0.000212     0.00094 mg/L      0.000212  22.60%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†              -0.7    -0.00055 mg/L      0.001926    -0.00055 mg/L      0.001926 348.95%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              650.0     0.00141 mg/L      0.000160     0.00141 mg/L      0.000160  11.34%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               5.9    -0.00116 mg/L      0.000113    -0.00116 mg/L      0.000113   9.71%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               43.2    -0.00546 mg/L      0.030960    -0.00546 mg/L      0.030960 566.82%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†             193.3     0.00743 mg/L      0.010246     0.00743 mg/L      0.010246 137.99%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†             -87.7    -0.00310 mg/L      0.000137    -0.00310 mg/L      0.000137   4.42%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†             -28.2     0.00116 mg/L      0.000385     0.00116 mg/L      0.000385  33.26%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†               34.2      0.0481 mg/L       0.00336      0.0481 mg/L       0.00336   6.99%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 58                                    Autosampler Location: 174
Sample ID: PBW 6A WG451321-03                       Date Collected: 11/5/2013 6:08:42 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: PBW 6A WG451321-03
Analyte                 Back Pressure     Flow
All                     179.0 kPa         0.47 L/min

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Mean Data: PBW 6A WG451321-03
                   Mean Corrected          Calib.                          Sample
Analyte               Intensity      Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1990943.8                                                     19843.36   1.00%
YRADIAL               138111.8                                                      6757.89   4.89%
Ga 417.206            701790.0                                                      5561.02   0.79%
GaRADIAL               39959.5                                                      2178.21   5.45%
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Ag 328.068†	39.0	-0.00065	mg/L	0.000531	-0.00065	mg/L	0.000531	81.80%
Al 396.153†	9.1	0.0237	mg/L	0.00109	0.0237	mg/L	0.00109	4.61%
As 188.979†	-5.3	-0.00351	mg/L	0.003071	-0.00351	mg/L	0.003071	87.52%
Ba 233.527†	-27.9	-0.00202	mg/L	0.000071	-0.00202	mg/L	0.000071	3.53%
Be 234.861†	116.9	0.00023	mg/L	0.000060	0.00023	mg/L	0.000060	26.40%
B 249.677†	-226.0	0.00059	mg/L	0.000147	0.00059	mg/L	0.000147	24.79%
Ca 227.546†	24.6	0.208	mg/L	0.0736	0.208	mg/L	0.0736	35.44%
Cd 228.802†	-11.0	-0.00053	mg/L	0.000099	-0.00053	mg/L	0.000099	18.53%
Co 228.616†	-8.9	-0.00098	mg/L	0.000180	-0.00098	mg/L	0.000180	18.38%
Cr 267.716†	-8.6	-0.00081	mg/L	0.000131	-0.00081	mg/L	0.000131	16.24%
Cu 327.393†	6.9	-0.00029	mg/L	0.000530	-0.00029	mg/L	0.000530	180.02%
Fe 239.562†	2.1	0.0124	mg/L	0.00266	0.0124	mg/L	0.00266	21.44%
Mg 279.077†	11.0	0.0321	mg/L	0.00865	0.0321	mg/L	0.00865	26.97%
Mn 257.610†	184.6	0.00018	mg/L	0.000020	0.00018	mg/L	0.000020	10.90%
Mo 202.031†	-10.1	-0.00009	mg/L	0.000199	-0.00009	mg/L	0.000199	219.65%
Ni 231.604†	12.0	-0.00032	mg/L	0.000362	-0.00032	mg/L	0.000362	113.32%
Pb 220.353†	9.2	-0.00016	mg/L	0.000785	-0.00016	mg/L	0.000785	497.93%
Sb 206.836†	4.2	0.00274	mg/L	0.002201	0.00274	mg/L	0.002201	80.19%
Se 196.026†	-5.4	0.00088	mg/L	0.004135	0.00088	mg/L	0.004135	468.80%
Si 251.611†	-15.5	-0.0104	mg/L	0.00203	-0.0104	mg/L	0.00203	19.57%
Sn 189.927†	-3.7	-0.00119	mg/L	0.002375	-0.00119	mg/L	0.002375	199.39%
Ti 334.940†	-51.5	0.00090	mg/L	0.000193	0.00090	mg/L	0.000193	21.30%
Tl 190.801†	0.0	0.00012	mg/L	0.001963	0.00012	mg/L	0.001963	>999.9%
V 290.880†	469.0	-0.00008	mg/L	0.002542	-0.00008	mg/L	0.002542	>999.9%
Zn 206.200†	34.8	0.00061	mg/L	0.000364	0.00061	mg/L	0.000364	59.70%
K 766.490†	-44.9	-0.0835	mg/L	0.05873	-0.0835	mg/L	0.05873	70.30%
Na 589.592†	145.5	0.00194	mg/L	0.008760	0.00194	mg/L	0.008760	452.37%
Sr 407.771†	-136.7	-0.00316	mg/L	0.000048	-0.00316	mg/L	0.000048	1.53%
Li 670.784†	-21.2	0.00128	mg/L	0.000320	0.00128	mg/L	0.000320	24.98%
P 214.914†	36.4	0.0520	mg/L	0.00698	0.0520	mg/L	0.00698	13.43%

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Sequence No.: 59 **Autosampler Location: 175**
Sample ID: LCSW 6A WG451321-04 **Date Collected: 11/5/2013 6:11:44 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: LCSW 6A WG451321-04

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: LCSW 6A WG451321-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1950221.2						36185.12	1.86%
YRADIAL	132195.7						1000.18	0.76%
Ga 417.206	704775.8						10316.99	1.46%
GaRADIAL	38682.6						179.14	0.46%
Ag 328.068†	32619.9	0.198	mg/L	0.0006	0.198	mg/L	0.0006	0.31%
Al 396.153†	12180.4	5.04	mg/L	0.039	5.04	mg/L	0.039	0.78%
As 188.979†	194.3	0.195	mg/L	0.0029	0.195	mg/L	0.0029	1.51%
Ba 233.527†	26128.0	0.509	mg/L	0.0059	0.509	mg/L	0.0059	1.16%
Be 234.861†	10239.7	0.0241	mg/L	0.00013	0.0241	mg/L	0.00013	0.54%
B 249.677†	35331.1	0.967	mg/L	0.0013	0.967	mg/L	0.0013	0.14%
Ca 227.546†	602.6	5.02	mg/L	0.036	5.02	mg/L	0.036	0.71%
Cd 228.802†	391.8	0.0223	mg/L	0.00029	0.0223	mg/L	0.00029	1.30%
Co 228.616†	1415.5	0.102	mg/L	0.0019	0.102	mg/L	0.0019	1.92%
Cr 267.716†	16167.5	0.252	mg/L	0.0015	0.252	mg/L	0.0015	0.60%
Cu 327.393†	30801.1	0.244	mg/L	0.0015	0.244	mg/L	0.0015	0.61%
Fe 239.562†	4685.9	2.04	mg/L	0.014	2.04	mg/L	0.014	0.69%
Mg 279.077†	4500.8	5.22	mg/L	0.027	5.22	mg/L	0.027	0.52%
Mn 257.610†	97102.3	0.259	mg/L	0.0034	0.259	mg/L	0.0034	1.30%
Mo 202.031†	5724.6	0.522	mg/L	0.0095	0.522	mg/L	0.0095	1.82%
Ni 231.604†	5843.2	0.257	mg/L	0.0010	0.257	mg/L	0.0010	0.38%
Pb 220.353†	995.0	0.257	mg/L	0.0068	0.257	mg/L	0.0068	2.66%
Sb 206.836†	706.7	0.577	mg/L	0.0035	0.577	mg/L	0.0035	0.60%
Se 196.026†	91.0	0.193	mg/L	0.0042	0.193	mg/L	0.0042	2.19%
Si 251.611†	51462.2	2.46	mg/L	0.019	2.46	mg/L	0.019	0.78%
Sn 189.927†	-30.8	-0.00858	mg/L	0.002121	-0.00858	mg/L	0.002121	24.71%

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Ti 334.940†	275253.5	0.507 mg/L	0.0050	0.507 mg/L	0.0050	0.98%
Tl 190.801†	284.5	0.261 mg/L	0.0035	0.261 mg/L	0.0035	1.35%
V 290.880†	62708.5	0.513 mg/L	0.0108	0.513 mg/L	0.0108	2.11%
Zn 206.200†	8346.2	0.512 mg/L	0.0014	0.512 mg/L	0.0014	0.27%
K 766.490†	30306.3	26.5 mg/L	0.16	26.5 mg/L	0.16	0.60%
Na 589.592†	220361.0	25.5 mg/L	0.12	25.5 mg/L	0.12	0.45%
Sr 407.771†	451517.4	0.534 mg/L	0.0069	0.534 mg/L	0.0069	1.29%
Li 670.784†	28899.8	0.508 mg/L	0.0023	0.508 mg/L	0.0023	0.45%
P 214.914†	-43.6	-0.0844 mg/L	0.04056	-0.0844 mg/L	0.04056	48.06%

Sequence No.: 60 **Autosampler Location: 176**
Sample ID: L1311001701 WG451321-01 **Date Collected: 11/5/2013 6:13:49 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311001701 WG451321-01

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311001701 WG451321-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1918823.6						19731.79	1.03%
YRADIAL	133580.3						4535.24	3.40%
Ga 417.206	710342.8						9252.12	1.30%
GaRADIAL	40222.4						784.96	1.95%
Ag 328.068†	178.3	0.00019	mg/L	0.000437	0.00019	mg/L	0.000437	228.22%
Al 396.153†	50.3	0.0406	mg/L	0.00255	0.0406	mg/L	0.00255	6.27%
As 188.979†	-9.2	-0.00666	mg/L	0.004930	-0.00666	mg/L	0.004930	74.00%
Ba 233.527†	1822.6	0.0341	mg/L	0.00026	0.0341	mg/L	0.00026	0.76%
Be 234.861†	159.6	0.00033	mg/L	0.000025	0.00033	mg/L	0.000025	7.58%
B 249.677†	522.7	0.0209	mg/L	0.00191	0.0209	mg/L	0.00191	9.15%
Ca 227.546†	4566.0	36.2	mg/L	0.31	36.2	mg/L	0.31	0.86%
Cd 228.802†	-9.6	-0.00044	mg/L	0.000519	-0.00044	mg/L	0.000519	118.93%
Co 228.616†	-6.7	-0.00082	mg/L	0.000313	-0.00082	mg/L	0.000313	38.08%
Cr 267.716†	56.2	0.00019	mg/L	0.000188	0.00019	mg/L	0.000188	99.55%
Cu 327.393†	95.2	0.00041	mg/L	0.000504	0.00041	mg/L	0.000504	122.96%
Fe 239.562†	442.2	0.203	mg/L	0.0053	0.203	mg/L	0.0053	2.63%
Mg 279.077†	16785.4	19.4	mg/L	0.41	19.4	mg/L	0.41	2.11%
Mn 257.610†	151889.6	0.405	mg/L	0.0028	0.405	mg/L	0.0028	0.69%
Mo 202.031†	17.2	0.00248	mg/L	0.000178	0.00248	mg/L	0.000178	7.18%
Ni 231.604†	5.1	-0.00062	mg/L	0.000414	-0.00062	mg/L	0.000414	66.99%
Pb 220.353†	17.5	0.00175	mg/L	0.000627	0.00175	mg/L	0.000627	35.94%
Sb 206.836†	-1.3	-0.00175	mg/L	0.001692	-0.00175	mg/L	0.001692	96.77%
Se 196.026†	-6.6	-0.00143	mg/L	0.001309	-0.00143	mg/L	0.001309	91.71%
Si 251.611†	55540.8	2.66	mg/L	0.014	2.66	mg/L	0.014	0.52%
Sn 189.927†	-152.4	-0.0418	mg/L	0.00147	-0.0418	mg/L	0.00147	3.53%
Ti 334.940†	-3488.2	-0.00001	mg/L	0.000107	-0.00001	mg/L	0.000107	>999.9%
Tl 190.801†	-10.0	-0.00927	mg/L	0.001977	-0.00927	mg/L	0.001977	21.33%
V 290.880†	1047.2	0.00417	mg/L	0.001308	0.00417	mg/L	0.001308	31.38%
Zn 206.200†	61.2	0.00224	mg/L	0.000181	0.00224	mg/L	0.000181	8.09%
K 766.490†	3541.3	3.06	mg/L	0.117	3.06	mg/L	0.117	3.83%
Na 589.592†	299120.1	34.6	mg/L	0.44	34.6	mg/L	0.44	1.27%
Sr 407.771†	198264.8	0.232	mg/L	0.0095	0.232	mg/L	0.0095	4.09%
Li 670.784†	198.2	0.00512	mg/L	0.001433	0.00512	mg/L	0.001433	27.99%
P 214.914†	44.1	0.0650	mg/L	0.01003	0.0650	mg/L	0.01003	15.42%

Sequence No.: 61 **Autosampler Location: 177**
Sample ID: L1311001701DU WG451321-05 **Date Collected: 11/5/2013 6:16:51 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311001701DU WG451321-05

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Approved: November 06, 2013

Kim H. Rhoden

Mean Data: L1311001701DU WG451321-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1915366.4						30600.70	1.60%
YRADIAL	136563.7						1355.65	0.99%
Ga 417.206	704840.1						13168.52	1.87%
GaRADIAL	40273.0						198.95	0.49%
Ag 328.068†	166.0	0.00010	mg/L	0.000473	0.00010	mg/L	0.000473	463.16%
Al 396.153†	13.3	0.0253	mg/L	0.00154	0.0253	mg/L	0.00154	6.11%
As 188.979†	-7.1	-0.00451	mg/L	0.004292	-0.00451	mg/L	0.004292	95.21%
Ba 233.527†	1797.3	0.0336	mg/L	0.00041	0.0336	mg/L	0.00041	1.23%
Be 234.861†	147.4	0.00031	mg/L	0.000076	0.00031	mg/L	0.000076	24.94%
B 249.677†	274.0	0.0141	mg/L	0.00072	0.0141	mg/L	0.00072	5.07%
Ca 227.546†	4551.6	36.1	mg/L	0.61	36.1	mg/L	0.61	1.70%
Cd 228.802†	-9.4	-0.00043	mg/L	0.000202	-0.00043	mg/L	0.000202	46.61%
Co 228.616†	-7.0	-0.00084	mg/L	0.000389	-0.00084	mg/L	0.000389	46.19%
Cr 267.716†	47.5	0.00006	mg/L	0.000145	0.00006	mg/L	0.000145	251.12%
Cu 327.393†	-57.5	-0.00080	mg/L	0.000843	-0.00080	mg/L	0.000843	105.52%
Fe 239.562†	344.5	0.160	mg/L	0.0007	0.160	mg/L	0.0007	0.45%
Mg 279.077†	16430.3	19.0	mg/L	0.08	19.0	mg/L	0.08	0.43%
Mn 257.610†	149587.1	0.398	mg/L	0.0043	0.398	mg/L	0.0043	1.07%
Mo 202.031†	11.8	0.00199	mg/L	0.000503	0.00199	mg/L	0.000503	25.26%
Ni 231.604†	11.7	-0.00033	mg/L	0.000469	-0.00033	mg/L	0.000469	142.92%
Pb 220.353†	23.6	0.00333	mg/L	0.001683	0.00333	mg/L	0.001683	50.63%
Sb 206.836†	-3.9	-0.00390	mg/L	0.003057	-0.00390	mg/L	0.003057	78.33%
Se 196.026†	-5.3	0.00105	mg/L	0.008522	0.00105	mg/L	0.008522	811.36%
Si 251.611†	55486.9	2.66	mg/L	0.037	2.66	mg/L	0.037	1.39%
Sn 189.927†	-152.5	-0.0418	mg/L	0.00126	-0.0418	mg/L	0.00126	3.02%
Ti 334.940†	-3601.0	-0.00023	mg/L	0.000411	-0.00023	mg/L	0.000411	178.79%
Tl 190.801†	-13.7	-0.0126	mg/L	0.00497	-0.0126	mg/L	0.00497	39.38%
V 290.880†	1197.6	0.00542	mg/L	0.001336	0.00542	mg/L	0.001336	24.62%
Zn 206.200†	38.1	0.00082	mg/L	0.000584	0.00082	mg/L	0.000584	71.57%
K 766.490†	3411.2	2.94	mg/L	0.068	2.94	mg/L	0.068	2.33%
Na 589.592†	296194.5	34.3	mg/L	0.77	34.3	mg/L	0.77	2.25%
Sr 407.771†	192926.8	0.225	mg/L	0.0106	0.225	mg/L	0.0106	4.69%
Li 670.784†	132.6	0.00397	mg/L	0.001428	0.00397	mg/L	0.001428	35.95%
P 214.914†	49.1	0.0736	mg/L	0.00948	0.0736	mg/L	0.00948	12.87%

Sequence No.: 62 **Autosampler Location: 178**
Sample ID: L1311001701MS WG451321-06 **Date Collected: 11/5/2013 6:19:56 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311001701MS WG451321-06

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311001701MS WG451321-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1912050.3						9848.93	0.52%
YRADIAL	134894.8						1410.25	1.05%
Ga 417.206	700122.3						11144.40	1.59%
GaRADIAL	38776.2						166.66	0.43%
Ag 328.068†	33280.9	0.202	mg/L	0.0034	0.202	mg/L	0.0034	1.66%
Al 396.153†	12882.2	5.33	mg/L	0.035	5.33	mg/L	0.035	0.65%
As 188.979†	192.2	0.193	mg/L	0.0051	0.193	mg/L	0.0051	2.66%
Ba 233.527†	28424.1	0.554	mg/L	0.0171	0.554	mg/L	0.0171	3.09%
Be 234.861†	10410.4	0.0245	mg/L	0.00044	0.0245	mg/L	0.00044	1.79%
B 249.677†	36659.6	1.00	mg/L	0.028	1.00	mg/L	0.028	2.75%
Ca 227.546†	5198.5	41.4	mg/L	0.65	41.4	mg/L	0.65	1.58%
Cd 228.802†	401.2	0.0229	mg/L	0.00067	0.0229	mg/L	0.00067	2.94%
Co 228.616†	1434.3	0.103	mg/L	0.0005	0.103	mg/L	0.0005	0.45%
Cr 267.716†	16613.3	0.259	mg/L	0.0069	0.259	mg/L	0.0069	2.68%
Cu 327.393†	30905.4	0.245	mg/L	0.0043	0.245	mg/L	0.0043	1.76%
Fe 239.562†	5144.6	2.24	mg/L	0.032	2.24	mg/L	0.032	1.42%

Approved: November 06, 2013

Mg 279.077†	20742.2	23.9	mg/L	0.44	23.9	mg/L	0.44	1.83%
Mn 257.610†	245600.2	0.655	mg/L	0.0015	0.655	mg/L	0.0015	0.23%
Mo 202.031†	5991.6	0.547	mg/L	0.0015	0.547	mg/L	0.0015	0.27%
Ni 231.604†	5837.2	0.256	mg/L	0.0078	0.256	mg/L	0.0078	3.05%
Pb 220.353†	1022.5	0.264	mg/L	0.0018	0.264	mg/L	0.0018	0.68%
Sb 206.836†	733.4	0.598	mg/L	0.0132	0.598	mg/L	0.0132	2.21%
Se 196.026†	97.3	0.205	mg/L	0.0059	0.205	mg/L	0.0059	2.87%
Si 251.611†	107451.5	5.15	mg/L	0.097	5.15	mg/L	0.097	1.89%
Sn 189.927†	-153.8	-0.0422	mg/L	0.00140	-0.0422	mg/L	0.00140	3.31%
Ti 334.940†	280243.1	0.521	mg/L	0.0016	0.521	mg/L	0.0016	0.31%
Tl 190.801†	281.3	0.258	mg/L	0.0069	0.258	mg/L	0.0069	2.67%
V 290.880†	65397.1	0.535	mg/L	0.0187	0.535	mg/L	0.0187	3.50%
Zn 206.200†	8406.1	0.515	mg/L	0.0141	0.515	mg/L	0.0141	2.74%
K 766.490†	35053.6	30.5	mg/L	0.24	30.5	mg/L	0.24	0.78%
Na 589.592†	541554.6	63.1	mg/L	0.27	63.1	mg/L	0.27	0.42%
Sr 407.771†	675586.1	0.799	mg/L	0.0014	0.799	mg/L	0.0014	0.18%
Li 670.784†	30269.2	0.532	mg/L	0.0026	0.532	mg/L	0.0026	0.49%
P 214.914†	-34.3	-0.0685	mg/L	0.03672	-0.0685	mg/L	0.03672	53.57%

Sequence No.: 63 **Autosampler Location: 179**
Sample ID: L1311001702 **Date Collected: 11/5/2013 6:22:01 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311001702

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311001702

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1925345.0						33035.55	1.72%
YRADIAL	136265.3						4805.23	3.53%
Ga 417.206	710673.8						16060.99	2.26%
GaRADIAL	40111.0						1117.45	2.79%
Ag 328.068†	224.6	0.00046	mg/L	0.000424	0.00046	mg/L	0.000424	92.54%
Al 396.153†	24.9	0.0301	mg/L	0.00397	0.0301	mg/L	0.00397	13.21%
As 188.979†	-8.9	-0.00631	mg/L	0.004363	-0.00631	mg/L	0.004363	69.12%
Ba 233.527†	1801.8	0.0337	mg/L	0.00044	0.0337	mg/L	0.00044	1.32%
Be 234.861†	159.4	0.00033	mg/L	0.000103	0.00033	mg/L	0.000103	30.89%
B 249.677†	601.8	0.0230	mg/L	0.00169	0.0230	mg/L	0.00169	7.33%
Ca 227.546†	4562.5	36.1	mg/L	0.89	36.1	mg/L	0.89	2.46%
Cd 228.802†	-6.1	-0.00023	mg/L	0.000170	-0.00023	mg/L	0.000170	73.53%
Co 228.616†	-2.4	-0.00051	mg/L	0.000227	-0.00051	mg/L	0.000227	44.14%
Cr 267.716†	41.3	-0.00004	mg/L	0.000325	-0.00004	mg/L	0.000325	796.28%
Cu 327.393†	75.3	0.00025	mg/L	0.000166	0.00025	mg/L	0.000166	66.25%
Fe 239.562†	359.9	0.167	mg/L	0.0060	0.167	mg/L	0.0060	3.58%
Mg 279.077†	16316.3	18.8	mg/L	0.26	18.8	mg/L	0.26	1.39%
Mn 257.610†	150176.5	0.400	mg/L	0.0012	0.400	mg/L	0.0012	0.30%
Mo 202.031†	13.5	0.00214	mg/L	0.000495	0.00214	mg/L	0.000495	23.09%
Ni 231.604†	10.9	-0.00036	mg/L	0.000640	-0.00036	mg/L	0.000640	176.74%
Pb 220.353†	18.1	0.00190	mg/L	0.000641	0.00190	mg/L	0.000641	33.64%
Sb 206.836†	-0.8	-0.00137	mg/L	0.001953	-0.00137	mg/L	0.001953	142.70%
Se 196.026†	-4.5	0.00263	mg/L	0.008977	0.00263	mg/L	0.008977	340.72%
Si 251.611†	55163.0	2.64	mg/L	0.113	2.64	mg/L	0.113	4.29%
Sn 189.927†	-153.0	-0.0419	mg/L	0.00118	-0.0419	mg/L	0.00118	2.80%
Ti 334.940†	-3458.9	0.00004	mg/L	0.000298	0.00004	mg/L	0.000298	680.33%
Tl 190.801†	-15.2	-0.0139	mg/L	0.00853	-0.0139	mg/L	0.00853	61.44%
V 290.880†	1075.1	0.00442	mg/L	0.002752	0.00442	mg/L	0.002752	62.31%
Zn 206.200†	42.0	0.00106	mg/L	0.000416	0.00106	mg/L	0.000416	39.31%
K 766.490†	3360.5	2.90	mg/L	0.081	2.90	mg/L	0.081	2.81%
Na 589.592†	296211.7	34.3	mg/L	0.85	34.3	mg/L	0.85	2.47%
Sr 407.771†	190097.3	0.222	mg/L	0.0083	0.222	mg/L	0.0083	3.76%
Li 670.784†	67.9	0.00284	mg/L	0.000613	0.00284	mg/L	0.000613	21.56%
P 214.914†	41.8	0.0611	mg/L	0.00784	0.0611	mg/L	0.00784	12.82%

Sequence No.: 64 **Autosampler Location: 180**

Approved: November 06, 2013

Sample ID: L1311001901
Analyst: KHR
Initial Sample Wt:
Dilution:

Date Collected: 11/5/2013 6:25:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311001901

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311001901

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1941357.4						5138.20	0.26%
YRADIAL	131438.9						2540.66	1.93%
Ga 417.206	699724.6						3085.16	0.44%
GaRADIAL	39188.8						234.98	0.60%
Ag 328.068†	162.1	0.00015	mg/L	0.000384	0.00015	mg/L	0.000384	249.29%
Al 396.153†	78.0	0.0522	mg/L	0.00300	0.0522	mg/L	0.00300	5.74%
As 188.979†	-3.9	-0.00182	mg/L	0.001825	-0.00182	mg/L	0.001825	100.37%
Ba 233.527†	1390.8	0.0257	mg/L	0.00027	0.0257	mg/L	0.00027	1.04%
Be 234.861†	150.4	0.00027	mg/L	0.000051	0.00027	mg/L	0.000051	18.74%
B 249.677†	346.3	0.0161	mg/L	0.00096	0.0161	mg/L	0.00096	5.96%
Ca 227.546†	1569.9	12.4	mg/L	0.18	12.4	mg/L	0.18	1.44%
Cd 228.802†	-12.6	-0.00064	mg/L	0.000126	-0.00064	mg/L	0.000126	19.63%
Co 228.616†	-10.8	-0.00113	mg/L	0.000306	-0.00113	mg/L	0.000306	27.06%
Cr 267.716†	59.1	0.00024	mg/L	0.000134	0.00024	mg/L	0.000134	56.81%
Cu 327.393†	126.1	0.00066	mg/L	0.000404	0.00066	mg/L	0.000404	61.36%
Fe 239.562†	416.2	0.192	mg/L	0.0040	0.192	mg/L	0.0040	2.11%
Mg 279.077†	8134.5	9.40	mg/L	0.299	9.40	mg/L	0.299	3.19%
Mn 257.610†	32060.6	0.0852	mg/L	0.00041	0.0852	mg/L	0.00041	0.48%
Mo 202.031†	1.8	0.00101	mg/L	0.000344	0.00101	mg/L	0.000344	34.04%
Ni 231.604†	15.7	-0.00015	mg/L	0.000542	-0.00015	mg/L	0.000542	350.88%
Pb 220.353†	13.1	0.00081	mg/L	0.000583	0.00081	mg/L	0.000583	72.37%
Sb 206.836†	-1.7	-0.00211	mg/L	0.000552	-0.00211	mg/L	0.000552	26.15%
Se 196.026†	-6.0	-0.00027	mg/L	0.005813	-0.00027	mg/L	0.005813	>999.9%
Si 251.611†	61247.2	2.94	mg/L	0.012	2.94	mg/L	0.012	0.42%
Sn 189.927†	-77.3	-0.0213	mg/L	0.00094	-0.0213	mg/L	0.00094	4.42%
Ti 334.940†	-672.6	0.00160	mg/L	0.000884	0.00160	mg/L	0.000884	55.22%
Tl 190.801†	-6.3	-0.00557	mg/L	0.002715	-0.00557	mg/L	0.002715	48.73%
V 290.880†	902.0	0.00323	mg/L	0.001939	0.00323	mg/L	0.001939	60.02%
Zn 206.200†	128.1	0.00633	mg/L	0.000179	0.00633	mg/L	0.000179	2.82%
K 766.490†	3404.5	2.97	mg/L	0.105	2.97	mg/L	0.105	3.54%
Na 589.592†	29668.8	3.40	mg/L	0.005	3.40	mg/L	0.005	0.16%
Sr 407.771†	85607.7	0.0984	mg/L	0.00411	0.0984	mg/L	0.00411	4.17%
Li 670.784†	32.0	0.00221	mg/L	0.000334	0.00221	mg/L	0.000334	15.09%
P 214.914†	47.7	0.0711	mg/L	0.01444	0.0711	mg/L	0.01444	20.30%

Sequence No.: 65
Sample ID: L1311001902
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 181
Date Collected: 11/5/2013 6:28:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311001902

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311001902

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1993887.4						24730.14	1.24%
YRADIAL	139113.5						6009.39	4.32%
Ga 417.206	753374.1						11380.86	1.51%
GaRADIAL	41267.7						836.38	2.03%
Ag 328.068†	245.3	0.00060	mg/L	0.000195	0.00060	mg/L	0.000195	32.71%
Al 396.153†	42.8	0.0375	mg/L	0.00360	0.0375	mg/L	0.00360	9.61%
As 188.979†	-8.6	-0.00581	mg/L	0.003129	-0.00581	mg/L	0.003129	53.82%

Approved: November 06, 2013

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Ba 233.527†	2331.7	0.0441	mg/L	0.00053	0.0441	mg/L	0.00053	1.21%
Be 234.861†	234.8	0.00048	mg/L	0.000034	0.00048	mg/L	0.000034	7.22%
B 249.677†	458.9	0.0192	mg/L	0.00077	0.0192	mg/L	0.00077	4.02%
Ca 227.546†	6016.2	47.7	mg/L	0.79	47.7	mg/L	0.79	1.65%
Cd 228.802†	-7.6	-0.00032	mg/L	0.000240	-0.00032	mg/L	0.000240	75.20%
Co 228.616†	-0.8	-0.00040	mg/L	0.000311	-0.00040	mg/L	0.000311	78.54%
Cr 267.716†	60.7	0.00026	mg/L	0.000034	0.00026	mg/L	0.000034	13.13%
Cu 327.393†	-78.3	-0.00097	mg/L	0.000719	-0.00097	mg/L	0.000719	74.40%
Fe 239.562†	374.0	0.173	mg/L	0.0065	0.173	mg/L	0.0065	3.74%
Mg 279.077†	33213.7	38.3	mg/L	0.49	38.3	mg/L	0.49	1.28%
Mn 257.610†	21827.0	0.0579	mg/L	0.00142	0.0579	mg/L	0.00142	2.46%
Mo 202.031†	16.9	0.00238	mg/L	0.000121	0.00238	mg/L	0.000121	5.08%
Ni 231.604†	15.0	-0.00018	mg/L	0.000682	-0.00018	mg/L	0.000682	376.80%
Pb 220.353†	21.0	0.00288	mg/L	0.002481	0.00288	mg/L	0.002481	86.21%
Sb 206.836†	-0.6	-0.00115	mg/L	0.002033	-0.00115	mg/L	0.002033	176.33%
Se 196.026†	-6.6	-0.00137	mg/L	0.004405	-0.00137	mg/L	0.004405	321.05%
Si 251.611†	53965.4	2.59	mg/L	0.074	2.59	mg/L	0.074	2.85%
Sn 189.927†	-174.8	-0.0479	mg/L	0.00103	-0.0479	mg/L	0.00103	2.15%
Ti 334.940†	-4491.4	-0.00012	mg/L	0.000368	-0.00012	mg/L	0.000368	297.07%
Tl 190.801†	-15.4	-0.0138	mg/L	0.00459	-0.0138	mg/L	0.00459	33.32%
V 290.880†	1019.5	0.00345	mg/L	0.000385	0.00345	mg/L	0.000385	11.15%
Zn 206.200†	35.2	0.00064	mg/L	0.000706	0.00064	mg/L	0.000706	109.68%
K 766.490†	5203.2	4.55	mg/L	0.051	4.55	mg/L	0.051	1.11%
Na 589.592†	60966.9	7.01	mg/L	0.069	7.01	mg/L	0.069	0.99%
Sr 407.771†	333705.7	0.392	mg/L	0.0129	0.392	mg/L	0.0129	3.28%
Li 670.784†	996.5	0.0191	mg/L	0.00059	0.0191	mg/L	0.00059	3.11%
P 214.914†	38.4	0.0554	mg/L	0.01211	0.0554	mg/L	0.01211	21.87%

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Sequence No.: 66
Sample ID: L1311001902PS WG451567-01
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 182
Date Collected: 11/5/2013 6:31:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311001902PS WG451567-01

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311001902PS WG451567-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1918892.8						26130.36	1.36%
YRADIAL	131903.9						1745.36	1.32%
Ga 417.206	700732.5						14072.37	2.01%
GaRADIAL	38724.7						525.31	1.36%
Ag 328.068†	33964.4	0.206	mg/L	0.0010	0.206	mg/L	0.0010	0.46%
Al 396.153†	12613.4	5.22	mg/L	0.031	5.22	mg/L	0.031	0.60%
As 188.979†	194.5	0.196	mg/L	0.0048	0.196	mg/L	0.0048	2.48%
Ba 233.527†	29262.2	0.571	mg/L	0.0091	0.571	mg/L	0.0091	1.59%
Be 234.861†	10657.0	0.0250	mg/L	0.00021	0.0250	mg/L	0.00021	0.82%
B 249.677†	38435.0	1.05	mg/L	0.008	1.05	mg/L	0.008	0.77%
Ca 227.546†	6199.7	49.4	mg/L	0.82	49.4	mg/L	0.82	1.67%
Cd 228.802†	397.5	0.0227	mg/L	0.00073	0.0227	mg/L	0.00073	3.21%
Co 228.616†	1408.8	0.101	mg/L	0.0014	0.101	mg/L	0.0014	1.40%
Cr 267.716†	16835.6	0.262	mg/L	0.0016	0.262	mg/L	0.0016	0.62%
Cu 327.393†	30928.6	0.245	mg/L	0.0006	0.245	mg/L	0.0006	0.25%
Fe 239.562†	5112.8	2.23	mg/L	0.059	2.23	mg/L	0.059	2.66%
Mg 279.077†	34157.0	39.4	mg/L	0.71	39.4	mg/L	0.71	1.79%
Mn 257.610†	121840.0	0.325	mg/L	0.0041	0.325	mg/L	0.0041	1.26%
Mo 202.031†	5923.9	0.541	mg/L	0.0053	0.541	mg/L	0.0053	0.99%
Ni 231.604†	5902.1	0.259	mg/L	0.0063	0.259	mg/L	0.0063	2.42%
Pb 220.353†	1018.1	0.263	mg/L	0.0022	0.263	mg/L	0.0022	0.85%
Sb 206.836†	728.1	0.594	mg/L	0.0098	0.594	mg/L	0.0098	1.65%
Se 196.026†	91.1	0.193	mg/L	0.0037	0.193	mg/L	0.0037	1.89%
Si 251.611†	104990.7	5.03	mg/L	0.026	5.03	mg/L	0.026	0.52%
Sn 189.927†	-165.4	-0.0453	mg/L	0.00363	-0.0453	mg/L	0.00363	8.02%
Ti 334.940†	276080.7	0.515	mg/L	0.0019	0.515	mg/L	0.0019	0.36%
Tl 190.801†	279.1	0.257	mg/L	0.0090	0.257	mg/L	0.0090	3.50%
V 290.880†	66790.3	0.546	mg/L	0.0061	0.546	mg/L	0.0061	1.12%

Approved: November 06, 2013

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Zn 206.200†	8441.1	0.518 mg/L	0.0064	0.518 mg/L	0.0064	1.23%
K 766.490†	35728.7	31.2 mg/L	0.31	31.2 mg/L	0.31	1.01%
Na 589.592†	281202.3	32.5 mg/L	0.94	32.5 mg/L	0.94	2.89%
Sr 407.771†	764861.2	0.905 mg/L	0.0073	0.905 mg/L	0.0073	0.81%
Li 670.784†	30652.5	0.538 mg/L	0.0015	0.538 mg/L	0.0015	0.28%
P 214.914†	-40.8	-0.0797 mg/L	0.02396	-0.0797 mg/L	0.02396	30.06%

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Sequence No.: 67 **Autosampler Location: 183**
Sample ID: L1311001902DL WG451567-02 **Date Collected: 11/5/2013 6:33:41 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311001902DL WG451567-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311001902DL WG451567-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1934989.0						24375.63	1.26%
YRADIAL	131235.6						1612.31	1.23%
Ga 417.206	695717.6						10034.23	1.44%
GaRADIAL	38436.8						479.93	1.25%
Ag 328.068†	97.0	-0.00030	mg/L	0.000204	-0.00030	mg/L	0.000204	68.94%
Al 396.153†	11.3	0.0245	mg/L	0.00237	0.0245	mg/L	0.00237	9.69%
As 188.979†	-4.8	-0.00281	mg/L	0.000654	-0.00281	mg/L	0.000654	23.25%
Ba 233.527†	446.6	0.00725	mg/L	0.000102	0.00725	mg/L	0.000102	1.40%
Be 234.861†	151.5	0.00030	mg/L	0.000063	0.00030	mg/L	0.000063	20.85%
B 249.677†	333.2	0.0158	mg/L	0.00198	0.0158	mg/L	0.00198	12.51%
Ca 227.546†	1215.7	9.64	mg/L	0.214	9.64	mg/L	0.214	2.22%
Cd 228.802†	-9.1	-0.00043	mg/L	0.000271	-0.00043	mg/L	0.000271	63.47%
Co 228.616†	-3.5	-0.00059	mg/L	0.000516	-0.00059	mg/L	0.000516	87.50%
Cr 267.716†	15.0	-0.00044	mg/L	0.000086	-0.00044	mg/L	0.000086	19.37%
Cu 327.393†	187.9	0.00114	mg/L	0.000461	0.00114	mg/L	0.000461	40.60%
Fe 239.562†	82.6	0.0471	mg/L	0.00142	0.0471	mg/L	0.00142	3.01%
Mg 279.077†	6954.2	8.04	mg/L	0.084	8.04	mg/L	0.084	1.05%
Mn 257.610†	4436.1	0.0115	mg/L	0.00014	0.0115	mg/L	0.00014	1.19%
Mo 202.031†	3.8	0.00118	mg/L	0.000492	0.00118	mg/L	0.000492	41.84%
Ni 231.604†	3.1	-0.00071	mg/L	0.000345	-0.00071	mg/L	0.000345	48.70%
Pb 220.353†	6.4	-0.00090	mg/L	0.000198	-0.00090	mg/L	0.000198	21.98%
Sb 206.836†	-0.4	-0.00099	mg/L	0.002010	-0.00099	mg/L	0.002010	204.07%
Se 196.026†	-7.8	-0.00385	mg/L	0.002650	-0.00385	mg/L	0.002650	68.88%
Si 251.611†	11397.7	0.538	mg/L	0.0148	0.538	mg/L	0.0148	2.75%
Sn 189.927†	-66.9	-0.0184	mg/L	0.00059	-0.0184	mg/L	0.00059	3.22%
Ti 334.940†	-991.0	0.00060	mg/L	0.000175	0.00060	mg/L	0.000175	29.35%
Tl 190.801†	-0.7	-0.00057	mg/L	0.002871	-0.00057	mg/L	0.002871	506.87%
V 290.880†	735.4	0.00191	mg/L	0.000680	0.00191	mg/L	0.000680	35.67%
Zn 206.200†	35.9	0.00068	mg/L	0.000592	0.00068	mg/L	0.000592	87.68%
K 766.490†	1035.4	0.872	mg/L	0.0171	0.872	mg/L	0.0171	1.96%
Na 589.592†	12619.2	1.44	mg/L	0.026	1.44	mg/L	0.026	1.82%
Sr 407.771†	66595.8	0.0759	mg/L	0.00230	0.0759	mg/L	0.00230	3.03%
Li 670.784†	199.0	0.00513	mg/L	0.000932	0.00513	mg/L	0.000932	18.15%
P 214.914†	35.8	0.0508	mg/L	0.00573	0.0508	mg/L	0.00573	11.27%

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Sequence No.: 68 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/5/2013 6:36:42 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Approved: November 06, 2013

Kim H. Rhoden

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1930991.5						5706.13	0.30%
YRADIAL	135125.3						4659.42	3.45%
Ga 417.206	700900.1						7040.60	1.00%
GaRADIAL	39438.6						1170.85	2.97%
Ag 328.068†	65931.6	0.401	mg/L	0.0021	0.401	mg/L	0.0021	0.52%
QC value within limits for Ag 328.068 Recovery = 100.34%								
Al 396.153†	24458.1	10.1	mg/L	0.10	10.1	mg/L	0.10	1.01%
QC value within limits for Al 396.153 Recovery = 101.03%								
As 188.979†	394.4	0.393	mg/L	0.0098	0.393	mg/L	0.0098	2.49%
QC value within limits for As 188.979 Recovery = 98.36%								
Ba 233.527†	53873.5	1.05	mg/L	0.015	1.05	mg/L	0.015	1.44%
QC value within limits for Ba 233.527 Recovery = 105.17%								
Be 234.861†	20963.4	0.0494	mg/L	0.00025	0.0494	mg/L	0.00025	0.50%
QC value within limits for Be 234.861 Recovery = 98.73%								
B 249.677†	18088.2	0.495	mg/L	0.0084	0.495	mg/L	0.0084	1.69%
QC value within limits for B 249.677 Recovery = 99.04%								
Ca 227.546†	1231.1	10.2	mg/L	0.08	10.2	mg/L	0.08	0.80%
QC value within limits for Ca 227.546 Recovery = 102.41%								
Cd 228.802†	815.3	0.0464	mg/L	0.00024	0.0464	mg/L	0.00024	0.52%
QC value within limits for Cd 228.802 Recovery = 92.84%								
Co 228.616†	2870.0	0.207	mg/L	0.0041	0.207	mg/L	0.0041	2.00%
QC value within limits for Co 228.616 Recovery = 103.27%								
Cr 267.716†	33063.3	0.515	mg/L	0.0056	0.515	mg/L	0.0056	1.08%
QC value within limits for Cr 267.716 Recovery = 103.09%								
Cu 327.393†	63134.9	0.500	mg/L	0.0027	0.500	mg/L	0.0027	0.54%
QC value within limits for Cu 327.393 Recovery = 99.98%								
Fe 239.562†	9333.5	4.05	mg/L	0.006	4.05	mg/L	0.006	0.15%
QC value within limits for Fe 239.562 Recovery = 101.34%								
Mg 279.077†	8860.9	10.3	mg/L	0.14	10.3	mg/L	0.14	1.32%
QC value within limits for Mg 279.077 Recovery = 102.50%								
Mn 257.610†	193980.8	0.518	mg/L	0.0087	0.518	mg/L	0.0087	1.68%
QC value within limits for Mn 257.610 Recovery = 103.50%								
Mo 202.031†	11298.4	1.03	mg/L	0.009	1.03	mg/L	0.009	0.92%
QC value within limits for Mo 202.031 Recovery = 103.02%								
Ni 231.604†	11916.6	0.524	mg/L	0.0060	0.524	mg/L	0.0060	1.14%
QC value within limits for Ni 231.604 Recovery = 104.80%								
Pb 220.353†	2021.4	0.524	mg/L	0.0094	0.524	mg/L	0.0094	1.80%
QC value within limits for Pb 220.353 Recovery = 104.78%								
Sb 206.836†	1432.8	1.17	mg/L	0.003	1.17	mg/L	0.003	0.27%
QC value within limits for Sb 206.836 Recovery = 97.48%								
Se 196.026†	192.7	0.395	mg/L	0.0091	0.395	mg/L	0.0091	2.31%
QC value within limits for Se 196.026 Recovery = 98.87%								
Si 251.611†	106108.5	5.08	mg/L	0.027	5.08	mg/L	0.027	0.54%
QC value within limits for Si 251.611 Recovery = 101.63%								
Sn 189.927†	3840.8	1.05	mg/L	0.020	1.05	mg/L	0.020	1.95%
QC value within limits for Sn 189.927 Recovery = 104.80%								
Ti 334.940†	549886.0	1.01	mg/L	0.015	1.01	mg/L	0.015	1.45%
QC value within limits for Ti 334.940 Recovery = 101.12%								
Tl 190.801†	588.3	0.540	mg/L	0.0112	0.540	mg/L	0.0112	2.07%
QC value within limits for Tl 190.801 Recovery = 108.06%								
V 290.880†	129578.5	1.06	mg/L	0.019	1.06	mg/L	0.019	1.81%
QC value within limits for V 290.880 Recovery = 106.44%								
Zn 206.200†	17186.8	1.06	mg/L	0.015	1.06	mg/L	0.015	1.46%
QC value within limits for Zn 206.200 Recovery = 105.51%								
K 766.490†	61289.1	53.0	mg/L	0.43	53.0	mg/L	0.43	0.81%
QC value within limits for K 766.490 Recovery = 105.99%								
Na 589.592†	438197.1	50.9	mg/L	2.50	50.9	mg/L	2.50	4.91%
QC value within limits for Na 589.592 Recovery = 101.84%								
Sr 407.771†	908965.3	1.08	mg/L	0.062	1.08	mg/L	0.062	5.78%
QC value within limits for Sr 407.771 Recovery = 107.76%								
Li 670.784†	58112.6	1.02	mg/L	0.007	1.02	mg/L	0.007	0.64%
QC value within limits for Li 670.784 Recovery = 101.91%								
P 214.914†	6080.9	10.4	mg/L	0.26	10.4	mg/L	0.26	2.56%
QC value within limits for P 214.914 Recovery = 103.57%								

All analyte(s) passed QC.

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Sequence No.: 69 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/5/2013 6:38:48 PM**
Analyst: **Data Type: Original**

Approved: November 06, 2013

Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1880979.0						44989.77	2.39%
YRADIAL	133804.2						3986.46	2.98%
Ga 417.206	659130.2						14248.60	2.16%
GaRADIAL	38582.1						248.14	0.64%
Ag 328.068†	-50.7	-0.00118	mg/L	0.000556	-0.00118	mg/L	0.000556	46.93%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	-1.8	0.0191	mg/L	0.00231	0.0191	mg/L	0.00231	12.10%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-0.2	0.00162	mg/L	0.002347	0.00162	mg/L	0.002347	144.89%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-36.6	-0.00219	mg/L	0.000047	-0.00219	mg/L	0.000047	2.14%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	69.5	0.00012	mg/L	0.000055	0.00012	mg/L	0.000055	47.77%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	128.0	0.0102	mg/L	0.00109	0.0102	mg/L	0.00109	10.69%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	13.6	0.120	mg/L	0.0194	0.120	mg/L	0.0194	16.24%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-6.3	-0.00029	mg/L	0.000196	-0.00029	mg/L	0.000196	67.56%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-9.2	-0.00100	mg/L	0.000344	-0.00100	mg/L	0.000344	34.29%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	0.8	-0.00066	mg/L	0.000053	-0.00066	mg/L	0.000053	8.08%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	136.7	0.00073	mg/L	0.000835	0.00073	mg/L	0.000835	114.09%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	0.3	0.0117	mg/L	0.00113	0.0117	mg/L	0.00113	9.69%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	10.4	0.0314	mg/L	0.00764	0.0314	mg/L	0.00764	24.34%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	34.5	-0.00022	mg/L	0.000027	-0.00022	mg/L	0.000027	12.31%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	5.7	0.00135	mg/L	0.000206	0.00135	mg/L	0.000206	15.29%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-3.1	-0.00098	mg/L	0.000916	-0.00098	mg/L	0.000916	93.46%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	9.4	-0.00012	mg/L	0.000764	-0.00012	mg/L	0.000764	642.78%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.8	0.00238	mg/L	0.000296	0.00238	mg/L	0.000296	12.46%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-3.0	0.00562	mg/L	0.005400	0.00562	mg/L	0.005400	96.10%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	-7.2	-0.00997	mg/L	0.001394	-0.00997	mg/L	0.001394	13.98%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	2.8	0.00057	mg/L	0.001722	0.00057	mg/L	0.001722	303.62%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-17.3	0.00095	mg/L	0.000131	0.00095	mg/L	0.000131	13.77%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-3.6	-0.00307	mg/L	0.004814	-0.00307	mg/L	0.004814	157.04%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	928.4	0.00371	mg/L	0.001088	0.00371	mg/L	0.001088	29.31%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	6.6	-0.00112	mg/L	0.000186	-0.00112	mg/L	0.000186	16.62%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	-12.0	-0.0545	mg/L	0.03860	-0.0545	mg/L	0.03860	70.85%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	282.8	0.0177	mg/L	0.03482	0.0177	mg/L	0.03482	196.47%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	-5.2	-0.00300	mg/L	0.000196	-0.00300	mg/L	0.000196	6.53%
QC value within limits for Sr 407.771 Recovery = Not calculated								

Approved: November 06, 2013

Kim H. Rhoden

Li 670.784†	37.6	0.00231 mg/L	0.001156	0.00231 mg/L	0.001156	50.05%

QC value within limits for Li 670.784 Recovery = Not calculated

P 214.914†	41.5	0.0606 mg/L	0.00469	0.0606 mg/L	0.00469	7.74%

QC value within limits for P 214.914 Recovery = Not calculated

All analyte(s) passed QC.

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Sequence No.: 70 **Autosampler Location: 184**
Sample ID: L1311002001 **Date Collected: 11/5/2013 6:41:50 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002001

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002001

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1934868.7						48075.95	2.48%
YRADIAL	139175.6						743.86	0.53%
Ga 417.206	721983.8						19114.98	2.65%
GaRADIAL	40936.1						870.91	2.13%
Ag 328.068†	144.7	0.00000	mg/L	0.000127	0.00000	mg/L	0.000127	>999.9%
Al 396.153†	42.7	0.0374	mg/L	0.00206	0.0374	mg/L	0.00206	5.51%
As 188.979†	-7.8	-0.00495	mg/L	0.002845	-0.00495	mg/L	0.002845	57.52%
Ba 233.527†	2337.6	0.0442	mg/L	0.00111	0.0442	mg/L	0.00111	2.51%
Be 234.861†	178.2	0.00034	mg/L	0.000083	0.00034	mg/L	0.000083	24.18%
B 249.677†	544.7	0.0215	mg/L	0.00092	0.0215	mg/L	0.00092	4.30%
Ca 227.546†	6087.9	48.2	mg/L	1.10	48.2	mg/L	1.10	2.27%
Cd 228.802†	-11.8	-0.00057	mg/L	0.000398	-0.00057	mg/L	0.000398	70.12%
Co 228.616†	-4.4	-0.00065	mg/L	0.000403	-0.00065	mg/L	0.000403	61.68%
Cr 267.716†	66.6	0.00036	mg/L	0.000069	0.00036	mg/L	0.000069	19.27%
Cu 327.393†	11.5	-0.00026	mg/L	0.000762	-0.00026	mg/L	0.000762	298.46%
Fe 239.562†	367.1	0.170	mg/L	0.0023	0.170	mg/L	0.0023	1.37%
Mg 279.077†	32189.6	37.1	mg/L	0.45	37.1	mg/L	0.45	1.21%
Mn 257.610†	22156.6	0.0588	mg/L	0.00079	0.0588	mg/L	0.00079	1.35%
Mo 202.031†	23.8	0.00301	mg/L	0.000815	0.00301	mg/L	0.000815	27.09%
Ni 231.604†	7.9	-0.00049	mg/L	0.000281	-0.00049	mg/L	0.000281	57.05%
Pb 220.353†	25.9	0.00414	mg/L	0.001094	0.00414	mg/L	0.001094	26.44%
Sb 206.836†	1.1	0.00018	mg/L	0.003812	0.00018	mg/L	0.003812	>999.9%
Se 196.026†	-2.2	0.00736	mg/L	0.006996	0.00736	mg/L	0.006996	95.04%
Si 251.611†	55958.7	2.68	mg/L	0.033	2.68	mg/L	0.033	1.24%
Sn 189.927†	-172.6	-0.0473	mg/L	0.00248	-0.0473	mg/L	0.00248	5.25%
Ti 334.940†	-4554.6	-0.00015	mg/L	0.000544	-0.00015	mg/L	0.000544	352.31%
Tl 190.801†	-15.1	-0.0135	mg/L	0.00352	-0.0135	mg/L	0.00352	26.14%
V 290.880†	1740.4	0.00943	mg/L	0.002023	0.00943	mg/L	0.002023	21.45%
Zn 206.200†	49.4	0.00151	mg/L	0.000358	0.00151	mg/L	0.000358	23.70%
K 766.490†	4972.2	4.35	mg/L	0.037	4.35	mg/L	0.037	0.85%
Na 589.592†	59031.2	6.78	mg/L	0.107	6.78	mg/L	0.107	1.58%
Sr 407.771†	322530.7	0.379	mg/L	0.0157	0.379	mg/L	0.0157	4.14%
Li 670.784†	980.5	0.0188	mg/L	0.00030	0.0188	mg/L	0.00030	1.61%
P 214.914†	44.9	0.0664	mg/L	0.00351	0.0664	mg/L	0.00351	5.28%

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Sequence No.: 71 **Autosampler Location: 185**
Sample ID: L1311002003 **Date Collected: 11/5/2013 6:44:55 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002003

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002003

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD

Approved: November 06, 2013

Kim H. Rhoden

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	1962036.3						4944.07	0.25%
YRADIAL	133097.6						2592.35	1.95%
Ga 417.206	715819.7						2994.75	0.42%
GaRADIAL	39634.0						345.29	0.87%
Ag 328.068†	118.8	0.00001	mg/L	0.000460	0.00001	mg/L	0.000460	>999.9%
Al 396.153†	335.0	0.159	mg/L	0.0053	0.159	mg/L	0.0053	3.33%
As 188.979†	-3.7	-0.00159	mg/L	0.001141	-0.00159	mg/L	0.001141	71.91%
Ba 233.527†	1528.4	0.0284	mg/L	0.00029	0.0284	mg/L	0.00029	1.03%
Be 234.861†	209.5	0.00035	mg/L	0.000008	0.00035	mg/L	0.000008	2.26%
B 249.677†	234.1	0.0129	mg/L	0.00021	0.0129	mg/L	0.00021	1.66%
Ca 227.546†	1635.3	13.0	mg/L	0.10	13.0	mg/L	0.10	0.78%
Cd 228.802†	-9.9	-0.00047	mg/L	0.000186	-0.00047	mg/L	0.000186	39.21%
Co 228.616†	-1.5	-0.00047	mg/L	0.000603	-0.00047	mg/L	0.000603	128.39%
Cr 267.716†	42.4	-0.00004	mg/L	0.000135	-0.00004	mg/L	0.000135	302.69%
Cu 327.393†	22.8	-0.00014	mg/L	0.000202	-0.00014	mg/L	0.000202	144.02%
Fe 239.562†	1037.9	0.461	mg/L	0.0152	0.461	mg/L	0.0152	3.31%
Mg 279.077†	8794.0	10.2	mg/L	0.28	10.2	mg/L	0.28	2.77%
Mn 257.610†	43347.3	0.115	mg/L	0.0010	0.115	mg/L	0.0010	0.90%
Mo 202.031†	4.6	0.00128	mg/L	0.000033	0.00128	mg/L	0.000033	2.56%
Ni 231.604†	16.9	-0.00010	mg/L	0.000326	-0.00010	mg/L	0.000326	326.56%
Pb 220.353†	17.0	0.00181	mg/L	0.002472	0.00181	mg/L	0.002472	136.79%
Sb 206.836†	-0.1	-0.00076	mg/L	0.001941	-0.00076	mg/L	0.001941	256.84%
Se 196.026†	-7.1	-0.00242	mg/L	0.005701	-0.00242	mg/L	0.005701	235.82%
Si 251.611†	64779.3	3.11	mg/L	0.026	3.11	mg/L	0.026	0.83%
Sn 189.927†	-78.3	-0.0215	mg/L	0.00229	-0.0215	mg/L	0.00229	10.61%
Ti 334.940†	107.4	0.00311	mg/L	0.000166	0.00311	mg/L	0.000166	5.34%
Tl 190.801†	-7.1	-0.00636	mg/L	0.004248	-0.00636	mg/L	0.004248	66.76%
V 290.880†	838.3	0.00266	mg/L	0.000772	0.00266	mg/L	0.000772	29.07%
Zn 206.200†	102.6	0.00477	mg/L	0.000266	0.00477	mg/L	0.000266	5.59%
K 766.490†	3357.0	2.92	mg/L	0.054	2.92	mg/L	0.054	1.84%
Na 589.592†	28420.5	3.26	mg/L	0.031	3.26	mg/L	0.031	0.96%
Sr 407.771†	90325.9	0.104	mg/L	0.0038	0.104	mg/L	0.0038	3.65%
Li 670.784†	10.4	0.00183	mg/L	0.001346	0.00183	mg/L	0.001346	73.41%
P 214.914†	43.9	0.0648	mg/L	0.01853	0.0648	mg/L	0.01853	28.61%

Sequence No.: 72 **Autosampler Location: 186**
Sample ID: L1311002101 **Date Collected: 11/5/2013 6:47:57 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002101

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002101

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1940381.8						2477.71	0.13%
YRADIAL	138076.7						4039.51	2.93%
Ga 417.206	726542.6						3007.91	0.41%
GaRADIAL	40572.4						386.39	0.95%
Ag 328.068†	381.0	0.00111	mg/L	0.000468	0.00111	mg/L	0.000468	42.31%
Al 396.153†	7.8	0.0228	mg/L	0.00479	0.0228	mg/L	0.00479	20.98%
As 188.979†	-13.0	-0.00989	mg/L	0.004216	-0.00989	mg/L	0.004216	42.64%
Ba 233.527†	2647.0	0.0503	mg/L	0.00043	0.0503	mg/L	0.00043	0.86%
Be 234.861†	165.4	0.00034	mg/L	0.000010	0.00034	mg/L	0.000010	3.04%
B 249.677†	3390.7	0.0990	mg/L	0.00124	0.0990	mg/L	0.00124	1.25%
Ca 227.546†	8043.8	63.7	mg/L	1.40	63.7	mg/L	1.40	2.20%
Cd 228.802†	-9.1	-0.00039	mg/L	0.000154	-0.00039	mg/L	0.000154	39.91%
Co 228.616†	-10.6	-0.00109	mg/L	0.000183	-0.00109	mg/L	0.000183	16.74%
Cr 267.716†	56.6	0.00021	mg/L	0.000220	0.00021	mg/L	0.000220	105.27%
Cu 327.393†	-11.4	-0.00045	mg/L	0.000637	-0.00045	mg/L	0.000637	141.54%
Fe 239.562†	24.8	0.0219	mg/L	0.00146	0.0219	mg/L	0.00146	6.67%
Mg 279.077†	18266.0	21.1	mg/L	0.50	21.1	mg/L	0.50	2.37%
Mn 257.610†	834.8	0.00192	mg/L	0.000033	0.00192	mg/L	0.000033	1.70%
Mo 202.031†	40.1	0.00448	mg/L	0.000323	0.00448	mg/L	0.000323	7.21%
Ni 231.604†	4.3	-0.00065	mg/L	0.000405	-0.00065	mg/L	0.000405	62.39%

Approved: November 06, 2013

Pb 220.353†	15.4	0.00145	mg/L	0.001364	0.00145	mg/L	0.001364 93.74%
Sb 206.836†	-0.9	-0.00145	mg/L	0.002600	-0.00145	mg/L	0.002600 179.81%
Se 196.026†	-5.1	0.00148	mg/L	0.009984	0.00148	mg/L	0.009984 676.09%
Si 251.611†	62958.3	3.02	mg/L	0.036	3.02	mg/L	0.036 1.19%
Sn 189.927†	-208.4	-0.0571	mg/L	0.00184	-0.0571	mg/L	0.00184 3.22%
Ti 334.940†	-6427.7	-0.00127	mg/L	0.000205	-0.00127	mg/L	0.000205 16.16%
Tl 190.801†	-19.6	-0.0176	mg/L	0.00264	-0.0176	mg/L	0.00264 15.02%
V 290.880†	1064.9	0.00429	mg/L	0.000594	0.00429	mg/L	0.000594 13.85%
Zn 206.200†	65.1	0.00247	mg/L	0.000191	0.00247	mg/L	0.000191 7.74%
K 766.490†	9084.5	7.94	mg/L	0.269	7.94	mg/L	0.269 3.38%
Na 589.592†	305302.0	35.4	mg/L	0.95	35.4	mg/L	0.95 2.68%
Sr 407.771†	1365613.5	1.62	mg/L	0.083	1.62	mg/L	0.083 5.14%
Li 670.784†	775.4	0.0152	mg/L	0.00141	0.0152	mg/L	0.00141 9.24%
P 214.914†	64.0	0.0990	mg/L	0.01205	0.0990	mg/L	0.01205 12.18%

Sequence No.: 73 **Autosampler Location: 187**
Sample ID: L1311002104 **Date Collected: 11/5/2013 6:51:02 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002104

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002104

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1954784.1						18236.88	0.93%
YRADIAL	133163.5						1702.08	1.28%
Ga 417.206	726284.7						9033.31	1.24%
GaRADIAL	40065.9						558.75	1.39%
Ag 328.068†	33.6	-0.00034	mg/L	0.000465	-0.00034	mg/L	0.000465	136.03%
Al 396.153†	134.4	0.0757	mg/L	0.00419	0.0757	mg/L	0.00419	5.54%
As 188.979†	-11.7	-0.00902	mg/L	0.003642	-0.00902	mg/L	0.003642	40.36%
Ba 233.527†	2622.7	0.0498	mg/L	0.00030	0.0498	mg/L	0.00030	0.61%
Be 234.861†	280.7	0.00043	mg/L	0.000125	0.00043	mg/L	0.000125	28.88%
B 249.677†	534.2	0.0209	mg/L	0.00050	0.0209	mg/L	0.00050	2.39%
Ca 227.546†	4509.7	35.8	mg/L	0.22	35.8	mg/L	0.22	0.61%
Cd 228.802†	-9.0	-0.00038	mg/L	0.000244	-0.00038	mg/L	0.000244	63.63%
Co 228.616†	-1.0	-0.00044	mg/L	0.000406	-0.00044	mg/L	0.000406	93.06%
Cr 267.716†	48.0	0.00000	mg/L	0.000140	0.00000	mg/L	0.000140	>999.9%
Cu 327.393†	124.1	0.00068	mg/L	0.000997	0.00068	mg/L	0.000997	145.82%
Fe 239.562†	2202.4	0.965	mg/L	0.0179	0.965	mg/L	0.0179	1.86%
Mg 279.077†	12151.8	14.0	mg/L	0.18	14.0	mg/L	0.18	1.31%
Mn 257.610†	156257.6	0.416	mg/L	0.0014	0.416	mg/L	0.0014	0.33%
Mo 202.031†	11.6	0.00198	mg/L	0.000272	0.00198	mg/L	0.000272	13.74%
Ni 231.604†	25.9	0.00029	mg/L	0.000142	0.00029	mg/L	0.000142	48.05%
Pb 220.353†	16.0	0.00134	mg/L	0.001966	0.00134	mg/L	0.001966	147.17%
Sb 206.836†	-1.0	-0.00150	mg/L	0.001206	-0.00150	mg/L	0.001206	80.37%
Se 196.026†	-3.0	0.00569	mg/L	0.005554	0.00569	mg/L	0.005554	97.63%
Si 251.611†	36119.2	1.73	mg/L	0.026	1.73	mg/L	0.026	1.52%
Sn 189.927†	-155.1	-0.0425	mg/L	0.00267	-0.0425	mg/L	0.00267	6.28%
Ti 334.940†	-2760.9	0.00126	mg/L	0.000488	0.00126	mg/L	0.000488	38.69%
Tl 190.801†	-7.8	-0.00730	mg/L	0.002710	-0.00730	mg/L	0.002710	37.12%
V 290.880†	942.1	0.00336	mg/L	0.001192	0.00336	mg/L	0.001192	35.47%
Zn 206.200†	68.2	0.00268	mg/L	0.000139	0.00268	mg/L	0.000139	5.18%
K 766.490†	4350.9	3.80	mg/L	0.071	3.80	mg/L	0.071	1.88%
Na 589.592†	20651.7	2.36	mg/L	0.032	2.36	mg/L	0.032	1.36%
Sr 407.771†	253442.0	0.297	mg/L	0.0092	0.297	mg/L	0.0092	3.10%
Li 670.784†	46.7	0.00247	mg/L	0.000159	0.00247	mg/L	0.000159	6.45%
P 214.914†	41.3	0.0602	mg/L	0.00966	0.0602	mg/L	0.00966	16.03%

Sequence No.: 74 **Autosampler Location: 188**
Sample ID: L1311002108 **Date Collected: 11/5/2013 6:54:04 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 06, 2013

Nebulizer Parameters: L1311002108

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002108

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1946936.5						17957.00	0.92%
YRADIAL	137223.7						2824.16	2.06%
Ga 417.206	721583.9						7074.36	0.98%
GaRADIAL	40281.7						201.07	0.50%
Ag 328.068†	341.8	0.00105	mg/L	0.000401	0.00105	mg/L	0.000401	38.23%
Al 396.153†	93.8	0.0587	mg/L	0.00320	0.0587	mg/L	0.00320	5.46%
As 188.979†	-11.8	-0.00907	mg/L	0.008353	-0.00907	mg/L	0.008353	92.11%
Ba 233.527†	2413.4	0.0457	mg/L	0.00095	0.0457	mg/L	0.00095	2.08%
Be 234.861†	175.2	0.00035	mg/L	0.000025	0.00035	mg/L	0.000025	7.09%
B 249.677†	1587.6	0.0499	mg/L	0.00217	0.0499	mg/L	0.00217	4.34%
Ca 227.546†	5792.5	45.9	mg/L	1.02	45.9	mg/L	1.02	2.23%
Cd 228.802†	-5.4	-0.00018	mg/L	0.000334	-0.00018	mg/L	0.000334	188.60%
Co 228.616†	-12.3	-0.00122	mg/L	0.000393	-0.00122	mg/L	0.000393	32.12%
Cr 267.716†	56.0	0.00019	mg/L	0.000113	0.00019	mg/L	0.000113	58.83%
Cu 327.393†	-18.5	-0.00050	mg/L	0.001002	-0.00050	mg/L	0.001002	202.26%
Fe 239.562†	236.6	0.114	mg/L	0.0034	0.114	mg/L	0.0034	3.01%
Mg 279.077†	13862.2	16.0	mg/L	0.12	16.0	mg/L	0.12	0.76%
Mn 257.610†	11669.4	0.0308	mg/L	0.00042	0.0308	mg/L	0.00042	1.37%
Mo 202.031†	20.0	0.00266	mg/L	0.000275	0.00266	mg/L	0.000275	10.34%
Ni 231.604†	8.0	-0.00049	mg/L	0.000135	-0.00049	mg/L	0.000135	27.58%
Pb 220.353†	21.5	0.00301	mg/L	0.001240	0.00301	mg/L	0.001240	41.23%
Sb 206.836†	-1.1	-0.00164	mg/L	0.001551	-0.00164	mg/L	0.001551	94.80%
Se 196.026†	-8.8	-0.00582	mg/L	0.010549	-0.00582	mg/L	0.010549	181.23%
Si 251.611†	48611.6	2.33	mg/L	0.018	2.33	mg/L	0.018	0.75%
Sn 189.927†	-175.4	-0.0480	mg/L	0.00148	-0.0480	mg/L	0.00148	3.09%
Ti 334.940†	-4414.8	-0.00025	mg/L	0.000248	-0.00025	mg/L	0.000248	99.67%
Tl 190.801†	-13.6	-0.0121	mg/L	0.00626	-0.0121	mg/L	0.00626	51.54%
V 290.880†	834.3	0.00251	mg/L	0.000916	0.00251	mg/L	0.000916	36.51%
Zn 206.200†	43.3	0.00114	mg/L	0.000281	0.00114	mg/L	0.000281	24.73%
K 766.490†	4703.4	4.11	mg/L	0.032	4.11	mg/L	0.032	0.77%
Na 589.592†	57839.5	6.65	mg/L	0.043	6.65	mg/L	0.043	0.65%
Sr 407.771†	762861.7	0.903	mg/L	0.0422	0.903	mg/L	0.0422	4.67%
Li 670.784†	156.9	0.00440	mg/L	0.000754	0.00440	mg/L	0.000754	17.13%
P 214.914†	39.2	0.0567	mg/L	0.00362	0.0567	mg/L	0.00362	6.39%

Sequence No.: 75
Sample ID: L1311002201 WG451321-02
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 189
Date Collected: 11/5/2013 6:57:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311002201 WG451321-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311002201 WG451321-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1968404.8						25155.82	1.28%
YRADIAL	133562.5						6458.07	4.84%
Ga 417.206	745888.3						11191.80	1.50%
GaRADIAL	40539.2						872.45	2.15%
Ag 328.068†	301.3	0.00094	mg/L	0.000444	0.00094	mg/L	0.000444	47.34%
Al 396.153†	4.7	0.0217	mg/L	0.00254	0.0217	mg/L	0.00254	11.72%
As 188.979†	-11.3	-0.00828	mg/L	0.001226	-0.00828	mg/L	0.001226	14.80%
Ba 233.527†	2142.5	0.0404	mg/L	0.00051	0.0404	mg/L	0.00051	1.26%
Be 234.861†	211.1	0.00044	mg/L	0.000048	0.00044	mg/L	0.000048	10.92%
B 249.677†	301.9	0.0149	mg/L	0.00041	0.0149	mg/L	0.00041	2.77%
Ca 227.546†	7192.5	57.0	mg/L	0.39	57.0	mg/L	0.39	0.68%

Approved: November 06, 2013

Kim H. Rhoden

Cd 228.802†	-10.4	-0.00047	mg/L	0.000044	-0.00047	mg/L	0.000044	9.26%
Co 228.616†	-10.5	-0.00109	mg/L	0.000211	-0.00109	mg/L	0.000211	19.42%
Cr 267.716†	89.7	0.00073	mg/L	0.000343	0.00073	mg/L	0.000343	47.31%
Cu 327.393†	95.8	0.00041	mg/L	0.000725	0.00041	mg/L	0.000725	178.72%
Fe 239.562†	158.9	0.0791	mg/L	0.00507	0.0791	mg/L	0.00507	6.41%
Mg 279.077†	55937.6	64.5	mg/L	0.91	64.5	mg/L	0.91	1.41%
Mn 257.610†	4247.9	0.0110	mg/L	0.00017	0.0110	mg/L	0.00017	1.54%
Mo 202.031†	16.6	0.00234	mg/L	0.000475	0.00234	mg/L	0.000475	20.29%
Ni 231.604†	21.8	0.00012	mg/L	0.000400	0.00012	mg/L	0.000400	340.67%
Pb 220.353†	26.8	0.00440	mg/L	0.001351	0.00440	mg/L	0.001351	30.69%
Sb 206.836†	-2.0	-0.00234	mg/L	0.003915	-0.00234	mg/L	0.003915	167.24%
Se 196.026†	-7.4	-0.00301	mg/L	0.006809	-0.00301	mg/L	0.006809	226.53%
Si 251.611†	35289.7	1.69	mg/L	0.011	1.69	mg/L	0.011	0.67%
Sn 189.927†	-185.5	-0.0508	mg/L	0.00194	-0.0508	mg/L	0.00194	3.81%
Ti 334.940†	-5780.4	-0.00109	mg/L	0.000210	-0.00109	mg/L	0.000210	19.23%
Tl 190.801†	-13.7	-0.0122	mg/L	0.00301	-0.0122	mg/L	0.00301	24.68%
V 290.880†	1753.4	0.00884	mg/L	0.000320	0.00884	mg/L	0.000320	3.62%
Zn 206.200†	27.9	0.00020	mg/L	0.000276	0.00020	mg/L	0.000276	136.26%
K 766.490†	6160.2	5.38	mg/L	0.184	5.38	mg/L	0.184	3.41%
Na 589.592†	176979.6	20.4	mg/L	0.09	20.4	mg/L	0.09	0.46%
Sr 407.771†	211381.5	0.247	mg/L	0.0090	0.247	mg/L	0.0090	3.64%
Li 670.784†	154.3	0.00435	mg/L	0.001126	0.00435	mg/L	0.001126	25.86%
P 214.914†	39.6	0.0574	mg/L	0.00581	0.0574	mg/L	0.00581	10.11%

Sequence No.: 76
Sample ID: L1311002201MS WG451321-07
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 190
Date Collected: 11/5/2013 7:00:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311002201MS WG451321-07

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002201MS WG451321-07

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1906907.7						21082.72	1.11%
YRADIAL	131308.6						323.59	0.25%
Ga 417.206	703435.7						18309.85	2.60%
GaRADIAL	38564.1						376.66	0.98%
Ag 328.068†	33598.9	0.204	mg/L	0.0053	0.204	mg/L	0.0053	2.61%
Al 396.153†	12808.7	5.30	mg/L	0.062	5.30	mg/L	0.062	1.16%
As 188.979†	195.0	0.197	mg/L	0.0057	0.197	mg/L	0.0057	2.88%
Ba 233.527†	29145.3	0.568	mg/L	0.0034	0.568	mg/L	0.0034	0.60%
Be 234.861†	10542.5	0.0248	mg/L	0.00049	0.0248	mg/L	0.00049	1.98%
B 249.677†	37889.4	1.04	mg/L	0.021	1.04	mg/L	0.021	2.03%
Ca 227.546†	8156.5	64.8	mg/L	1.38	64.8	mg/L	1.38	2.13%
Cd 228.802†	401.8	0.0229	mg/L	0.00103	0.0229	mg/L	0.00103	4.51%
Co 228.616†	1424.4	0.102	mg/L	0.0017	0.102	mg/L	0.0017	1.63%
Cr 267.716†	16602.1	0.258	mg/L	0.0045	0.258	mg/L	0.0045	1.75%
Cu 327.393†	30673.5	0.243	mg/L	0.0046	0.243	mg/L	0.0046	1.91%
Fe 239.562†	5053.3	2.20	mg/L	0.019	2.20	mg/L	0.019	0.85%
Mg 279.077†	61508.2	70.9	mg/L	0.17	70.9	mg/L	0.17	0.24%
Mn 257.610†	104989.9	0.280	mg/L	0.0012	0.280	mg/L	0.0012	0.42%
Mo 202.031†	5989.2	0.546	mg/L	0.0069	0.546	mg/L	0.0069	1.27%
Ni 231.604†	5900.7	0.259	mg/L	0.0014	0.259	mg/L	0.0014	0.55%
Pb 220.353†	1026.8	0.265	mg/L	0.0047	0.265	mg/L	0.0047	1.78%
Sb 206.836†	734.4	0.599	mg/L	0.0199	0.599	mg/L	0.0199	3.33%
Se 196.026†	90.0	0.191	mg/L	0.0149	0.191	mg/L	0.0149	7.79%
Si 251.611†	89881.6	4.31	mg/L	0.081	4.31	mg/L	0.081	1.89%
Sn 189.927†	-194.1	-0.0532	mg/L	0.00207	-0.0532	mg/L	0.00207	3.89%
Ti 334.940†	279431.9	0.523	mg/L	0.0015	0.523	mg/L	0.0015	0.29%
Tl 190.801†	277.0	0.255	mg/L	0.0091	0.255	mg/L	0.0091	3.57%
V 290.880†	66862.4	0.546	mg/L	0.0013	0.546	mg/L	0.0013	0.24%
Zn 206.200†	8333.1	0.511	mg/L	0.0082	0.511	mg/L	0.0082	1.61%
K 766.490†	38105.7	33.2	mg/L	0.36	33.2	mg/L	0.36	1.10%
Na 589.592†	416247.2	48.3	mg/L	0.52	48.3	mg/L	0.52	1.07%
Sr 407.771†	689119.4	0.814	mg/L	0.0059	0.814	mg/L	0.0059	0.72%

Approved: November 06, 2013

Li 670.784†	30733.7	0.540 mg/L	0.0075	0.540 mg/L	0.0075	1.40%
P 214.914†	-40.0	-0.0783 mg/L	0.02466	-0.0783 mg/L	0.02466	31.51%

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Sequence No.: 77 **Autosampler Location: 191**
Sample ID: L1311002203 **Date Collected: 11/5/2013 7:02:17 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002203

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002203

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1930807.7						21274.51	1.10%
YRADIAL	136231.6						953.81	0.70%
Ga 417.206	732154.8						7453.44	1.02%
GaRADIAL	40618.6						631.01	1.55%
Ag 328.068†	299.5	0.00090	mg/L	0.000307	0.00090	mg/L	0.000307	34.05%
Al 396.153†	23.3	0.0293	mg/L	0.00194	0.0293	mg/L	0.00194	6.62%
As 188.979†	-7.9	-0.00456	mg/L	0.002201	-0.00456	mg/L	0.002201	48.23%
Ba 233.527†	1435.8	0.0266	mg/L	0.00022	0.0266	mg/L	0.00022	0.81%
Be 234.861†	197.9	0.00040	mg/L	0.000022	0.00040	mg/L	0.000022	5.48%
B 249.677†	725.6	0.0264	mg/L	0.00232	0.0264	mg/L	0.00232	8.79%
Ca 227.546†	9168.1	72.6	mg/L	1.85	72.6	mg/L	1.85	2.55%
Cd 228.802†	-10.4	-0.00049	mg/L	0.000185	-0.00049	mg/L	0.000185	37.88%
Co 228.616†	-8.9	-0.00096	mg/L	0.000319	-0.00096	mg/L	0.000319	33.19%
Cr 267.716†	132.9	0.00139	mg/L	0.000142	0.00139	mg/L	0.000142	10.18%
Cu 327.393†	1.0	-0.00035	mg/L	0.000861	-0.00035	mg/L	0.000861	249.45%
Fe 239.562†	266.1	0.126	mg/L	0.0039	0.126	mg/L	0.0039	3.11%
Mg 279.077†	55533.0	64.0	mg/L	0.74	64.0	mg/L	0.74	1.16%
Mn 257.610†	23593.9	0.0626	mg/L	0.00173	0.0626	mg/L	0.00173	2.77%
Mo 202.031†	26.0	0.00321	mg/L	0.000346	0.00321	mg/L	0.000346	10.76%
Ni 231.604†	33.8	0.00065	mg/L	0.000095	0.00065	mg/L	0.000095	14.65%
Pb 220.353†	26.3	0.00423	mg/L	0.002670	0.00423	mg/L	0.002670	63.07%
Sb 206.836†	0.4	-0.00040	mg/L	0.001181	-0.00040	mg/L	0.001181	298.65%
Se 196.026†	-5.3	0.00111	mg/L	0.013417	0.00111	mg/L	0.013417	>999.9%
Si 251.611†	43854.8	2.10	mg/L	0.060	2.10	mg/L	0.060	2.85%
Sn 189.927†	-207.6	-0.0569	mg/L	0.00256	-0.0569	mg/L	0.00256	4.50%
Ti 334.940†	-7241.1	-0.00142	mg/L	0.000311	-0.00142	mg/L	0.000311	21.85%
Tl 190.801†	-16.0	-0.0143	mg/L	0.00290	-0.0143	mg/L	0.00290	20.20%
V 290.880†	1588.0	0.00748	mg/L	0.001254	0.00748	mg/L	0.001254	16.76%
Zn 206.200†	49.5	0.00153	mg/L	0.000101	0.00153	mg/L	0.000101	6.59%
K 766.490†	7944.1	6.95	mg/L	0.192	6.95	mg/L	0.192	2.77%
Na 589.592†	192008.7	22.2	mg/L	0.40	22.2	mg/L	0.40	1.80%
Sr 407.771†	367319.1	0.431	mg/L	0.0074	0.431	mg/L	0.0074	1.72%
Li 670.784†	615.7	0.0124	mg/L	0.00130	0.0124	mg/L	0.00130	10.44%
P 214.914†	35.5	0.0504	mg/L	0.01057	0.0504	mg/L	0.01057	20.96%

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Sequence No.: 78 **Autosampler Location: 192**
Sample ID: L1311002205 **Date Collected: 11/5/2013 7:05:22 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002205

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002205

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1913235.4						47157.27	2.46%
YRADIAL	132862.6						3625.68	2.73%

Approved: November 06, 2013

Kim H. Rhoden

Ga 417.206	708908.2							17856.35	2.52%
GaRADIAL	40230.5							230.32	0.57%
Ag 328.068†	177.9	0.00026	mg/L	0.000387	0.00026	mg/L		0.000387	151.49%
Al 396.153†	28.6	0.0316	mg/L	0.00097	0.0316	mg/L		0.00097	3.07%
As 188.979†	-10.3	-0.00748	mg/L	0.004456	-0.00748	mg/L		0.004456	59.54%
Ba 233.527†	2252.4	0.0425	mg/L	0.00087	0.0425	mg/L		0.00087	2.06%
Be 234.861†	167.6	0.00029	mg/L	0.000079	0.00029	mg/L		0.000079	26.97%
B 249.677†	826.6	0.0291	mg/L	0.00120	0.0291	mg/L		0.00120	4.10%
Ca 227.546†	5788.0	45.9	mg/L	0.84	45.9	mg/L		0.84	1.83%
Cd 228.802†	-8.0	-0.00034	mg/L	0.000179	-0.00034	mg/L		0.000179	53.09%
Co 228.616†	-11.0	-0.00114	mg/L	0.000408	-0.00114	mg/L		0.000408	35.89%
Cr 267.716†	61.1	0.00026	mg/L	0.000291	0.00026	mg/L		0.000291	111.33%
Cu 327.393†	86.2	0.00034	mg/L	0.000901	0.00034	mg/L		0.000901	264.47%
Fe 239.562†	564.0	0.255	mg/L	0.0059	0.255	mg/L		0.0059	2.31%
Mg 279.077†	26046.1	30.0	mg/L	0.67	30.0	mg/L		0.67	2.23%
Mn 257.610†	7273.2	0.0191	mg/L	0.00050	0.0191	mg/L		0.00050	2.62%
Mo 202.031†	23.2	0.00295	mg/L	0.000693	0.00295	mg/L		0.000693	23.51%
Ni 231.604†	14.9	-0.00019	mg/L	0.000376	-0.00019	mg/L		0.000376	203.24%
Pb 220.353†	13.8	0.00102	mg/L	0.002123	0.00102	mg/L		0.002123	208.00%
Sb 206.836†	-2.2	-0.00249	mg/L	0.002859	-0.00249	mg/L		0.002859	114.58%
Se 196.026†	-5.5	0.00081	mg/L	0.003454	0.00081	mg/L		0.003454	424.87%
Si 251.611†	31031.7	1.48	mg/L	0.029	1.48	mg/L		0.029	1.93%
Sn 189.927†	-172.9	-0.0474	mg/L	0.00165	-0.0474	mg/L		0.00165	3.49%
Ti 334.940†	-4356.7	-0.00015	mg/L	0.000033	-0.00015	mg/L		0.000033	22.63%
Tl 190.801†	-16.3	-0.0146	mg/L	0.00465	-0.0146	mg/L		0.00465	31.88%
V 290.880†	1168.7	0.00489	mg/L	0.000998	0.00489	mg/L		0.000998	20.42%
Zn 206.200†	61.7	0.00227	mg/L	0.000214	0.00227	mg/L		0.000214	9.44%
K 766.490†	5127.6	4.48	mg/L	0.069	4.48	mg/L		0.069	1.55%
Na 589.592†	121555.9	14.0	mg/L	0.17	14.0	mg/L		0.17	1.20%
Sr 407.771†	242458.0	0.284	mg/L	0.0096	0.284	mg/L		0.0096	3.38%
Li 670.784†	264.9	0.00629	mg/L	0.000961	0.00629	mg/L		0.000961	15.28%
P 214.914†	48.9	0.0733	mg/L	0.01435	0.0733	mg/L		0.01435	19.58%

Sequence No.: 79 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/5/2013 7:08:24 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1917946.4						24035.40	1.25%
YRADIAL	137347.8						2775.32	2.02%
Ga 417.206	695412.4						4957.81	0.71%
GaRADIAL	39772.4						544.41	1.37%
Ag 328.068†	66194.0	0.403	mg/L	0.0045	0.403	mg/L	0.0045	1.12%
QC value within limits for Ag 328.068 Recovery = 100.74%								
Al 396.153†	24965.5	10.3	mg/L	0.04	10.3	mg/L	0.04	0.36%
QC value within limits for Al 396.153 Recovery = 103.14%								
As 188.979†	396.8	0.396	mg/L	0.0073	0.396	mg/L	0.0073	1.85%
QC value within limits for As 188.979 Recovery = 98.99%								
Ba 233.527†	53966.9	1.05	mg/L	0.018	1.05	mg/L	0.018	1.73%
QC value within limits for Ba 233.527 Recovery = 105.35%								
Be 234.861†	20899.6	0.0492	mg/L	0.00036	0.0492	mg/L	0.00036	0.73%
QC value within limits for Be 234.861 Recovery = 98.40%								
B 249.677†	17998.2	0.493	mg/L	0.0088	0.493	mg/L	0.0088	1.79%
QC value within limits for B 249.677 Recovery = 98.54%								
Ca 227.546†	1257.3	10.5	mg/L	0.10	10.5	mg/L	0.10	0.92%
QC value within limits for Ca 227.546 Recovery = 104.53%								
Cd 228.802†	832.7	0.0474	mg/L	0.00061	0.0474	mg/L	0.00061	1.28%
QC value within limits for Cd 228.802 Recovery = 94.87%								
Co 228.616†	2926.5	0.211	mg/L	0.0018	0.211	mg/L	0.0018	0.84%
QC value within limits for Co 228.616 Recovery = 105.29%								
Cr 267.716†	33283.0	0.519	mg/L	0.0095	0.519	mg/L	0.0095	1.83%

Approved: November 06, 2013

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   QC value within limits for Cr 267.716  Recovery = 103.78%
Cu 327.393†            63448.2       0.502 mg/L        0.0049       0.502 mg/L        0.0049   0.97%
   QC value within limits for Cu 327.393  Recovery = 100.48%
Fe 239.562†             9490.3        4.12 mg/L         0.034        4.12 mg/L         0.034   0.82%
   QC value within limits for Fe 239.562  Recovery = 103.04%
Mg 279.077†             8959.4        10.4 mg/L          0.05        10.4 mg/L          0.05   0.45%
   QC value within limits for Mg 279.077  Recovery = 103.64%
Mn 257.610†           196684.0       0.525 mg/L        0.0063       0.525 mg/L        0.0063   1.20%
   QC value within limits for Mn 257.610  Recovery = 104.94%
Mo 202.031†            11310.5        1.03 mg/L         0.012        1.03 mg/L         0.012   1.16%
   QC value within limits for Mo 202.031  Recovery = 103.13%
Ni 231.604†            12005.2       0.528 mg/L        0.0128       0.528 mg/L        0.0128   2.42%
   QC value within limits for Ni 231.604  Recovery = 105.58%
Pb 220.353†             2059.4       0.534 mg/L        0.0067       0.534 mg/L        0.0067   1.25%
   QC value within limits for Pb 220.353  Recovery = 106.75%
Sb 206.836†             1454.8        1.19 mg/L         0.013        1.19 mg/L         0.013   1.10%
   QC value within limits for Sb 206.836  Recovery = 98.97%
Se 196.026†              195.3       0.401 mg/L        0.0092       0.401 mg/L        0.0092   2.29%
   QC value within limits for Se 196.026  Recovery = 100.18%
Si 251.611†           105723.4        5.06 mg/L         0.044        5.06 mg/L         0.044   0.87%
   QC value within limits for Si 251.611  Recovery = 101.26%
Sn 189.927†             3914.2        1.07 mg/L         0.010        1.07 mg/L         0.010   0.95%
   QC value within limits for Sn 189.927  Recovery = 106.80%
Ti 334.940†           558941.0        1.03 mg/L         0.007        1.03 mg/L         0.007   0.71%
   QC value within limits for Ti 334.940  Recovery = 102.78%
Tl 190.801†              594.4       0.546 mg/L        0.0116       0.546 mg/L        0.0116   2.13%
   QC value within limits for Tl 190.801  Recovery = 109.18%
V 290.880†            129620.8        1.06 mg/L         0.028        1.06 mg/L         0.028   2.60%
   QC value within limits for V 290.880  Recovery = 106.47%
Zn 206.200†            17194.8        1.06 mg/L         0.025        1.06 mg/L         0.025   2.34%
   QC value within limits for Zn 206.200  Recovery = 105.56%
K 766.490†             61579.1        53.2 mg/L          0.37        53.2 mg/L          0.37   0.69%
   QC value within limits for K 766.490  Recovery = 106.48%
Na 589.592†           443981.8        51.6 mg/L          0.93        51.6 mg/L          0.93   1.80%
   QC value within limits for Na 589.592  Recovery = 103.20%
Sr 407.771†           914516.4        1.08 mg/L         0.026        1.08 mg/L         0.026   2.40%
   QC value within limits for Sr 407.771  Recovery = 108.42%
Li 670.784†            59346.0        1.04 mg/L         0.007        1.04 mg/L         0.007   0.67%
   QC value within limits for Li 670.784  Recovery = 104.07%
P 214.914†              6190.5        10.5 mg/L          0.12        10.5 mg/L          0.12   1.15%
   QC value within limits for P 214.914  Recovery = 105.44%
All analyte(s) passed QC.

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Sequence No.: 80                                    Autosampler Location: 8
Sample ID: CCB                                      Date Collected: 11/5/2013 7:10:30 PM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    179.0 kPa        0.47 L/min

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Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1860406.5                                                    16258.95   0.87%
YRADIAL               131407.5                                                     4451.78   3.39%
Ga 417.206            647092.1                                                     4680.95   0.72%
GaRADIAL               37851.0                                                      206.08   0.54%
Ag 328.068†               92.9    -0.00032 mg/L      0.000412    -0.00032 mg/L      0.000412 129.09%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†                0.3      0.0199 mg/L       0.00339      0.0199 mg/L       0.00339  17.03%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               -4.0    -0.00227 mg/L      0.005370    -0.00227 mg/L      0.005370 236.20%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -33.7    -0.00213 mg/L      0.000071    -0.00213 mg/L      0.000071   3.33%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               50.0     0.00007 mg/L      0.000035     0.00007 mg/L      0.000035  50.04%
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Approved: November 06, 2013

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   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†                39.9     0.00783 mg/L      0.001322     0.00783 mg/L      0.001322  16.89%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               11.0      0.0990 mg/L       0.01733      0.0990 mg/L       0.01733  17.50%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -7.6    -0.00034 mg/L      0.000179    -0.00034 mg/L      0.000179  52.34%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -12.1    -0.00121 mg/L      0.000216    -0.00121 mg/L      0.000216  17.76%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                4.3    -0.00061 mg/L      0.000158    -0.00061 mg/L      0.000158  26.02%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               -0.3    -0.00035 mg/L      0.000910    -0.00035 mg/L      0.000910 259.81%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                0.5      0.0117 mg/L       0.00354      0.0117 mg/L       0.00354  30.18%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               29.6      0.0535 mg/L       0.01911      0.0535 mg/L       0.01911  35.73%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               40.2    -0.00020 mg/L      0.000019    -0.00020 mg/L      0.000019   9.54%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†                3.0     0.00110 mg/L      0.000638     0.00110 mg/L      0.000638  57.93%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†               -2.1    -0.00094 mg/L      0.000472    -0.00094 mg/L      0.000472  50.19%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               14.8     0.00129 mg/L      0.001980     0.00129 mg/L      0.001980 154.06%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                3.8     0.00243 mg/L      0.001201     0.00243 mg/L      0.001201  49.38%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               -4.2     0.00325 mg/L      0.004272     0.00325 mg/L      0.004272 131.57%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              -29.4     -0.0110 mg/L       0.00085     -0.0110 mg/L       0.00085   7.67%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†                5.6     0.00135 mg/L      0.000603     0.00135 mg/L      0.000603  44.83%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†               51.3     0.00108 mg/L      0.000069     0.00108 mg/L      0.000069   6.38%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -3.1    -0.00270 mg/L      0.004163    -0.00270 mg/L      0.004163 154.42%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               784.7     0.00253 mg/L      0.002620     0.00253 mg/L      0.002620 103.74%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                3.8    -0.00129 mg/L      0.000144    -0.00129 mg/L      0.000144  11.20%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                 4.5     -0.0398 mg/L       0.02306     -0.0398 mg/L       0.02306  57.93%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              238.4      0.0126 mg/L       0.00788      0.0126 mg/L       0.00788  62.50%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†                4.0    -0.00298 mg/L      0.000073    -0.00298 mg/L      0.000073   2.43%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               21.6     0.00203 mg/L      0.000099     0.00203 mg/L      0.000099   4.86%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                37.9      0.0544 mg/L       0.00339      0.0544 mg/L       0.00339   6.24%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

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Sequence No.: 81                                    Autosampler Location: 193
Sample ID: L1311002207                              Date Collected: 11/5/2013 7:13:32 PM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: L1311002207
Analyte                 Back Pressure    Flow
All                    179.0 kPa         0.47 L/min

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Mean Data: L1311002207
                  Mean Corrected         Calib.                          Sample
Analyte              Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            1971516.7                                                    32143.36   1.63%
YRADIAL               135147.2                                                     3898.83   2.88%
Ga 417.206            720973.8                                                    11688.42   1.62%
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Approved: November 06, 2013

Kim H. Rhoden

GaRADIAL	40575.4					412.56	1.02%
Ag 328.068†	84.3	-0.00031	mg/L	0.000208	-0.00031 mg/L	0.000208	67.23%
Al 396.153†	86.4	0.0557	mg/L	0.00131	0.0557 mg/L	0.00131	2.35%
As 188.979†	-6.5	-0.00444	mg/L	0.001960	-0.00444 mg/L	0.001960	44.16%
Ba 233.527†	2734.8	0.0520	mg/L	0.00111	0.0520 mg/L	0.00111	2.13%
Be 234.861†	197.0	0.00038	mg/L	0.000097	0.00038 mg/L	0.000097	25.49%
B 249.677†	201.2	0.0121	mg/L	0.00074	0.0121 mg/L	0.00074	6.11%
Ca 227.546†	1390.2	11.0	mg/L	0.22	11.0 mg/L	0.22	1.99%
Cd 228.802†	-7.6	-0.00033	mg/L	0.000101	-0.00033 mg/L	0.000101	30.29%
Co 228.616†	-6.2	-0.00081	mg/L	0.000369	-0.00081 mg/L	0.000369	45.62%
Cr 267.716†	13.0	-0.00048	mg/L	0.000138	-0.00048 mg/L	0.000138	28.55%
Cu 327.393†	164.0	0.00096	mg/L	0.000412	0.00096 mg/L	0.000412	43.12%
Fe 239.562†	405.0	0.187	mg/L	0.0075	0.187 mg/L	0.0075	4.04%
Mg 279.077†	7277.3	8.41	mg/L	0.166	8.41 mg/L	0.166	1.97%
Mn 257.610†	11727.6	0.0310	mg/L	0.00115	0.0310 mg/L	0.00115	3.72%
Mo 202.031†	0.0	0.00084	mg/L	0.000393	0.00084 mg/L	0.000393	46.89%
Ni 231.604†	24.4	0.00023	mg/L	0.000293	0.00023 mg/L	0.000293	127.33%
Pb 220.353†	8.6	-0.00034	mg/L	0.001320	-0.00034 mg/L	0.001320	383.22%
Sb 206.836†	-1.3	-0.00174	mg/L	0.002423	-0.00174 mg/L	0.002423	139.30%
Se 196.026†	-3.4	0.00498	mg/L	0.005091	0.00498 mg/L	0.005091	102.22%
Si 251.611†	63956.7	3.07	mg/L	0.099	3.07 mg/L	0.099	3.22%
Sn 189.927†	-67.8	-0.0187	mg/L	0.00191	-0.0187 mg/L	0.00191	10.23%
Ti 334.940†	-824.9	0.00111	mg/L	0.000236	0.00111 mg/L	0.000236	21.30%
Tl 190.801†	-7.6	-0.00673	mg/L	0.006523	-0.00673 mg/L	0.006523	96.94%
V 290.880†	701.2	0.00160	mg/L	0.001785	0.00160 mg/L	0.001785	111.63%
Zn 206.200†	101.4	0.00469	mg/L	0.000140	0.00469 mg/L	0.000140	3.00%
K 766.490†	2826.7	2.45	mg/L	0.043	2.45 mg/L	0.043	1.75%
Na 589.592†	33595.1	3.85	mg/L	0.038	3.85 mg/L	0.038	0.99%
Sr 407.771†	61396.1	0.0697	mg/L	0.00227	0.0697 mg/L	0.00227	3.26%
Li 670.784†	-21.5	0.00127	mg/L	0.000599	0.00127 mg/L	0.000599	46.98%
P 214.914†	45.9	0.0682	mg/L	0.01446	0.0682 mg/L	0.01446	21.21%

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Sequence No.: 82 **Autosampler Location: 194**
Sample ID: L1311002209 **Date Collected: 11/5/2013 7:16:34 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002209

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002209

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1925988.3						30550.66	1.59%
YRADIAL	130703.7						959.42	0.73%
Ga 417.206	729134.5						15254.22	2.09%
GaRADIAL	39834.3						484.33	1.22%
Ag 328.068†	282.7	0.00084	mg/L	0.000519	0.00084	mg/L	0.000519	61.41%
Al 396.153†	22.0	0.0288	mg/L	0.00186	0.0288	mg/L	0.00186	6.47%
As 188.979†	-9.6	-0.00651	mg/L	0.006645	-0.00651	mg/L	0.006645	102.05%
Ba 233.527†	2154.6	0.0406	mg/L	0.00020	0.0406	mg/L	0.00020	0.50%
Be 234.861†	195.3	0.00039	mg/L	0.000070	0.00039	mg/L	0.000070	17.95%
B 249.677†	304.1	0.0150	mg/L	0.00095	0.0150	mg/L	0.00095	6.33%
Ca 227.546†	7588.3	60.1	mg/L	1.08	60.1	mg/L	1.08	1.79%
Cd 228.802†	-6.6	-0.00026	mg/L	0.000076	-0.00026	mg/L	0.000076	29.58%
Co 228.616†	-9.0	-0.00098	mg/L	0.000638	-0.00098	mg/L	0.000638	64.97%
Cr 267.716†	108.0	0.00101	mg/L	0.000285	0.00101	mg/L	0.000285	28.35%
Cu 327.393†	-84.9	-0.00102	mg/L	0.000540	-0.00102	mg/L	0.000540	52.91%
Fe 239.562†	274.8	0.129	mg/L	0.0018	0.129	mg/L	0.0018	1.42%
Mg 279.077†	57446.4	66.2	mg/L	1.00	66.2	mg/L	1.00	1.51%
Mn 257.610†	11147.3	0.0294	mg/L	0.00017	0.0294	mg/L	0.00017	0.56%
Mo 202.031†	23.4	0.00297	mg/L	0.000578	0.00297	mg/L	0.000578	19.46%
Ni 231.604†	17.1	-0.00009	mg/L	0.000288	-0.00009	mg/L	0.000288	326.79%
Pb 220.353†	18.3	0.00217	mg/L	0.002292	0.00217	mg/L	0.002292	105.52%
Sb 206.836†	0.7	-0.00016	mg/L	0.000642	-0.00016	mg/L	0.000642	409.88%
Se 196.026†	-1.9	0.00791	mg/L	0.008047	0.00791	mg/L	0.008047	101.78%
Si 251.611†	45303.7	2.17	mg/L	0.043	2.17	mg/L	0.043	1.97%

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Sn 189.927†	-200.3	-0.0549	mg/L	0.00171	-0.0549	mg/L	0.00171	3.12%
Ti 334.940†	-6038.4	-0.00109	mg/L	0.000245	-0.00109	mg/L	0.000245	22.41%
Tl 190.801†	-9.6	-0.00857	mg/L	0.007057	-0.00857	mg/L	0.007057	82.37%
V 290.880†	1777.3	0.00898	mg/L	0.001281	0.00898	mg/L	0.001281	14.26%
Zn 206.200†	56.2	0.00193	mg/L	0.000198	0.00193	mg/L	0.000198	10.23%
K 766.490†	6047.5	5.30	mg/L	0.196	5.30	mg/L	0.196	3.69%
Na 589.592†	53405.8	6.13	mg/L	0.014	6.13	mg/L	0.014	0.23%
Sr 407.771†	219514.4	0.256	mg/L	0.0086	0.256	mg/L	0.0086	3.38%
Li 670.784†	180.5	0.00481	mg/L	0.000852	0.00481	mg/L	0.000852	17.70%
P 214.914†	41.5	0.0606	mg/L	0.00837	0.0606	mg/L	0.00837	13.81%

Sequence No.: 83 **Autosampler Location: 195**
Sample ID: L1311002301 **Date Collected: 11/5/2013 7:19:36 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002301

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002301

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1865974.3						15350.77	0.82%
YRADIAL	128582.6						1266.82	0.99%
Ga 417.206	729301.5						10739.05	1.47%
GaRADIAL	39551.3						1204.61	3.05%
Ag 328.068†	616.5	0.00283	mg/L	0.000514	0.00283	mg/L	0.000514	18.19%
Al 396.153†	521.4	0.236	mg/L	0.0077	0.236	mg/L	0.0077	3.27%
As 188.979†	-10.8	-0.00589	mg/L	0.000619	-0.00589	mg/L	0.000619	10.51%
Ba 233.527†	1036.0	0.0188	mg/L	0.00028	0.0188	mg/L	0.00028	1.50%
Be 234.861†	237.9	0.00046	mg/L	0.000060	0.00046	mg/L	0.000060	13.12%
B 249.677†	330.1	0.0156	mg/L	0.00006	0.0156	mg/L	0.00006	0.40%
Ca 227.546†	18264.5	145	mg/L	2.4	145	mg/L	2.4	1.63%
Cd 228.802†	-9.9	-0.00044	mg/L	0.000161	-0.00044	mg/L	0.000161	36.32%
Co 228.616†	-6.3	-0.00076	mg/L	0.000453	-0.00076	mg/L	0.000453	59.81%
Cr 267.716†	198.7	0.00241	mg/L	0.000359	0.00241	mg/L	0.000359	14.88%
Cu 327.393†	-48.0	-0.00073	mg/L	0.000279	-0.00073	mg/L	0.000279	38.38%
Fe 239.562†	676.3	0.301	mg/L	0.0076	0.301	mg/L	0.0076	2.53%
Mg 279.077†	132932.1	153	mg/L	2.0	153	mg/L	2.0	1.30%
Mn 257.610†	41580.7	0.111	mg/L	0.0015	0.111	mg/L	0.0015	1.32%
Mo 202.031†	38.9	0.00440	mg/L	0.000795	0.00440	mg/L	0.000795	18.04%
Ni 231.604†	133.7	0.00505	mg/L	0.000323	0.00505	mg/L	0.000323	6.40%
Pb 220.353†	33.5	0.00612	mg/L	0.000795	0.00612	mg/L	0.000795	12.99%
Sb 206.836†	-2.2	-0.00253	mg/L	0.001894	-0.00253	mg/L	0.001894	74.75%
Se 196.026†	-8.4	-0.00501	mg/L	0.001524	-0.00501	mg/L	0.001524	30.43%
Si 251.611†	30675.9	1.47	mg/L	0.035	1.47	mg/L	0.035	2.39%
Sn 189.927†	-249.9	-0.0684	mg/L	0.00180	-0.0684	mg/L	0.00180	2.63%
Ti 334.940†	-11095.4	0.00231	mg/L	0.000706	0.00231	mg/L	0.000706	30.57%
Tl 190.801†	-26.7	-0.0240	mg/L	0.00273	-0.0240	mg/L	0.00273	11.38%
V 290.880†	2379.8	0.0117	mg/L	0.00084	0.0117	mg/L	0.00084	7.21%
Zn 206.200†	88.5	0.00393	mg/L	0.000266	0.00393	mg/L	0.000266	6.76%
K 766.490†	9224.8	8.09	mg/L	0.222	8.09	mg/L	0.222	2.74%
Na 589.592†	74853.3	8.61	mg/L	0.085	8.61	mg/L	0.085	0.99%
Sr 407.771†	707403.1	0.834	mg/L	0.0210	0.834	mg/L	0.0210	2.52%
Li 670.784†	744.7	0.0147	mg/L	0.00071	0.0147	mg/L	0.00071	4.85%
P 214.914†	54.0	0.0819	mg/L	0.00800	0.0819	mg/L	0.00800	9.76%

Sequence No.: 84 **Autosampler Location: 196**
Sample ID: L1311002303 **Date Collected: 11/5/2013 7:22:41 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002303

Analyte	Back Pressure	Flow

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All	180.0 kPa	0.47 L/min

Mean Data: L1311002303

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1908519.0						27050.98	1.42%
YRADIAL	132355.8						2794.60	2.11%
Ga 417.206	732954.6						12714.38	1.73%
GaRADIAL	40703.7						111.34	0.27%
Ag 328.068†	379.6	0.00179	mg/L	0.000288	0.00179	mg/L	0.000288	16.10%
Al 396.153†	1235.3	0.533	mg/L	0.0056	0.533	mg/L	0.0056	1.06%
As 188.979†	-8.4	-0.00381	mg/L	0.008079	-0.00381	mg/L	0.008079	212.07%
Ba 233.527†	1378.8	0.0254	mg/L	0.00037	0.0254	mg/L	0.00037	1.45%
Be 234.861†	429.8	0.00063	mg/L	0.000138	0.00063	mg/L	0.000138	21.91%
B 249.677†	993.7	0.0331	mg/L	0.00095	0.0331	mg/L	0.00095	2.87%
Ca 227.546†	14839.3	118	mg/L	1.6	118	mg/L	1.6	1.38%
Cd 228.802†	-8.7	-0.00038	mg/L	0.000356	-0.00038	mg/L	0.000356	94.80%
Co 228.616†	11.1	0.00046	mg/L	0.000269	0.00046	mg/L	0.000269	58.99%
Cr 267.716†	168.7	0.00186	mg/L	0.000171	0.00186	mg/L	0.000171	9.19%
Cu 327.393†	71.9	0.00030	mg/L	0.000445	0.00030	mg/L	0.000445	149.81%
Fe 239.562†	3473.7	1.51	mg/L	0.023	1.51	mg/L	0.023	1.52%
Mg 279.077†	78948.2	91.0	mg/L	0.81	91.0	mg/L	0.81	0.89%
Mn 257.610†	57635.3	0.153	mg/L	0.0017	0.153	mg/L	0.0017	1.10%
Mo 202.031†	35.5	0.00412	mg/L	0.000235	0.00412	mg/L	0.000235	5.71%
Ni 231.604†	91.7	0.00320	mg/L	0.000135	0.00320	mg/L	0.000135	4.21%
Pb 220.353†	33.6	0.00609	mg/L	0.000789	0.00609	mg/L	0.000789	12.96%
Sb 206.836†	-4.4	-0.00427	mg/L	0.002906	-0.00427	mg/L	0.002906	68.08%
Se 196.026†	-9.7	-0.00735	mg/L	0.009396	-0.00735	mg/L	0.009396	127.77%
Si 251.611†	49778.3	2.38	mg/L	0.034	2.38	mg/L	0.034	1.45%
Sn 189.927†	-247.6	-0.0677	mg/L	0.00137	-0.0677	mg/L	0.00137	2.02%
Ti 334.940†	-7689.4	0.00449	mg/L	0.000425	0.00449	mg/L	0.000425	9.46%
Tl 190.801†	-17.7	-0.0160	mg/L	0.00210	-0.0160	mg/L	0.00210	13.17%
V 290.880†	2110.0	0.0109	mg/L	0.00193	0.0109	mg/L	0.00193	17.65%
Zn 206.200†	426.4	0.0246	mg/L	0.00020	0.0246	mg/L	0.00020	0.82%
K 766.490†	8395.1	7.36	mg/L	0.118	7.36	mg/L	0.118	1.60%
Na 589.592†	91219.1	10.5	mg/L	0.08	10.5	mg/L	0.08	0.73%
Sr 407.771†	1396634.8	1.65	mg/L	0.053	1.65	mg/L	0.053	3.19%
Li 670.784†	1227.0	0.0231	mg/L	0.00029	0.0231	mg/L	0.00029	1.27%
P 214.914†	52.8	0.0799	mg/L	0.02331	0.0799	mg/L	0.02331	29.17%

Sequence No.: 85
Sample ID: L1311002801
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 197
Date Collected: 11/5/2013 7:25:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311002801

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002801

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1929705.0						18191.70	0.94%
YRADIAL	136906.0						1745.56	1.28%
Ga 417.206	737307.7						10486.33	1.42%
GaRADIAL	40993.7						359.63	0.88%
Ag 328.068†	394.3	0.00146	mg/L	0.000409	0.00146	mg/L	0.000409	28.08%
Al 396.153†	30.3	0.0323	mg/L	0.00458	0.0323	mg/L	0.00458	14.19%
As 188.979†	-12.2	-0.00872	mg/L	0.005419	-0.00872	mg/L	0.005419	62.11%
Ba 233.527†	1252.4	0.0230	mg/L	0.00038	0.0230	mg/L	0.00038	1.67%
Be 234.861†	209.9	0.00044	mg/L	0.000057	0.00044	mg/L	0.000057	12.82%
B 249.677†	324.1	0.0155	mg/L	0.00071	0.0155	mg/L	0.00071	4.59%
Ca 227.546†	10157.5	80.5	mg/L	0.79	80.5	mg/L	0.79	0.98%
Cd 228.802†	-9.8	-0.00043	mg/L	0.000290	-0.00043	mg/L	0.000290	67.48%
Co 228.616†	-11.3	-0.00113	mg/L	0.000488	-0.00113	mg/L	0.000488	43.12%
Cr 267.716†	132.6	0.00139	mg/L	0.000180	0.00139	mg/L	0.000180	12.95%
Cu 327.393†	-95.4	-0.00111	mg/L	0.000290	-0.00111	mg/L	0.000290	26.16%

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Fe 239.562†	192.9	0.0937	mg/L	0.00160	0.0937	mg/L	0.00160	1.71%
Mg 279.077†	62139.5	71.7	mg/L	1.18	71.7	mg/L	1.18	1.65%
Mn 257.610†	38683.5	0.103	mg/L	0.0014	0.103	mg/L	0.0014	1.36%
Mo 202.031†	24.7	0.00310	mg/L	0.000196	0.00310	mg/L	0.000196	6.34%
Ni 231.604†	30.8	0.00052	mg/L	0.000487	0.00052	mg/L	0.000487	94.41%
Pb 220.353†	25.9	0.00412	mg/L	0.000563	0.00412	mg/L	0.000563	13.68%
Sb 206.836†	0.8	-0.00005	mg/L	0.004680	-0.00005	mg/L	0.004680	>999.9%
Se 196.026†	-6.0	-0.00030	mg/L	0.007641	-0.00030	mg/L	0.007641	>999.9%
Si 251.611†	47810.2	2.29	mg/L	0.022	2.29	mg/L	0.022	0.95%
Sn 189.927†	-221.9	-0.0607	mg/L	0.00362	-0.0607	mg/L	0.00362	5.96%
Ti 334.940†	-7681.3	-0.00106	mg/L	0.000640	-0.00106	mg/L	0.000640	60.60%
Tl 190.801†	-17.0	-0.0153	mg/L	0.00595	-0.0153	mg/L	0.00595	38.81%
V 290.880†	1739.4	0.00853	mg/L	0.000837	0.00853	mg/L	0.000837	9.81%
Zn 206.200†	29.6	0.00031	mg/L	0.000110	0.00031	mg/L	0.000110	35.29%
K 766.490†	7689.5	6.74	mg/L	0.125	6.74	mg/L	0.125	1.85%
Na 589.592†	75021.2	8.63	mg/L	0.055	8.63	mg/L	0.055	0.64%
Sr 407.771†	368921.7	0.433	mg/L	0.0168	0.433	mg/L	0.0168	3.87%
Li 670.784†	481.4	0.0101	mg/L	0.00044	0.0101	mg/L	0.00044	4.32%
P 214.914†	41.6	0.0608	mg/L	0.01214	0.0608	mg/L	0.01214	19.95%

Sequence No.: 86 **Autosampler Location: 198**
Sample ID: L1311002803 **Date Collected: 11/5/2013 7:28:49 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311002803

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002803

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1914367.2						29890.71	1.56%
YRADIAL	134199.7						4568.80	3.40%
Ga 417.206	730977.1						13664.12	1.87%
GaRADIAL	40223.7						791.11	1.97%
Ag 328.068†	370.4	0.00133	mg/L	0.000228	0.00133	mg/L	0.000228	17.13%
Al 396.153†	36.3	0.0348	mg/L	0.00054	0.0348	mg/L	0.00054	1.56%
As 188.979†	-13.0	-0.00964	mg/L	0.003459	-0.00964	mg/L	0.003459	35.88%
Ba 233.527†	1433.5	0.0265	mg/L	0.00026	0.0265	mg/L	0.00026	0.98%
Be 234.861†	202.1	0.00041	mg/L	0.000082	0.00041	mg/L	0.000082	19.91%
B 249.677†	333.1	0.0158	mg/L	0.00028	0.0158	mg/L	0.00028	1.80%
Ca 227.546†	9265.4	73.4	mg/L	2.34	73.4	mg/L	2.34	3.18%
Cd 228.802†	-10.2	-0.00045	mg/L	0.000223	-0.00045	mg/L	0.000223	49.16%
Co 228.616†	-7.9	-0.00089	mg/L	0.000232	-0.00089	mg/L	0.000232	26.20%
Cr 267.716†	127.9	0.00132	mg/L	0.000235	0.00132	mg/L	0.000235	17.82%
Cu 327.393†	-90.0	-0.00106	mg/L	0.000422	-0.00106	mg/L	0.000422	39.72%
Fe 239.562†	276.5	0.130	mg/L	0.0034	0.130	mg/L	0.0034	2.62%
Mg 279.077†	57693.9	66.5	mg/L	0.91	66.5	mg/L	0.91	1.37%
Mn 257.610†	23335.6	0.0619	mg/L	0.00146	0.0619	mg/L	0.00146	2.36%
Mo 202.031†	19.5	0.00262	mg/L	0.000536	0.00262	mg/L	0.000536	20.50%
Ni 231.604†	37.7	0.00082	mg/L	0.000243	0.00082	mg/L	0.000243	29.63%
Pb 220.353†	20.6	0.00276	mg/L	0.003381	0.00276	mg/L	0.003381	122.36%
Sb 206.836†	-0.8	-0.00139	mg/L	0.001692	-0.00139	mg/L	0.001692	121.94%
Se 196.026†	-7.1	-0.00237	mg/L	0.004761	-0.00237	mg/L	0.004761	201.12%
Si 251.611†	44129.5	2.11	mg/L	0.057	2.11	mg/L	0.057	2.70%
Sn 189.927†	-214.0	-0.0586	mg/L	0.00175	-0.0586	mg/L	0.00175	2.99%
Ti 334.940†	-7160.8	-0.00116	mg/L	0.000352	-0.00116	mg/L	0.000352	30.34%
Tl 190.801†	-19.2	-0.0172	mg/L	0.00154	-0.0172	mg/L	0.00154	8.97%
V 290.880†	1675.4	0.00814	mg/L	0.000518	0.00814	mg/L	0.000518	6.37%
Zn 206.200†	157.7	0.00815	mg/L	0.000576	0.00815	mg/L	0.000576	7.07%
K 766.490†	8201.2	7.18	mg/L	0.213	7.18	mg/L	0.213	2.97%
Na 589.592†	199885.4	23.1	mg/L	0.57	23.1	mg/L	0.57	2.46%
Sr 407.771†	387090.2	0.455	mg/L	0.0066	0.455	mg/L	0.0066	1.44%
Li 670.784†	627.6	0.0126	mg/L	0.00075	0.0126	mg/L	0.00075	5.92%
P 214.914†	51.5	0.0776	mg/L	0.00570	0.0776	mg/L	0.00570	7.35%

Approved: November 06, 2013

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Sequence No.: 87
Sample ID: L1311002805
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 199
Date Collected: 11/5/2013 7:31:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311002805

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311002805

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1973087.9						5823.83	0.30%
YRADIAL	132037.5						4276.98	3.24%
Ga 417.206	716971.7						4896.55	0.68%
GaRADIAL	39525.6						866.09	2.19%
Ag 328.068†	107.2	-0.00014	mg/L	0.000760	-0.00014	mg/L	0.000760	535.27%
Al 396.153†	178.3	0.0939	mg/L	0.00139	0.0939	mg/L	0.00139	1.48%
As 188.979†	-2.7	-0.00058	mg/L	0.000584	-0.00058	mg/L	0.000584	100.89%
Ba 233.527†	1269.6	0.0233	mg/L	0.00029	0.0233	mg/L	0.00029	1.24%
Be 234.861†	181.4	0.00033	mg/L	0.000034	0.00033	mg/L	0.000034	10.46%
B 249.677†	161.6	0.0110	mg/L	0.00010	0.0110	mg/L	0.00010	0.93%
Ca 227.546†	1553.2	12.3	mg/L	0.07	12.3	mg/L	0.07	0.56%
Cd 228.802†	-8.7	-0.00041	mg/L	0.000129	-0.00041	mg/L	0.000129	31.18%
Co 228.616†	-7.3	-0.00088	mg/L	0.000408	-0.00088	mg/L	0.000408	46.30%
Cr 267.716†	19.5	-0.00039	mg/L	0.000037	-0.00039	mg/L	0.000037	9.61%
Cu 327.393†	130.1	0.00069	mg/L	0.000776	0.00069	mg/L	0.000776	112.01%
Fe 239.562†	569.8	0.258	mg/L	0.0061	0.258	mg/L	0.0061	2.37%
Mg 279.077†	4002.7	4.63	mg/L	0.114	4.63	mg/L	0.114	2.46%
Mn 257.610†	14926.5	0.0395	mg/L	0.00088	0.0395	mg/L	0.00088	2.22%
Mo 202.031†	-4.7	0.00041	mg/L	0.000182	0.00041	mg/L	0.000182	44.60%
Ni 231.604†	13.7	-0.00024	mg/L	0.000349	-0.00024	mg/L	0.000349	145.78%
Pb 220.353†	19.2	0.00241	mg/L	0.001558	0.00241	mg/L	0.001558	64.62%
Sb 206.836†	-0.5	-0.00112	mg/L	0.002211	-0.00112	mg/L	0.002211	196.85%
Se 196.026†	-3.8	0.00410	mg/L	0.006947	0.00410	mg/L	0.006947	169.26%
Si 251.611†	62538.6	3.00	mg/L	0.070	3.00	mg/L	0.070	2.35%
Sn 189.927†	-86.0	-0.0237	mg/L	0.00034	-0.0237	mg/L	0.00034	1.43%
Ti 334.940†	-661.3	0.00160	mg/L	0.000215	0.00160	mg/L	0.000215	13.39%
Tl 190.801†	-5.6	-0.00495	mg/L	0.002460	-0.00495	mg/L	0.002460	49.69%
V 290.880†	522.7	0.00022	mg/L	0.000599	0.00022	mg/L	0.000599	276.36%
Zn 206.200†	116.5	0.00562	mg/L	0.000456	0.00562	mg/L	0.000456	8.12%
K 766.490†	2400.3	2.07	mg/L	0.032	2.07	mg/L	0.032	1.55%
Na 589.592†	69823.5	8.03	mg/L	0.128	8.03	mg/L	0.128	1.60%
Sr 407.771†	64255.8	0.0730	mg/L	0.00130	0.0730	mg/L	0.00130	1.78%
Li 670.784†	-15.2	0.00138	mg/L	0.001017	0.00138	mg/L	0.001017	73.43%
P 214.914†	37.4	0.0537	mg/L	0.01920	0.0537	mg/L	0.01920	35.75%

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Sequence No.: 88
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 11/5/2013 7:34:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1965035.8						22304.12	1.14%
YRADIAL	137019.1						3456.94	2.52%
Ga 417.206	713307.7						8812.96	1.24%
GaRADIAL	40021.3						779.54	1.95%
Ag 328.068†	66577.8	0.405	mg/L	0.0050	0.405	mg/L	0.0050	1.24%

QC value within limits for Ag 328.068 Recovery = 101.32%

Approved: November 06, 2013

Kim H. Rhoden

Al 396.153†	24866.1	10.3 mg/L	0.05	10.3 mg/L	0.05	0.46%
QC value within limits for Al 396.153 Recovery = 102.72%						
As 188.979†	391.6	0.391 mg/L	0.0019	0.391 mg/L	0.0019	0.50%
QC value within limits for As 188.979 Recovery = 97.66%						
Ba 233.527†	54269.4	1.06 mg/L	0.024	1.06 mg/L	0.024	2.22%
QC value within limits for Ba 233.527 Recovery = 105.95%						
Be 234.861†	21092.8	0.0497 mg/L	0.00030	0.0497 mg/L	0.00030	0.60%
QC value within limits for Be 234.861 Recovery = 99.35%						
B 249.677†	17870.9	0.489 mg/L	0.0079	0.489 mg/L	0.0079	1.62%
QC value within limits for B 249.677 Recovery = 97.86%						
Ca 227.546†	1224.5	10.2 mg/L	0.01	10.2 mg/L	0.01	0.10%
QC value within limits for Ca 227.546 Recovery = 101.92%						
Cd 228.802†	814.8	0.0464 mg/L	0.00098	0.0464 mg/L	0.00098	2.11%
QC value within limits for Cd 228.802 Recovery = 92.81%						
Co 228.616†	2864.8	0.206 mg/L	0.0039	0.206 mg/L	0.0039	1.87%
QC value within limits for Co 228.616 Recovery = 103.07%						
Cr 267.716†	33347.7	0.520 mg/L	0.0103	0.520 mg/L	0.0103	1.97%
QC value within limits for Cr 267.716 Recovery = 103.98%						
Cu 327.393†	63778.7	0.505 mg/L	0.0045	0.505 mg/L	0.0045	0.89%
QC value within limits for Cu 327.393 Recovery = 101.00%						
Fe 239.562†	9404.3	4.08 mg/L	0.015	4.08 mg/L	0.015	0.38%
QC value within limits for Fe 239.562 Recovery = 102.11%						
Mg 279.077†	8944.3	10.3 mg/L	0.14	10.3 mg/L	0.14	1.38%
QC value within limits for Mg 279.077 Recovery = 103.46%						
Mn 257.610†	196637.5	0.525 mg/L	0.0100	0.525 mg/L	0.0100	1.91%
QC value within limits for Mn 257.610 Recovery = 104.92%						
Mo 202.031†	11448.8	1.04 mg/L	0.020	1.04 mg/L	0.020	1.95%
QC value within limits for Mo 202.031 Recovery = 104.38%						
Ni 231.604†	11988.8	0.527 mg/L	0.0102	0.527 mg/L	0.0102	1.94%
QC value within limits for Ni 231.604 Recovery = 105.44%						
Pb 220.353†	2011.8	0.521 mg/L	0.0088	0.521 mg/L	0.0088	1.70%
QC value within limits for Pb 220.353 Recovery = 104.28%						
Sb 206.836†	1419.3	1.16 mg/L	0.012	1.16 mg/L	0.012	1.01%
QC value within limits for Sb 206.836 Recovery = 96.56%						
Se 196.026†	193.0	0.396 mg/L	0.0072	0.396 mg/L	0.0072	1.82%
QC value within limits for Se 196.026 Recovery = 99.02%						
Si 251.611†	106569.1	5.10 mg/L	0.038	5.10 mg/L	0.038	0.75%
QC value within limits for Si 251.611 Recovery = 102.07%						
Sn 189.927†	3832.6	1.05 mg/L	0.016	1.05 mg/L	0.016	1.53%
QC value within limits for Sn 189.927 Recovery = 104.58%						
Ti 334.940†	557801.2	1.03 mg/L	0.018	1.03 mg/L	0.018	1.71%
QC value within limits for Ti 334.940 Recovery = 102.57%						
Tl 190.801†	582.8	0.536 mg/L	0.0032	0.536 mg/L	0.0032	0.60%
QC value within limits for Tl 190.801 Recovery = 107.11%						
V 290.880†	130467.3	1.07 mg/L	0.030	1.07 mg/L	0.030	2.77%
QC value within limits for V 290.880 Recovery = 107.17%						
Zn 206.200†	17275.7	1.06 mg/L	0.025	1.06 mg/L	0.025	2.40%
QC value within limits for Zn 206.200 Recovery = 106.06%						
K 766.490†	61753.2	53.4 mg/L	0.40	53.4 mg/L	0.40	0.75%
QC value within limits for K 766.490 Recovery = 106.77%						
Na 589.592†	435815.6	50.6 mg/L	0.89	50.6 mg/L	0.89	1.76%
QC value within limits for Na 589.592 Recovery = 101.28%						
Sr 407.771†	897989.8	1.06 mg/L	0.030	1.06 mg/L	0.030	2.80%
QC value within limits for Sr 407.771 Recovery = 106.45%						
Li 670.784†	58920.9	1.03 mg/L	0.006	1.03 mg/L	0.006	0.61%
QC value within limits for Li 670.784 Recovery = 103.32%						
P 214.914†	6063.5	10.3 mg/L	0.22	10.3 mg/L	0.22	2.16%
QC value within limits for P 214.914 Recovery = 103.27%						

All analyte(s) passed QC.

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Sequence No.: 89
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 11/5/2013 7:37:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	**Back Pressure**	**Flow**
All	179.0 kPa	0.47 L/min

Approved: November 06, 2013

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1934831.1						36705.94	1.90%
YRADIAL	132769.4						4730.07	3.56%
Ga 417.206	675091.0						15058.31	2.23%
GaRADIAL	38365.2						1354.15	3.53%
Ag 328.068†	17.3	-0.00078	mg/L	0.000516	-0.00078	mg/L	0.000516	66.13%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	4.0	0.0215	mg/L	0.00280	0.0215	mg/L	0.00280	13.03%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-2.8	-0.00099	mg/L	0.002755	-0.00099	mg/L	0.002755	276.99%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-26.8	-0.00200	mg/L	0.000089	-0.00200	mg/L	0.000089	4.47%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	98.9	0.00019	mg/L	0.000066	0.00019	mg/L	0.000066	35.83%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	-91.4	0.00425	mg/L	0.001338	0.00425	mg/L	0.001338	31.48%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	12.6	0.112	mg/L	0.0178	0.112	mg/L	0.0178	15.92%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-6.3	-0.00028	mg/L	0.000160	-0.00028	mg/L	0.000160	58.05%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-10.2	-0.00108	mg/L	0.000697	-0.00108	mg/L	0.000697	64.78%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	9.7	-0.00052	mg/L	0.000184	-0.00052	mg/L	0.000184	35.25%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-74.9	-0.00094	mg/L	0.000531	-0.00094	mg/L	0.000531	56.56%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	-0.1	0.0115	mg/L	0.00229	0.0115	mg/L	0.00229	19.97%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	29.0	0.0528	mg/L	0.03175	0.0528	mg/L	0.03175	60.15%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	37.7	-0.00021	mg/L	0.000036	-0.00021	mg/L	0.000036	17.42%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.5	0.00114	mg/L	0.000199	0.00114	mg/L	0.000199	17.43%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-0.8	-0.00088	mg/L	0.000463	-0.00088	mg/L	0.000463	52.42%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	13.8	0.00104	mg/L	0.001757	0.00104	mg/L	0.001757	169.72%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	2.6	0.00140	mg/L	0.000883	0.00140	mg/L	0.000883	62.92%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-7.0	-0.00234	mg/L	0.006644	-0.00234	mg/L	0.006644	284.49%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	-0.3	-0.00964	mg/L	0.003223	-0.00964	mg/L	0.003223	33.44%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	0.1	-0.00016	mg/L	0.002226	-0.00016	mg/L	0.002226	>999.9%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	23.8	0.00103	mg/L	0.000127	0.00103	mg/L	0.000127	12.34%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-2.8	-0.00237	mg/L	0.006315	-0.00237	mg/L	0.006315	266.60%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	553.5	0.00062	mg/L	0.001152	0.00062	mg/L	0.001152	186.63%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	8.2	-0.00102	mg/L	0.000292	-0.00102	mg/L	0.000292	28.62%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	-16.0	-0.0580	mg/L	0.06690	-0.0580	mg/L	0.06690	115.44%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	74.7	-0.00621	mg/L	0.004420	-0.00621	mg/L	0.004420	71.17%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	-79.2	-0.00308	mg/L	0.000098	-0.00308	mg/L	0.000098	3.17%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	39.2	0.00234	mg/L	0.000215	0.00234	mg/L	0.000215	9.20%
QC value within limits for Li 670.784 Recovery = Not calculated								
P 214.914†	39.8	0.0577	mg/L	0.01032	0.0577	mg/L	0.01032	17.88%
QC value within limits for P 214.914 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 90 **Autosampler Location: 200**

Approved: November 06, 2013

Sample ID: PBW 6R WG451336-03
Analyst: KHR
Initial Sample Wt:
Dilution:

Date Collected: 11/5/2013 7:40:03 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: PBW 6R WG451336-03

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: PBW 6R WG451336-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1931548.3						63315.92	3.28%
YRADIAL	136157.8						1664.14	1.22%
Ga 417.206	681007.3						25997.76	3.82%
GaRADIAL	39205.8						1151.82	2.94%
Ag 328.068†	15.1	-0.00079	mg/L	0.000683	-0.00079	mg/L	0.000683	86.32%
Al 396.153†	2.7	0.0210	mg/L	0.00307	0.0210	mg/L	0.00307	14.64%
As 188.979†	-3.6	-0.00181	mg/L	0.001775	-0.00181	mg/L	0.001775	97.83%
Ba 233.527†	-32.1	-0.00210	mg/L	0.000069	-0.00210	mg/L	0.000069	3.26%
Be 234.861†	96.7	0.00018	mg/L	0.000116	0.00018	mg/L	0.000116	64.24%
B 249.677†	-227.4	0.00055	mg/L	0.000325	0.00055	mg/L	0.000325	59.52%
Ca 227.546†	16.5	0.143	mg/L	0.0386	0.143	mg/L	0.0386	27.07%
Cd 228.802†	-7.0	-0.00031	mg/L	0.000221	-0.00031	mg/L	0.000221	70.68%
Co 228.616†	-7.8	-0.00090	mg/L	0.000690	-0.00090	mg/L	0.000690	76.28%
Cr 267.716†	19.5	-0.00037	mg/L	0.000210	-0.00037	mg/L	0.000210	56.79%
Cu 327.393†	17.9	-0.00021	mg/L	0.000577	-0.00021	mg/L	0.000577	279.45%
Fe 239.562†	0.8	0.0119	mg/L	0.00137	0.0119	mg/L	0.00137	11.57%
Mg 279.077†	20.4	0.0428	mg/L	0.02468	0.0428	mg/L	0.02468	57.60%
Mn 257.610†	29.2	-0.00023	mg/L	0.000008	-0.00023	mg/L	0.000008	3.61%
Mo 202.031†	-5.6	0.00032	mg/L	0.000373	0.00032	mg/L	0.000373	117.24%
Ni 231.604†	-2.4	-0.00095	mg/L	0.000662	-0.00095	mg/L	0.000662	69.45%
Pb 220.353†	5.7	-0.00108	mg/L	0.000572	-0.00108	mg/L	0.000572	52.98%
Sb 206.836†	2.6	0.00145	mg/L	0.002053	0.00145	mg/L	0.002053	141.53%
Se 196.026†	-5.2	0.00125	mg/L	0.011735	0.00125	mg/L	0.011735	938.51%
Si 251.611†	-54.0	-0.0122	mg/L	0.00124	-0.0122	mg/L	0.00124	10.12%
Sn 189.927†	-2.4	-0.00085	mg/L	0.000883	-0.00085	mg/L	0.000883	103.71%
Ti 334.940†	-33.6	0.00093	mg/L	0.000167	0.00093	mg/L	0.000167	18.04%
Tl 190.801†	-0.6	-0.00045	mg/L	0.002336	-0.00045	mg/L	0.002336	519.05%
V 290.880†	678.4	0.00165	mg/L	0.000779	0.00165	mg/L	0.000779	47.23%
Zn 206.200†	29.8	0.00030	mg/L	0.000502	0.00030	mg/L	0.000502	166.22%
K 766.490†	1.2	-0.0427	mg/L	0.02217	-0.0427	mg/L	0.02217	51.86%
Na 589.592†	76.3	-0.00603	mg/L	0.010472	-0.00603	mg/L	0.010472	173.74%
Sr 407.771†	-110.4	-0.00312	mg/L	0.000044	-0.00312	mg/L	0.000044	1.42%
Li 670.784†	-59.4	0.00061	mg/L	0.000610	0.00061	mg/L	0.000610	99.64%
P 214.914†	38.9	0.0562	mg/L	0.01016	0.0562	mg/L	0.01016	18.08%

Sequence No.: 91
Sample ID: LCSW 6R WG451336-04
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 201
Date Collected: 11/5/2013 7:43:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LCSW 6R WG451336-04

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: LCSW 6R WG451336-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1934859.6						11714.40	0.61%
YRADIAL	133380.3						756.40	0.57%
Ga 417.206	701045.2						11642.41	1.66%
GaRADIAL	39491.3						50.91	0.13%
Ag 328.068†	33443.1	0.203	mg/L	0.0029	0.203	mg/L	0.0029	1.43%
Al 396.153†	12350.7	5.11	mg/L	0.060	5.11	mg/L	0.060	1.17%
As 188.979†	190.3	0.191	mg/L	0.0037	0.191	mg/L	0.0037	1.97%

Approved: November 06, 2013

Kim H. Rhoden

Ba 233.527†	26749.3	0.521	mg/L	0.0052	0.521	mg/L	0.0052	1.00%
Be 234.861†	10410.7	0.0245	mg/L	0.00037	0.0245	mg/L	0.00037	1.51%
B 249.677†	36207.2	0.990	mg/L	0.0152	0.990	mg/L	0.0152	1.54%
Ca 227.546†	619.8	5.16	mg/L	0.108	5.16	mg/L	0.108	2.09%
Cd 228.802†	405.1	0.0231	mg/L	0.00089	0.0231	mg/L	0.00089	3.84%
Co 228.616†	1447.5	0.104	mg/L	0.0006	0.104	mg/L	0.0006	0.62%
Cr 267.716†	16606.9	0.259	mg/L	0.0013	0.259	mg/L	0.0013	0.52%
Cu 327.393†	31696.2	0.251	mg/L	0.0033	0.251	mg/L	0.0033	1.32%
Fe 239.562†	4831.1	2.10	mg/L	0.031	2.10	mg/L	0.031	1.48%
Mg 279.077†	4547.1	5.27	mg/L	0.120	5.27	mg/L	0.120	2.27%
Mn 257.610†	100039.6	0.267	mg/L	0.0025	0.267	mg/L	0.0025	0.95%
Mo 202.031†	5898.6	0.538	mg/L	0.0025	0.538	mg/L	0.0025	0.47%
Ni 231.604†	6032.2	0.265	mg/L	0.0014	0.265	mg/L	0.0014	0.52%
Pb 220.353†	1027.4	0.265	mg/L	0.0016	0.265	mg/L	0.0016	0.59%
Sb 206.836†	730.3	0.596	mg/L	0.0105	0.596	mg/L	0.0105	1.77%
Se 196.026†	94.8	0.201	mg/L	0.0057	0.201	mg/L	0.0057	2.85%
Si 251.611†	52462.3	2.51	mg/L	0.033	2.51	mg/L	0.033	1.30%
Sn 189.927†	-33.5	-0.00932	mg/L	0.000862	-0.00932	mg/L	0.000862	9.25%
Ti 334.940†	280693.3	0.517	mg/L	0.0042	0.517	mg/L	0.0042	0.81%
Tl 190.801†	290.0	0.267	mg/L	0.0055	0.267	mg/L	0.0055	2.07%
V 290.880†	64268.4	0.526	mg/L	0.0073	0.526	mg/L	0.0073	1.39%
Zn 206.200†	8534.8	0.523	mg/L	0.0080	0.523	mg/L	0.0080	1.53%
K 766.490†	30681.4	26.8	mg/L	0.19	26.8	mg/L	0.19	0.70%
Na 589.592†	222481.1	25.7	mg/L	0.10	25.7	mg/L	0.10	0.39%
Sr 407.771†	463119.9	0.548	mg/L	0.0038	0.548	mg/L	0.0038	0.70%
Li 670.784†	29443.8	0.517	mg/L	0.0039	0.517	mg/L	0.0039	0.76%
P 214.914†	-49.0	-0.0938	mg/L	0.03162	-0.0938	mg/L	0.03162	33.73%

Sequence No.: 92 **Autosampler Location: 202**
Sample ID: L1311003101 WG451336-01 **Date Collected: 11/5/2013 7:45:10 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003101 WG451336-01

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003101 WG451336-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1875752.2						20524.92	1.09%
YRADIAL	133129.8						2394.93	1.80%
Ga 417.206	720400.7						7707.21	1.07%
GaRADIAL	40248.7						1170.07	2.91%
Ag 328.068†	319.4	0.00092	mg/L	0.000747	0.00092	mg/L	0.000747	80.80%
Al 396.153†	538.4	0.243	mg/L	0.0043	0.243	mg/L	0.0043	1.77%
As 188.979†	-6.1	-0.00297	mg/L	0.005329	-0.00297	mg/L	0.005329	179.53%
Ba 233.527†	498.6	0.00827	mg/L	0.000142	0.00827	mg/L	0.000142	1.71%
Be 234.861†	254.6	0.00061	mg/L	0.000044	0.00061	mg/L	0.000044	7.16%
B 249.677†	647.5	0.0243	mg/L	0.00254	0.0243	mg/L	0.00254	10.43%
Ca 227.546†	8177.1	64.8	mg/L	1.52	64.8	mg/L	1.52	2.35%
Cd 228.802†	-10.2	-0.00047	mg/L	0.000082	-0.00047	mg/L	0.000082	17.49%
Co 228.616†	46.0	0.00301	mg/L	0.000142	0.00301	mg/L	0.000142	4.71%
Cr 267.716†	98.8	0.00087	mg/L	0.000202	0.00087	mg/L	0.000202	23.07%
Cu 327.393†	-61.0	-0.00084	mg/L	0.000685	-0.00084	mg/L	0.000685	81.20%
Fe 239.562†	64.1	0.0382	mg/L	0.00150	0.0382	mg/L	0.00150	3.93%
Mg 279.077†	48180.3	55.6	mg/L	0.34	55.6	mg/L	0.34	0.61%
Mn 257.610†	219221.2	0.584	mg/L	0.0021	0.584	mg/L	0.0021	0.36%
Mo 202.031†	20.5	0.00282	mg/L	0.000257	0.00282	mg/L	0.000257	9.12%
Ni 231.604†	285.8	0.0118	mg/L	0.00082	0.0118	mg/L	0.00082	6.99%
Pb 220.353†	22.9	0.00308	mg/L	0.001225	0.00308	mg/L	0.001225	39.78%
Sb 206.836†	-3.3	-0.00338	mg/L	0.001453	-0.00338	mg/L	0.001453	43.01%
Se 196.026†	-9.3	-0.00697	mg/L	0.008017	-0.00697	mg/L	0.008017	115.09%
Si 251.611†	36280.9	1.74	mg/L	0.025	1.74	mg/L	0.025	1.46%
Sn 189.927†	-197.3	-0.0540	mg/L	0.00080	-0.0540	mg/L	0.00080	1.48%
Ti 334.940†	-6511.9	-0.00126	mg/L	0.000058	-0.00126	mg/L	0.000058	4.61%
Tl 190.801†	-17.6	-0.0163	mg/L	0.00269	-0.0163	mg/L	0.00269	16.51%
V 290.880†	1627.1	0.00803	mg/L	0.001836	0.00803	mg/L	0.001836	22.87%

Approved: November 06, 2013

Zn 206.200†	186.0	0.00987	mg/L	0.000254	0.00987	mg/L	0.000254	2.57%
K 766.490†	8999.3	7.67	mg/L	0.077	7.67	mg/L	0.077	1.00%
Na 589.592†	1938934.2	235	mg/L	8.1	235	mg/L	8.1	3.45%
Sr 407.771†	323302.0	0.379	mg/L	0.0141	0.379	mg/L	0.0141	3.72%
Li 670.784†	1936.6	0.0356	mg/L	0.00084	0.0356	mg/L	0.00084	2.35%
P 214.914†	43.7	0.0644	mg/L	0.01884	0.0644	mg/L	0.01884	29.28%

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Sequence No.: 93 **Autosampler Location: 203**
Sample ID: L1311003101DU WG451336-05 **Date Collected: 11/5/2013 7:48:16 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003101DU WG451336-05

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003101DU WG451336-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1898019.9						29901.85	1.58%
YRADIAL	133894.7						2028.48	1.51%
Ga 417.206	730112.1						14802.04	2.03%
GaRADIAL	40653.8						52.60	0.13%
Ag 328.068†	314.3	0.00090	mg/L	0.000078	0.00090	mg/L	0.000078	8.64%
Al 396.153†	524.0	0.237	mg/L	0.0010	0.237	mg/L	0.0010	0.44%
As 188.979†	-8.0	-0.00485	mg/L	0.006495	-0.00485	mg/L	0.006495	133.82%
Ba 233.527†	488.5	0.00807	mg/L	0.000032	0.00807	mg/L	0.000032	0.39%
Be 234.861†	260.5	0.00062	mg/L	0.000084	0.00062	mg/L	0.000084	13.46%
B 249.677†	371.3	0.0168	mg/L	0.00075	0.0168	mg/L	0.00075	4.44%
Ca 227.546†	8261.7	65.4	mg/L	0.27	65.4	mg/L	0.27	0.41%
Cd 228.802†	-10.4	-0.00047	mg/L	0.000516	-0.00047	mg/L	0.000516	109.31%
Co 228.616†	47.4	0.00312	mg/L	0.000350	0.00312	mg/L	0.000350	11.25%
Cr 267.716†	93.4	0.00079	mg/L	0.000153	0.00079	mg/L	0.000153	19.27%
Cu 327.393†	-68.0	-0.00090	mg/L	0.000443	-0.00090	mg/L	0.000443	49.29%
Fe 239.562†	61.7	0.0371	mg/L	0.00109	0.0371	mg/L	0.00109	2.93%
Mg 279.077†	47553.8	54.8	mg/L	0.84	54.8	mg/L	0.84	1.53%
Mn 257.610†	218348.6	0.582	mg/L	0.0020	0.582	mg/L	0.0020	0.34%
Mo 202.031†	24.1	0.00315	mg/L	0.000542	0.00315	mg/L	0.000542	17.21%
Ni 231.604†	295.4	0.0122	mg/L	0.00053	0.0122	mg/L	0.00053	4.35%
Pb 220.353†	32.5	0.00556	mg/L	0.001311	0.00556	mg/L	0.001311	23.58%
Sb 206.836†	1.7	0.00071	mg/L	0.001562	0.00071	mg/L	0.001562	220.79%
Se 196.026†	-7.5	-0.00347	mg/L	0.007857	-0.00347	mg/L	0.007857	226.63%
Si 251.611†	36907.0	1.77	mg/L	0.028	1.77	mg/L	0.028	1.59%
Sn 189.927†	-200.2	-0.0548	mg/L	0.00112	-0.0548	mg/L	0.00112	2.04%
Ti 334.940†	-6624.2	-0.00137	mg/L	0.000045	-0.00137	mg/L	0.000045	3.29%
Tl 190.801†	-12.4	-0.0116	mg/L	0.00486	-0.0116	mg/L	0.00486	41.78%
V 290.880†	1954.3	0.0108	mg/L	0.00216	0.0108	mg/L	0.00216	20.06%
Zn 206.200†	181.1	0.00958	mg/L	0.000085	0.00958	mg/L	0.000085	0.89%
K 766.490†	8851.4	7.55	mg/L	0.122	7.55	mg/L	0.122	1.61%
Na 589.592†	1858981.5	224	mg/L	5.8	224	mg/L	5.8	2.57%
Sr 407.771†	311145.9	0.365	mg/L	0.0019	0.365	mg/L	0.0019	0.52%
Li 670.784†	1885.0	0.0347	mg/L	0.00189	0.0347	mg/L	0.00189	5.45%
P 214.914†	35.0	0.0495	mg/L	0.01677	0.0495	mg/L	0.01677	33.89%

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Sequence No.: 94 **Autosampler Location: 204**
Sample ID: L1311003101MS WG451336-06 **Date Collected: 11/5/2013 7:51:22 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003101MS WG451336-06

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003101MS WG451336-06

Approved: November 06, 2013

Kim H. Rhoden

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1879585.8						24553.80	1.31%
YRADIAL	132096.8						1481.78	1.12%
Ga 417.206	710779.6						20851.35	2.93%
GaRADIAL	40008.1						349.34	0.87%
Ag 328.068†	32045.2	0.195	mg/L	0.0009	0.195	mg/L	0.0009	0.48%
Al 396.153†	12654.4	5.24	mg/L	0.051	5.24	mg/L	0.051	0.98%
As 188.979†	187.6	0.189	mg/L	0.0073	0.189	mg/L	0.0073	3.86%
Ba 233.527†	26586.8	0.518	mg/L	0.0092	0.518	mg/L	0.0092	1.78%
Be 234.861†	10164.2	0.0239	mg/L	0.00014	0.0239	mg/L	0.00014	0.57%
B 249.677†	36220.8	0.991	mg/L	0.0096	0.991	mg/L	0.0096	0.97%
Ca 227.546†	8508.1	67.6	mg/L	1.08	67.6	mg/L	1.08	1.59%
Cd 228.802†	388.2	0.0222	mg/L	0.00102	0.0222	mg/L	0.00102	4.61%
Co 228.616†	1463.9	0.105	mg/L	0.0025	0.105	mg/L	0.0025	2.39%
Cr 267.716†	16051.0	0.250	mg/L	0.0041	0.250	mg/L	0.0041	1.64%
Cu 327.393†	30051.3	0.238	mg/L	0.0030	0.238	mg/L	0.0030	1.25%
Fe 239.562†	4817.5	2.10	mg/L	0.038	2.10	mg/L	0.038	1.81%
Mg 279.077†	50529.2	58.3	mg/L	0.58	58.3	mg/L	0.58	1.00%
Mn 257.610†	303359.6	0.809	mg/L	0.0075	0.809	mg/L	0.0075	0.92%
Mo 202.031†	5894.6	0.538	mg/L	0.0091	0.538	mg/L	0.0091	1.69%
Ni 231.604†	6008.5	0.264	mg/L	0.0063	0.264	mg/L	0.0063	2.40%
Pb 220.353†	1009.4	0.260	mg/L	0.0036	0.260	mg/L	0.0036	1.37%
Sb 206.836†	703.5	0.574	mg/L	0.0165	0.574	mg/L	0.0165	2.87%
Se 196.026†	84.8	0.181	mg/L	0.0081	0.181	mg/L	0.0081	4.46%
Si 251.611†	86027.0	4.12	mg/L	0.023	4.12	mg/L	0.023	0.56%
Sn 189.927†	-193.1	-0.0529	mg/L	0.00113	-0.0529	mg/L	0.00113	2.13%
Ti 334.940†	272765.0	0.511	mg/L	0.0037	0.511	mg/L	0.0037	0.73%
Tl 190.801†	264.3	0.243	mg/L	0.0011	0.243	mg/L	0.0011	0.46%
V 290.880†	64985.7	0.530	mg/L	0.0102	0.530	mg/L	0.0102	1.93%
Zn 206.200†	8298.7	0.509	mg/L	0.0087	0.509	mg/L	0.0087	1.70%
K 766.490†	38438.2	33.3	mg/L	0.35	33.3	mg/L	0.35	1.04%
Na 589.592†	2023691.5	245	mg/L	1.1	245	mg/L	1.1	0.45%
Sr 407.771†	762302.8	0.901	mg/L	0.0045	0.901	mg/L	0.0045	0.50%
Li 670.784†	30791.5	0.541	mg/L	0.0042	0.541	mg/L	0.0042	0.77%
P 214.914†	-38.0	-0.0749	mg/L	0.02437	-0.0749	mg/L	0.02437	32.53%

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Sequence No.: 95 **Autosampler Location: 205**
Sample ID: L1311003103 **Date Collected: 11/5/2013 7:53:29 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003103

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003103

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1918325.9						7195.55	0.38%
YRADIAL	133344.6						3135.72	2.35%
Ga 417.206	739074.6						2142.47	0.29%
GaRADIAL	40570.6						958.98	2.36%
Ag 328.068†	570.8	0.00235	mg/L	0.000184	0.00235	mg/L	0.000184	7.82%
Al 396.153†	195.7	0.101	mg/L	0.0024	0.101	mg/L	0.0024	2.36%
As 188.979†	-9.3	-0.00446	mg/L	0.003118	-0.00446	mg/L	0.003118	69.93%
Ba 233.527†	1310.2	0.0241	mg/L	0.00016	0.0241	mg/L	0.00016	0.65%
Be 234.861†	252.5	0.00049	mg/L	0.000024	0.00049	mg/L	0.000024	4.88%
B 249.677†	1585.5	0.0497	mg/L	0.00137	0.0497	mg/L	0.00137	2.75%
Ca 227.546†	17409.0	138	mg/L	1.2	138	mg/L	1.2	0.89%
Cd 228.802†	-10.7	-0.00049	mg/L	0.000077	-0.00049	mg/L	0.000077	15.51%
Co 228.616†	8.9	0.00035	mg/L	0.000199	0.00035	mg/L	0.000199	57.09%
Cr 267.716†	122.9	0.00122	mg/L	0.000230	0.00122	mg/L	0.000230	18.85%
Cu 327.393†	-40.6	-0.00067	mg/L	0.000106	-0.00067	mg/L	0.000106	15.80%
Fe 239.562†	830.8	0.370	mg/L	0.0086	0.370	mg/L	0.0086	2.33%
Mg 279.077†	75581.6	87.1	mg/L	1.01	87.1	mg/L	1.01	1.16%
Mn 257.610†	91765.5	0.244	mg/L	0.0018	0.244	mg/L	0.0018	0.74%
Mo 202.031†	44.9	0.00497	mg/L	0.000892	0.00497	mg/L	0.000892	17.94%

Approved: November 06, 2013

Kim H. Rhoden

Ni 231.604†	222.4	0.00896	mg/L	0.000184	0.00896	mg/L	0.000184 2.06%
Pb 220.353†	31.1	0.00538	mg/L	0.002319	0.00538	mg/L	0.002319 43.06%
Sb 206.836†	-4.9	-0.00473	mg/L	0.002367	-0.00473	mg/L	0.002367 50.06%
Se 196.026†	-6.8	-0.00177	mg/L	0.011050	-0.00177	mg/L	0.011050 624.58%
Si 251.611†	46943.6	2.25	mg/L	0.010	2.25	mg/L	0.010 0.46%
Sn 189.927†	-253.8	-0.0695	mg/L	0.00117	-0.0695	mg/L	0.00117 1.69%
Ti 334.940†	-12781.3	-0.00180	mg/L	0.000646	-0.00180	mg/L	0.000646 35.88%
Tl 190.801†	-23.5	-0.0214	mg/L	0.00914	-0.0214	mg/L	0.00914 42.77%
V 290.880†	1792.5	0.00854	mg/L	0.001472	0.00854	mg/L	0.001472 17.23%
Zn 206.200†	111.0	0.00529	mg/L	0.000552	0.00529	mg/L	0.000552 10.43%
K 766.490†	9534.3	8.36	mg/L	0.156	8.36	mg/L	0.156 1.86%
Na 589.592†	89227.1	10.3	mg/L	0.09	10.3	mg/L	0.09 0.89%
Sr 407.771†	1569653.4	1.86	mg/L	0.033	1.86	mg/L	0.033 1.80%
Li 670.784†	1716.8	0.0317	mg/L	0.00089	0.0317	mg/L	0.00089 2.82%
P 214.914†	46.8	0.0696	mg/L	0.00452	0.0696	mg/L	0.00452 6.49%

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Sequence No.: 96 **Autosampler Location: 206**
Sample ID: L1311003201 **Date Collected: 11/5/2013 7:56:35 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003201

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: L1311003201

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1926653.6						30299.36	1.57%
YRADIAL	132750.3						1784.20	1.34%
Ga 417.206	724958.5						9726.74	1.34%
GaRADIAL	39764.4						268.01	0.67%
Ag 328.068†	225.3	0.00041	mg/L	0.000329	0.00041	mg/L	0.000329	81.19%
Al 396.153†	31.2	0.0326	mg/L	0.00197	0.0326	mg/L	0.00197	6.04%
As 188.979†	-4.3	-0.00143	mg/L	0.002374	-0.00143	mg/L	0.002374	165.92%
Ba 233.527†	3149.9	0.0601	mg/L	0.00098	0.0601	mg/L	0.00098	1.62%
Be 234.861†	194.5	0.00040	mg/L	0.000030	0.00040	mg/L	0.000030	7.46%
B 249.677†	842.2	0.0296	mg/L	0.00027	0.0296	mg/L	0.00027	0.93%
Ca 227.546†	6356.1	50.4	mg/L	0.58	50.4	mg/L	0.58	1.15%
Cd 228.802†	-11.2	-0.00055	mg/L	0.000166	-0.00055	mg/L	0.000166	29.88%
Co 228.616†	-11.1	-0.00114	mg/L	0.000289	-0.00114	mg/L	0.000289	25.24%
Cr 267.716†	58.4	0.00023	mg/L	0.000142	0.00023	mg/L	0.000142	60.56%
Cu 327.393†	-13.8	-0.00046	mg/L	0.000371	-0.00046	mg/L	0.000371	80.56%
Fe 239.562†	152.8	0.0772	mg/L	0.00136	0.0772	mg/L	0.00136	1.76%
Mg 279.077†	23937.3	27.6	mg/L	0.40	27.6	mg/L	0.40	1.45%
Mn 257.610†	3868.4	0.0100	mg/L	0.00021	0.0100	mg/L	0.00021	2.09%
Mo 202.031†	24.6	0.00307	mg/L	0.000713	0.00307	mg/L	0.000713	23.22%
Ni 231.604†	7.1	-0.00053	mg/L	0.000164	-0.00053	mg/L	0.000164	31.08%
Pb 220.353†	23.9	0.00365	mg/L	0.001461	0.00365	mg/L	0.001461	40.04%
Sb 206.836†	-2.2	-0.00249	mg/L	0.002858	-0.00249	mg/L	0.002858	114.87%
Se 196.026†	-3.3	0.00502	mg/L	0.003252	0.00502	mg/L	0.003252	64.83%
Si 251.611†	31773.0	1.52	mg/L	0.024	1.52	mg/L	0.024	1.60%
Sn 189.927†	-189.3	-0.0518	mg/L	0.00299	-0.0518	mg/L	0.00299	5.77%
Ti 334.940†	-4762.7	-0.00022	mg/L	0.000342	-0.00022	mg/L	0.000342	157.14%
Tl 190.801†	-14.5	-0.0129	mg/L	0.00152	-0.0129	mg/L	0.00152	11.80%
V 290.880†	1302.3	0.00607	mg/L	0.001188	0.00607	mg/L	0.001188	19.57%
Zn 206.200†	27.8	0.00019	mg/L	0.000234	0.00019	mg/L	0.000234	125.01%
K 766.490†	5752.8	5.03	mg/L	0.076	5.03	mg/L	0.076	1.50%
Na 589.592†	80243.5	9.23	mg/L	0.145	9.23	mg/L	0.145	1.57%
Sr 407.771†	479442.2	0.566	mg/L	0.0205	0.566	mg/L	0.0205	3.63%
Li 670.784†	274.6	0.00646	mg/L	0.000800	0.00646	mg/L	0.000800	12.38%
P 214.914†	42.9	0.0631	mg/L	0.02050	0.0631	mg/L	0.02050	32.50%

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Sequence No.: 97 **Autosampler Location: 207**
Sample ID: L1311003203 **Date Collected: 11/5/2013 7:59:40 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: November 06, 2013

Kim H. Rhoden

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003203

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003203

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1943759.3						32258.67	1.66%
YRADIAL	134306.6						6691.67	4.98%
Ga 417.206	732336.0						9722.63	1.33%
GaRADIAL	40033.1						1149.79	2.87%
Ag 328.068†	269.9	0.00065	mg/L	0.000175	0.00065	mg/L	0.000175	27.08%
Al 396.153†	32.8	0.0333	mg/L	0.00261	0.0333	mg/L	0.00261	7.85%
As 188.979†	-14.4	-0.0115	mg/L	0.00572	-0.0115	mg/L	0.00572	49.60%
Ba 233.527†	2544.0	0.0482	mg/L	0.00073	0.0482	mg/L	0.00073	1.52%
Be 234.861†	198.2	0.00041	mg/L	0.000025	0.00041	mg/L	0.000025	6.01%
B 249.677†	819.0	0.0290	mg/L	0.00017	0.0290	mg/L	0.00017	0.59%
Ca 227.546†	6428.8	50.9	mg/L	0.92	50.9	mg/L	0.92	1.80%
Cd 228.802†	-10.9	-0.00049	mg/L	0.000321	-0.00049	mg/L	0.000321	65.59%
Co 228.616†	-14.1	-0.00135	mg/L	0.000704	-0.00135	mg/L	0.000704	51.96%
Cr 267.716†	52.1	0.00014	mg/L	0.000296	0.00014	mg/L	0.000296	216.86%
Cu 327.393†	52.0	0.00006	mg/L	0.000586	0.00006	mg/L	0.000586	>999.9%
Fe 239.562†	130.0	0.0673	mg/L	0.00462	0.0673	mg/L	0.00462	6.86%
Mg 279.077†	21717.9	25.1	mg/L	0.40	25.1	mg/L	0.40	1.58%
Mn 257.610†	5182.7	0.0135	mg/L	0.00029	0.0135	mg/L	0.00029	2.14%
Mo 202.031†	27.4	0.00332	mg/L	0.000290	0.00332	mg/L	0.000290	8.73%
Ni 231.604†	-2.9	-0.00097	mg/L	0.000637	-0.00097	mg/L	0.000637	65.77%
Pb 220.353†	28.2	0.00477	mg/L	0.002172	0.00477	mg/L	0.002172	45.54%
Sb 206.836†	-0.3	-0.00094	mg/L	0.003257	-0.00094	mg/L	0.003257	346.14%
Se 196.026†	-7.7	-0.00367	mg/L	0.009391	-0.00367	mg/L	0.009391	255.86%
Si 251.611†	39751.3	1.90	mg/L	0.031	1.90	mg/L	0.031	1.61%
Sn 189.927†	-182.0	-0.0498	mg/L	0.00169	-0.0498	mg/L	0.00169	3.40%
Ti 334.940†	-4863.8	-0.00032	mg/L	0.000269	-0.00032	mg/L	0.000269	84.81%
Tl 190.801†	-18.9	-0.0169	mg/L	0.00224	-0.0169	mg/L	0.00224	13.27%
V 290.880†	1224.2	0.00550	mg/L	0.002814	0.00550	mg/L	0.002814	51.19%
Zn 206.200†	22.7	-0.00013	mg/L	0.000214	-0.00013	mg/L	0.000214	169.60%
K 766.490†	6267.6	5.48	mg/L	0.127	5.48	mg/L	0.127	2.31%
Na 589.592†	109949.6	12.7	mg/L	0.40	12.7	mg/L	0.40	3.14%
Sr 407.771†	564493.3	0.667	mg/L	0.0462	0.667	mg/L	0.0462	6.94%
Li 670.784†	545.7	0.0112	mg/L	0.00059	0.0112	mg/L	0.00059	5.27%
P 214.914†	39.6	0.0573	mg/L	0.00709	0.0573	mg/L	0.00709	12.37%

Sequence No.: 98 **Autosampler Location: 208**
Sample ID: L1311003203PS WG451568-01 **Date Collected: 11/5/2013 8:02:45 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003203PS WG451568-01

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003203PS WG451568-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1942412.5						25818.31	1.33%
YRADIAL	135103.5						1297.64	0.96%
Ga 417.206	714952.0						9495.96	1.33%
GaRADIAL	40436.8						127.58	0.32%
Ag 328.068†	33856.2	0.206	mg/L	0.0045	0.206	mg/L	0.0045	2.20%
Al 396.153†	12671.4	5.24	mg/L	0.057	5.24	mg/L	0.057	1.09%
As 188.979†	192.8	0.194	mg/L	0.0010	0.194	mg/L	0.0010	0.50%
Ba 233.527†	29563.4	0.576	mg/L	0.0047	0.576	mg/L	0.0047	0.81%
Be 234.861†	10565.2	0.0248	mg/L	0.00042	0.0248	mg/L	0.00042	1.70%
B 249.677†	38473.0	1.05	mg/L	0.017	1.05	mg/L	0.017	1.64%

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Ca 227.546†	6834.1	54.4	mg/L	1.40	54.4	mg/L	1.40	2.58%
Cd 228.802†	391.5	0.0223	mg/L	0.00090	0.0223	mg/L	0.00090	4.05%
Co 228.616†	1417.3	0.102	mg/L	0.0006	0.102	mg/L	0.0006	0.59%
Cr 267.716†	16965.9	0.264	mg/L	0.0021	0.264	mg/L	0.0021	0.79%
Cu 327.393†	31242.6	0.247	mg/L	0.0046	0.247	mg/L	0.0046	1.85%
Fe 239.562†	4985.9	2.17	mg/L	0.027	2.17	mg/L	0.027	1.22%
Mg 279.077†	24883.3	28.7	mg/L	0.18	28.7	mg/L	0.18	0.61%
Mn 257.610†	106702.8	0.285	mg/L	0.0016	0.285	mg/L	0.0016	0.58%
Mo 202.031†	5964.4	0.544	mg/L	0.0088	0.544	mg/L	0.0088	1.62%
Ni 231.604†	5982.6	0.263	mg/L	0.0027	0.263	mg/L	0.0027	1.04%
Pb 220.353†	1023.2	0.264	mg/L	0.0041	0.264	mg/L	0.0041	1.55%
Sb 206.836†	728.8	0.595	mg/L	0.0179	0.595	mg/L	0.0179	3.01%
Se 196.026†	91.9	0.195	mg/L	0.0039	0.195	mg/L	0.0039	2.02%
Si 251.611†	90484.9	4.34	mg/L	0.083	4.34	mg/L	0.083	1.91%
Sn 189.927†	-173.5	-0.0475	mg/L	0.00044	-0.0475	mg/L	0.00044	0.92%
Ti 334.940†	279836.7	0.522	mg/L	0.0054	0.522	mg/L	0.0054	1.04%
Tl 190.801†	273.5	0.252	mg/L	0.0059	0.252	mg/L	0.0059	2.33%
V 290.880†	66645.8	0.545	mg/L	0.0014	0.545	mg/L	0.0014	0.26%
Zn 206.200†	8457.4	0.519	mg/L	0.0057	0.519	mg/L	0.0057	1.09%
K 766.490†	36731.8	32.0	mg/L	0.31	32.0	mg/L	0.31	0.95%
Na 589.592†	327386.6	37.9	mg/L	0.22	37.9	mg/L	0.22	0.58%
Sr 407.771†	992587.5	1.18	mg/L	0.011	1.18	mg/L	0.011	0.95%
Li 670.784†	30573.6	0.537	mg/L	0.0062	0.537	mg/L	0.0062	1.15%
P 214.914†	-40.0	-0.0783	mg/L	0.04535	-0.0783	mg/L	0.04535	57.91%

Sequence No.: 99
Sample ID: L1311003203DL WG451568-02
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 209
Date Collected: 11/5/2013 8:04:51 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311003203DL WG451568-02

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311003203DL WG451568-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1983044.2						56759.39	2.86%
YRADIAL	136208.3						3667.99	2.69%
Ga 417.206	713225.3						21699.26	3.04%
GaRADIAL	39854.3						136.20	0.34%
Ag 328.068†	185.5	0.00022	mg/L	0.000135	0.00022	mg/L	0.000135	62.71%
Al 396.153†	14.7	0.0259	mg/L	0.00277	0.0259	mg/L	0.00277	10.66%
As 188.979†	-2.2	-0.00017	mg/L	0.004982	-0.00017	mg/L	0.004982	>999.9%
Ba 233.527†	485.7	0.00802	mg/L	0.000021	0.00802	mg/L	0.000021	0.26%
Be 234.861†	177.8	0.00037	mg/L	0.000073	0.00037	mg/L	0.000073	19.74%
B 249.677†	388.9	0.0173	mg/L	0.00152	0.0173	mg/L	0.00152	8.75%
Ca 227.546†	1304.8	10.3	mg/L	0.16	10.3	mg/L	0.16	1.59%
Cd 228.802†	-8.3	-0.00040	mg/L	0.000185	-0.00040	mg/L	0.000185	46.84%
Co 228.616†	-9.6	-0.00103	mg/L	0.000354	-0.00103	mg/L	0.000354	34.32%
Cr 267.716†	19.7	-0.00037	mg/L	0.000167	-0.00037	mg/L	0.000167	45.31%
Cu 327.393†	12.2	-0.00025	mg/L	0.000469	-0.00025	mg/L	0.000469	185.66%
Fe 239.562†	25.3	0.0224	mg/L	0.00090	0.0224	mg/L	0.00090	4.04%
Mg 279.077†	4517.5	5.23	mg/L	0.189	5.23	mg/L	0.189	3.61%
Mn 257.610†	1067.9	0.00254	mg/L	0.000078	0.00254	mg/L	0.000078	3.09%
Mo 202.031†	-3.5	0.00051	mg/L	0.000140	0.00051	mg/L	0.000140	27.68%
Ni 231.604†	11.0	-0.00036	mg/L	0.000629	-0.00036	mg/L	0.000629	173.65%
Pb 220.353†	17.7	0.00204	mg/L	0.000916	0.00204	mg/L	0.000916	44.84%
Sb 206.836†	-1.0	-0.00148	mg/L	0.000795	-0.00148	mg/L	0.000795	53.70%
Se 196.026†	-8.0	-0.00412	mg/L	0.007307	-0.00412	mg/L	0.007307	177.18%
Si 251.611†	7984.5	0.374	mg/L	0.0039	0.374	mg/L	0.0039	1.04%
Sn 189.927†	-67.6	-0.0186	mg/L	0.00048	-0.0186	mg/L	0.00048	2.59%
Ti 334.940†	-1081.3	0.00054	mg/L	0.000243	0.00054	mg/L	0.000243	45.33%
Tl 190.801†	-4.0	-0.00346	mg/L	0.004342	-0.00346	mg/L	0.004342	125.67%
V 290.880†	586.0	0.00075	mg/L	0.002046	0.00075	mg/L	0.002046	272.86%
Zn 206.200†	33.1	0.00051	mg/L	0.000234	0.00051	mg/L	0.000234	45.97%
K 766.490†	1276.2	1.08	mg/L	0.053	1.08	mg/L	0.053	4.91%
Na 589.592†	22842.4	2.61	mg/L	0.011	2.61	mg/L	0.011	0.42%

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Sr 407.771†	113251.1	0.131 mg/L	0.0047	0.131 mg/L	0.0047	3.56%
Li 670.784†	76.6	0.00299 mg/L	0.000707	0.00299 mg/L	0.000707	23.63%
P 214.914†	34.2	0.0481 mg/L	0.00992	0.0481 mg/L	0.00992	20.63%

Sequence No.: 100 **Autosampler Location: 7**
Sample ID: CCV **Date Collected: 11/5/2013 8:07:53 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1928445.9						22643.69	1.17%
YRADIAL	137397.4						669.53	0.49%
Ga 417.206	700997.6						10221.08	1.46%
GaRADIAL	39872.5						108.60	0.27%
Ag 328.068†	67146.1	0.409	mg/L	0.0009	0.409	mg/L	0.0009	0.21%
QC value within limits for Ag 328.068 Recovery = 102.19%								
Al 396.153†	24836.8	10.3	mg/L	0.08	10.3	mg/L	0.08	0.75%
QC value within limits for Al 396.153 Recovery = 102.59%								
As 188.979†	398.9	0.398	mg/L	0.0103	0.398	mg/L	0.0103	2.59%
QC value within limits for As 188.979 Recovery = 99.49%								
Ba 233.527†	54744.0	1.07	mg/L	0.009	1.07	mg/L	0.009	0.81%
QC value within limits for Ba 233.527 Recovery = 106.87%								
Be 234.861†	21393.7	0.0504	mg/L	0.00007	0.0504	mg/L	0.00007	0.14%
QC value within limits for Be 234.861 Recovery = 100.77%								
B 249.677†	18566.8	0.508	mg/L	0.0035	0.508	mg/L	0.0035	0.68%
QC value within limits for B 249.677 Recovery = 101.64%								
Ca 227.546†	1244.0	10.4	mg/L	0.24	10.4	mg/L	0.24	2.35%
QC value within limits for Ca 227.546 Recovery = 103.52%								
Cd 228.802†	827.4	0.0471	mg/L	0.00113	0.0471	mg/L	0.00113	2.40%
QC value within limits for Cd 228.802 Recovery = 94.22%								
Co 228.616†	2901.7	0.209	mg/L	0.0034	0.209	mg/L	0.0034	1.60%
QC value within limits for Co 228.616 Recovery = 104.41%								
Cr 267.716†	33740.5	0.526	mg/L	0.0012	0.526	mg/L	0.0012	0.22%
QC value within limits for Cr 267.716 Recovery = 105.21%								
Cu 327.393†	64536.7	0.511	mg/L	0.0015	0.511	mg/L	0.0015	0.29%
QC value within limits for Cu 327.393 Recovery = 102.20%								
Fe 239.562†	9448.7	4.10	mg/L	0.034	4.10	mg/L	0.034	0.83%
QC value within limits for Fe 239.562 Recovery = 102.59%								
Mg 279.077†	8981.7	10.4	mg/L	0.18	10.4	mg/L	0.18	1.69%
QC value within limits for Mg 279.077 Recovery = 103.90%								
Mn 257.610†	195828.3	0.522	mg/L	0.0060	0.522	mg/L	0.0060	1.14%
QC value within limits for Mn 257.610 Recovery = 104.49%								
Mo 202.031†	11512.0	1.05	mg/L	0.012	1.05	mg/L	0.012	1.18%
QC value within limits for Mo 202.031 Recovery = 104.96%								
Ni 231.604†	12157.8	0.535	mg/L	0.0061	0.535	mg/L	0.0061	1.14%
QC value within limits for Ni 231.604 Recovery = 106.92%								
Pb 220.353†	2054.0	0.532	mg/L	0.0093	0.532	mg/L	0.0093	1.74%
QC value within limits for Pb 220.353 Recovery = 106.47%								
Sb 206.836†	1444.7	1.18	mg/L	0.027	1.18	mg/L	0.027	2.32%
QC value within limits for Sb 206.836 Recovery = 98.28%								
Se 196.026†	195.1	0.400	mg/L	0.0042	0.400	mg/L	0.0042	1.04%
QC value within limits for Se 196.026 Recovery = 100.08%								
Si 251.611†	107687.9	5.16	mg/L	0.006	5.16	mg/L	0.006	0.12%
QC value within limits for Si 251.611 Recovery = 103.15%								
Sn 189.927†	3883.0	1.06	mg/L	0.014	1.06	mg/L	0.014	1.30%
QC value within limits for Sn 189.927 Recovery = 105.95%								
Ti 334.940†	556701.6	1.02	mg/L	0.009	1.02	mg/L	0.009	0.88%
QC value within limits for Ti 334.940 Recovery = 102.37%								
Tl 190.801†	599.2	0.550	mg/L	0.0140	0.550	mg/L	0.0140	2.54%
QC value greater than the upper limit for Tl 190.801 Recovery = 110.04%								
V 290.880†	131873.3	1.08	mg/L	0.015	1.08	mg/L	0.015	1.40%
QC value within limits for V 290.880 Recovery = 108.33%								

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Zn 206.200†            17431.3        1.07 mg/L         0.011        1.07 mg/L         0.011   0.98%
   QC value within limits for Zn 206.200  Recovery = 107.02%
K 766.490†             61356.1        53.0 mg/L          0.69        53.0 mg/L          0.69   1.31%
   QC value within limits for K 766.490  Recovery = 106.10%
Na 589.592†           446197.9        51.9 mg/L          0.62        51.9 mg/L          0.62   1.19%
   QC value within limits for Na 589.592  Recovery = 103.72%
Sr 407.771†           913991.2        1.08 mg/L         0.017        1.08 mg/L         0.017   1.58%
   QC value within limits for Sr 407.771  Recovery = 108.35%
Li 670.784†            59322.6        1.04 mg/L         0.007        1.04 mg/L         0.007   0.71%
   QC value within limits for Li 670.784  Recovery = 104.02%
P 214.914†              6168.3        10.5 mg/L          0.17        10.5 mg/L          0.17   1.65%
   QC value within limits for P 214.914  Recovery = 105.06%
QC Failed.  Continue with analysis.
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Sequence No.: 101 **Autosampler Location: 8**
Sample ID: CCB **Date Collected: 11/5/2013 8:09:58 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1904013.3						17383.65	0.91%
YRADIAL	131796.0						2133.22	1.62%
Ga 417.206	666743.5						4393.48	0.66%
GaRADIAL	38169.4						568.90	1.49%
Ag 328.068†	18.5	-0.00077	mg/L	0.000452	-0.00077	mg/L	0.000452	58.71%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	6.4	0.0224	mg/L	0.00204	0.0224	mg/L	0.00204	9.08%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	-1.5	0.00025	mg/L	0.002996	0.00025	mg/L	0.002996	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-30.3	-0.00207	mg/L	0.000093	-0.00207	mg/L	0.000093	4.51%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	91.9	0.00017	mg/L	0.000009	0.00017	mg/L	0.000009	5.24%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	124.3	0.0101	mg/L	0.00142	0.0101	mg/L	0.00142	14.04%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	20.7	0.176	mg/L	0.0712	0.176	mg/L	0.0712	40.47%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-4.8	-0.00019	mg/L	0.000130	-0.00019	mg/L	0.000130	67.73%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-10.1	-0.00107	mg/L	0.000208	-0.00107	mg/L	0.000208	19.49%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	3.8	-0.00061	mg/L	0.000223	-0.00061	mg/L	0.000223	36.28%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	72.7	0.00023	mg/L	0.000706	0.00023	mg/L	0.000706	311.06%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	2.8	0.0127	mg/L	0.00122	0.0127	mg/L	0.00122	9.59%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	16.5	0.0384	mg/L	0.01022	0.0384	mg/L	0.01022	26.64%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	32.3	-0.00022	mg/L	0.000015	-0.00022	mg/L	0.000015	6.97%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.3	0.00112	mg/L	0.000359	0.00112	mg/L	0.000359	31.97%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-2.0	-0.00093	mg/L	0.000359	-0.00093	mg/L	0.000359	38.44%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	11.2	0.00036	mg/L	0.002251	0.00036	mg/L	0.002251	632.86%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.6	0.00222	mg/L	0.002575	0.00222	mg/L	0.002575	115.99%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-6.0	-0.00019	mg/L	0.007782	-0.00019	mg/L	0.007782	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								

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Si 251.611†	-30.9	-0.0111	mg/L	0.00089	-0.0111	mg/L	0.00089	7.98%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	0.7	0.00001	mg/L	0.001536	0.00001	mg/L	0.001536	>999.9%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	1.3	0.00100	mg/L	0.000345	0.00100	mg/L	0.000345	34.59%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-5.1	-0.00444	mg/L	0.004514	-0.00444	mg/L	0.004514	101.74%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	725.8	0.00204	mg/L	0.001520	0.00204	mg/L	0.001520	74.51%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	6.6	-0.00112	mg/L	0.000426	-0.00112	mg/L	0.000426	38.21%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	-7.3	-0.0502	mg/L	0.03182	-0.0502	mg/L	0.03182	63.34%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	183.3	0.00629	mg/L	0.010271	0.00629	mg/L	0.010271	163.39%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	13.6	-0.00298	mg/L	0.000257	-0.00298	mg/L	0.000257	8.65%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	-5.7	0.00155	mg/L	0.000849	0.00155	mg/L	0.000849	54.75%
QC value within limits for Li 670.784 Recovery = Not calculated								
P 214.914†	40.5	0.0589	mg/L	0.02613	0.0589	mg/L	0.02613	44.34%
QC value within limits for P 214.914 Recovery = Not calculated								

All analyte(s) passed QC.

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Sequence No.: 102 **Autosampler Location: 210**
Sample ID: L1311003205 **Date Collected: 11/5/2013 8:13:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003205

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: L1311003205

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1978987.0						34270.59	1.73%
YRADIAL	135846.4						5029.10	3.70%
Ga 417.206	738688.7						17025.82	2.30%
GaRADIAL	40257.0						681.69	1.69%
Ag 328.068†	285.1	0.00072	mg/L	0.000570	0.00072	mg/L	0.000570	78.93%
Al 396.153†	75.1	0.0508	mg/L	0.00131	0.0508	mg/L	0.00131	2.58%
As 188.979†	-10.0	-0.00709	mg/L	0.004913	-0.00709	mg/L	0.004913	69.28%
Ba 233.527†	2628.9	0.0499	mg/L	0.00081	0.0499	mg/L	0.00081	1.62%
Be 234.861†	203.1	0.00042	mg/L	0.000115	0.00042	mg/L	0.000115	27.64%
B 249.677†	968.4	0.0331	mg/L	0.00134	0.0331	mg/L	0.00134	4.05%
Ca 227.546†	6549.7	51.9	mg/L	0.86	51.9	mg/L	0.86	1.65%
Cd 228.802†	-14.3	-0.00071	mg/L	0.000114	-0.00071	mg/L	0.000114	16.08%
Co 228.616†	-8.4	-0.00094	mg/L	0.000603	-0.00094	mg/L	0.000603	64.01%
Cr 267.716†	64.1	0.00032	mg/L	0.000187	0.00032	mg/L	0.000187	57.94%
Cu 327.393†	19.8	-0.00020	mg/L	0.000804	-0.00020	mg/L	0.000804	409.39%
Fe 239.562†	179.8	0.0889	mg/L	0.00224	0.0889	mg/L	0.00224	2.52%
Mg 279.077†	21986.7	25.4	mg/L	0.44	25.4	mg/L	0.44	1.74%
Mn 257.610†	2410.4	0.00612	mg/L	0.000117	0.00612	mg/L	0.000117	1.90%
Mo 202.031†	25.7	0.00317	mg/L	0.000817	0.00317	mg/L	0.000817	25.76%
Ni 231.604†	16.5	-0.00011	mg/L	0.000303	-0.00011	mg/L	0.000303	270.79%
Pb 220.353†	12.5	0.00069	mg/L	0.001918	0.00069	mg/L	0.001918	277.26%
Sb 206.836†	-1.5	-0.00197	mg/L	0.001971	-0.00197	mg/L	0.001971	100.24%
Se 196.026†	-8.1	-0.00431	mg/L	0.008051	-0.00431	mg/L	0.008051	186.63%
Si 251.611†	47658.2	2.28	mg/L	0.050	2.28	mg/L	0.050	2.18%
Sn 189.927†	-183.3	-0.0502	mg/L	0.00158	-0.0502	mg/L	0.00158	3.15%
Ti 334.940†	-4672.9	0.00018	mg/L	0.000963	0.00018	mg/L	0.000963	544.30%
Tl 190.801†	-16.7	-0.0149	mg/L	0.00460	-0.0149	mg/L	0.00460	30.87%
V 290.880†	1137.8	0.00477	mg/L	0.001082	0.00477	mg/L	0.001082	22.68%
Zn 206.200†	50.4	0.00157	mg/L	0.000085	0.00157	mg/L	0.000085	5.39%
K 766.490†	5790.1	5.07	mg/L	0.191	5.07	mg/L	0.191	3.77%
Na 589.592†	92292.7	10.6	mg/L	0.19	10.6	mg/L	0.19	1.77%
Sr 407.771†	683149.6	0.808	mg/L	0.0184	0.808	mg/L	0.0184	2.27%

Approved: November 06, 2013

Kim H. Rhoden

Li 670.784†	929.7	0.0179 mg/L	0.00036	0.0179 mg/L	0.00036	1.98%
P 214.914†	43.7	0.0643 mg/L	0.01642	0.0643 mg/L	0.01642	25.53%

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Sequence No.: 103 **Autosampler Location: 211**
Sample ID: L1311003301 **Date Collected: 11/5/2013 8:16:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003301

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: L1311003301

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1914868.2						48794.94	2.55%
YRADIAL	133945.6						5011.97	3.74%
Ga 417.206	712864.4						16489.18	2.31%
GaRADIAL	40308.2						970.26	2.41%
Ag 328.068†	214.5	0.00045	mg/L	0.000534	0.00045	mg/L	0.000534	119.86%
Al 396.153†	181.3	0.0950	mg/L	0.00390	0.0950	mg/L	0.00390	4.10%
As 188.979†	-4.0	-0.00153	mg/L	0.003184	-0.00153	mg/L	0.003184	208.17%
Ba 233.527†	2800.1	0.0532	mg/L	0.00117	0.0532	mg/L	0.00117	2.19%
Be 234.861†	178.4	0.00035	mg/L	0.000033	0.00035	mg/L	0.000033	9.58%
B 249.677†	324.7	0.0155	mg/L	0.00090	0.0155	mg/L	0.00090	5.77%
Ca 227.546†	3676.2	29.1	mg/L	0.65	29.1	mg/L	0.65	2.25%
Cd 228.802†	-8.6	-0.00041	mg/L	0.000101	-0.00041	mg/L	0.000101	24.85%
Co 228.616†	-10.4	-0.00110	mg/L	0.000445	-0.00110	mg/L	0.000445	40.28%
Cr 267.716†	60.9	0.00027	mg/L	0.000064	0.00027	mg/L	0.000064	23.58%
Cu 327.393†	231.8	0.00149	mg/L	0.000958	0.00149	mg/L	0.000958	64.33%
Fe 239.562†	287.7	0.136	mg/L	0.0044	0.136	mg/L	0.0044	3.21%
Mg 279.077†	22574.7	26.0	mg/L	0.26	26.0	mg/L	0.26	0.99%
Mn 257.610†	2576.7	0.00657	mg/L	0.000163	0.00657	mg/L	0.000163	2.49%
Mo 202.031†	10.1	0.00175	mg/L	0.000437	0.00175	mg/L	0.000437	24.97%
Ni 231.604†	19.6	0.00002	mg/L	0.000418	0.00002	mg/L	0.000418	>999.9%
Pb 220.353†	20.2	0.00271	mg/L	0.003131	0.00271	mg/L	0.003131	115.59%
Sb 206.836†	-0.8	-0.00135	mg/L	0.001898	-0.00135	mg/L	0.001898	140.46%
Se 196.026†	-5.9	0.00000	mg/L	0.004954	0.00000	mg/L	0.004954	>999.9%
Si 251.611†	65092.1	3.12	mg/L	0.052	3.12	mg/L	0.052	1.67%
Sn 189.927†	-129.1	-0.0354	mg/L	0.00210	-0.0354	mg/L	0.00210	5.93%
Ti 334.940†	-1901.6	0.00185	mg/L	0.000490	0.00185	mg/L	0.000490	26.51%
Tl 190.801†	-7.2	-0.00638	mg/L	0.003979	-0.00638	mg/L	0.003979	62.34%
V 290.880†	1174.7	0.00505	mg/L	0.001799	0.00505	mg/L	0.001799	35.60%
Zn 206.200†	305.6	0.0172	mg/L	0.00038	0.0172	mg/L	0.00038	2.20%
K 766.490†	2192.6	1.89	mg/L	0.013	1.89	mg/L	0.013	0.67%
Na 589.592†	31150.5	3.57	mg/L	0.029	3.57	mg/L	0.029	0.80%
Sr 407.771†	145911.8	0.170	mg/L	0.0058	0.170	mg/L	0.0058	3.41%
Li 670.784†	-66.8	0.00048	mg/L	0.000623	0.00048	mg/L	0.000623	129.21%
P 214.914†	46.5	0.0692	mg/L	0.01143	0.0692	mg/L	0.01143	16.52%

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Sequence No.: 104 **Autosampler Location: 212**
Sample ID: L1311003302 **Date Collected: 11/5/2013 8:19:07 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003302

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003302

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1949208.6						14845.35	0.76%
YRADIAL	132562.8						3025.26	2.28%

Approved: November 06, 2013

Kim H. Rhoden

Ga 417.206	730128.3						2707.73	0.37%
GaRADIAL	40189.9						750.76	1.87%
Ag 328.068†	247.7	0.00060	mg/L	0.000384	0.00060	mg/L	0.000384	64.04%
Al 396.153†	215.0	0.109	mg/L	0.0022	0.109	mg/L	0.0022	1.99%
As 188.979†	-2.2	0.00028	mg/L	0.005763	0.00028	mg/L	0.005763	>999.9%
Ba 233.527†	37858.3	0.738	mg/L	0.0056	0.738	mg/L	0.0056	0.76%
Be 234.861†	237.3	0.00044	mg/L	0.000026	0.00044	mg/L	0.000026	6.01%
B 249.677†	780.5	0.0278	mg/L	0.00032	0.0278	mg/L	0.00032	1.17%
Ca 227.546†	3906.3	31.0	mg/L	0.07	31.0	mg/L	0.07	0.23%
Cd 228.802†	-8.4	-0.00039	mg/L	0.000461	-0.00039	mg/L	0.000461	117.00%
Co 228.616†	17.2	0.00066	mg/L	0.000323	0.00066	mg/L	0.000323	49.19%
Cr 267.716†	43.1	-0.00002	mg/L	0.000189	-0.00002	mg/L	0.000189	813.04%
Cu 327.393†	229.6	0.00148	mg/L	0.001044	0.00148	mg/L	0.001044	70.30%
Fe 239.562†	817.3	0.365	mg/L	0.0053	0.365	mg/L	0.0053	1.46%
Mg 279.077†	9841.1	11.4	mg/L	0.21	11.4	mg/L	0.21	1.88%
Mn 257.610†	31490.9	0.0837	mg/L	0.00086	0.0837	mg/L	0.00086	1.03%
Mo 202.031†	18.5	0.00253	mg/L	0.000684	0.00253	mg/L	0.000684	27.00%
Ni 231.604†	213.3	0.00855	mg/L	0.001094	0.00855	mg/L	0.001094	12.79%
Pb 220.353†	20.5	0.00272	mg/L	0.002856	0.00272	mg/L	0.002856	104.99%
Sb 206.836†	-0.4	-0.00098	mg/L	0.001891	-0.00098	mg/L	0.001891	192.22%
Se 196.026†	-5.5	0.00078	mg/L	0.005421	0.00078	mg/L	0.005421	694.64%
Si 251.611†	143258.7	6.88	mg/L	0.040	6.88	mg/L	0.040	0.59%
Sn 189.927†	-145.3	-0.0398	mg/L	0.00308	-0.0398	mg/L	0.00308	7.74%
Ti 334.940†	-2527.7	0.00097	mg/L	0.000124	0.00097	mg/L	0.000124	12.73%
Tl 190.801†	-7.4	-0.00662	mg/L	0.004920	-0.00662	mg/L	0.004920	74.38%
V 290.880†	815.0	0.00241	mg/L	0.000839	0.00241	mg/L	0.000839	34.76%
Zn 206.200†	1826.4	0.110	mg/L	0.0006	0.110	mg/L	0.0006	0.56%
K 766.490†	3943.7	3.43	mg/L	0.051	3.43	mg/L	0.051	1.50%
Na 589.592†	149957.8	17.3	mg/L	0.07	17.3	mg/L	0.07	0.42%
Sr 407.771†	720920.7	0.853	mg/L	0.0272	0.853	mg/L	0.0272	3.18%
Li 670.784†	809.7	0.0158	mg/L	0.00081	0.0158	mg/L	0.00081	5.09%
P 214.914†	46.8	0.0697	mg/L	0.01059	0.0697	mg/L	0.01059	15.20%

Sequence No.: 105 **Autosampler Location: 213**
Sample ID: L1311003601 **Date Collected: 11/5/2013 8:22:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003601

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1835172.8						27666.00	1.51%
YRADIAL	135880.2						6103.76	4.49%
Ga 417.206	710285.0						11241.09	1.58%
GaRADIAL	41582.0						1090.45	2.62%
Ag 328.068†	563.7	0.00249	mg/L	0.000390	0.00249	mg/L	0.000390	15.63%
Al 396.153†	234.0	0.117	mg/L	0.0022	0.117	mg/L	0.0022	1.88%
As 188.979†	-15.3	-0.0103	mg/L	0.00142	-0.0103	mg/L	0.00142	13.81%
Ba 233.527†	1290.3	0.0237	mg/L	0.00044	0.0237	mg/L	0.00044	1.87%
Be 234.861†	216.3	0.00039	mg/L	0.000038	0.00039	mg/L	0.000038	9.91%
B 249.677†	747.6	0.0269	mg/L	0.00066	0.0269	mg/L	0.00066	2.46%
Ca 227.546†	18682.6	148	mg/L	2.1	148	mg/L	2.1	1.44%
Cd 228.802†	-7.4	-0.00027	mg/L	0.000187	-0.00027	mg/L	0.000187	68.15%
Co 228.616†	-1.5	-0.00040	mg/L	0.000272	-0.00040	mg/L	0.000272	67.32%
Cr 267.716†	186.6	0.00222	mg/L	0.000161	0.00222	mg/L	0.000161	7.27%
Cu 327.393†	-57.9	-0.00081	mg/L	0.000575	-0.00081	mg/L	0.000575	71.23%
Fe 239.562†	890.4	0.394	mg/L	0.0149	0.394	mg/L	0.0149	3.79%
Mg 279.077†	123635.3	143	mg/L	2.6	143	mg/L	2.6	1.81%
Mn 257.610†	43278.0	0.115	mg/L	0.0017	0.115	mg/L	0.0017	1.50%
Mo 202.031†	39.3	0.00444	mg/L	0.000550	0.00444	mg/L	0.000550	12.38%
Ni 231.604†	90.2	0.00314	mg/L	0.001160	0.00314	mg/L	0.001160	37.01%
Pb 220.353†	21.5	0.00296	mg/L	0.001121	0.00296	mg/L	0.001121	37.85%
Sb 206.836†	-2.5	-0.00272	mg/L	0.002313	-0.00272	mg/L	0.002313	84.94%
Se 196.026†	-3.9	0.00396	mg/L	0.008774	0.00396	mg/L	0.008774	221.51%

Approved: November 06, 2013

Kim H. Rhoden

Si 251.611†	29158.0	1.39	mg/L	0.023	1.39	mg/L	0.023	1.65%
Sn 189.927†	-264.4	-0.0723	mg/L	0.00093	-0.0723	mg/L	0.00093	1.29%
Ti 334.940†	-13733.8	-0.00203	mg/L	0.000269	-0.00203	mg/L	0.000269	13.22%
Tl 190.801†	-23.4	-0.0212	mg/L	0.00780	-0.0212	mg/L	0.00780	36.84%
V 290.880†	2190.6	0.0104	mg/L	0.00060	0.0104	mg/L	0.00060	5.75%
Zn 206.200†	55.0	0.00188	mg/L	0.000278	0.00188	mg/L	0.000278	14.84%
K 766.490†	11494.2	10.1	mg/L	0.26	10.1	mg/L	0.26	2.62%
Na 589.592†	63775.9	7.33	mg/L	0.036	7.33	mg/L	0.036	0.50%
Sr 407.771†	937653.5	1.11	mg/L	0.034	1.11	mg/L	0.034	3.05%
Li 670.784†	1000.2	0.0192	mg/L	0.00020	0.0192	mg/L	0.00020	1.05%
P 214.914†	53.8	0.0815	mg/L	0.02345	0.0815	mg/L	0.02345	28.77%

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Sequence No.: 106 **Autosampler Location: 214**
Sample ID: L1311003603 **Date Collected: 11/5/2013 8:25:18 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003603

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: L1311003603

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1870282.3						20432.38	1.09%
YRADIAL	131192.2						3046.70	2.32%
Ga 417.206	730382.5						8848.22	1.21%
GaRADIAL	40482.9						239.90	0.59%
Ag 328.068†	685.6	0.00304	mg/L	0.000074	0.00304	mg/L	0.000074	2.44%
Al 396.153†	22.0	0.0287	mg/L	0.00197	0.0287	mg/L	0.00197	6.86%
As 188.979†	-12.8	-0.00706	mg/L	0.004172	-0.00706	mg/L	0.004172	59.12%
Ba 233.527†	989.2	0.0179	mg/L	0.00011	0.0179	mg/L	0.00011	0.61%
Be 234.861†	232.9	0.00045	mg/L	0.000080	0.00045	mg/L	0.000080	17.62%
B 249.677†	679.0	0.0251	mg/L	0.00186	0.0251	mg/L	0.00186	7.43%
Ca 227.546†	22760.8	180	mg/L	3.8	180	mg/L	3.8	2.13%
Cd 228.802†	-7.6	-0.00030	mg/L	0.000069	-0.00030	mg/L	0.000069	23.30%
Co 228.616†	0.6	-0.00023	mg/L	0.000421	-0.00023	mg/L	0.000421	185.28%
Cr 267.716†	159.4	0.00180	mg/L	0.000188	0.00180	mg/L	0.000188	10.46%
Cu 327.393†	-163.2	-0.00165	mg/L	0.000919	-0.00165	mg/L	0.000919	55.64%
Fe 239.562†	641.1	0.286	mg/L	0.0037	0.286	mg/L	0.0037	1.31%
Mg 279.077†	119839.4	138	mg/L	1.6	138	mg/L	1.6	1.13%
Mn 257.610†	54010.9	0.144	mg/L	0.0023	0.144	mg/L	0.0023	1.59%
Mo 202.031†	44.5	0.00492	mg/L	0.000185	0.00492	mg/L	0.000185	3.75%
Ni 231.604†	102.9	0.00370	mg/L	0.000361	0.00370	mg/L	0.000361	9.76%
Pb 220.353†	24.7	0.00378	mg/L	0.000036	0.00378	mg/L	0.000036	0.94%
Sb 206.836†	-3.3	-0.00337	mg/L	0.000596	-0.00337	mg/L	0.000596	17.68%
Se 196.026†	-5.7	0.00037	mg/L	0.005352	0.00037	mg/L	0.005352	>999.9%
Si 251.611†	27963.5	1.34	mg/L	0.031	1.34	mg/L	0.031	2.29%
Sn 189.927†	-270.1	-0.0739	mg/L	0.00181	-0.0739	mg/L	0.00181	2.44%
Ti 334.940†	-17641.5	-0.00436	mg/L	0.000211	-0.00436	mg/L	0.000211	4.83%
Tl 190.801†	-27.4	-0.0248	mg/L	0.00733	-0.0248	mg/L	0.00733	29.54%
V 290.880†	2090.9	0.00968	mg/L	0.002195	0.00968	mg/L	0.002195	22.67%
Zn 206.200†	56.5	0.00196	mg/L	0.000163	0.00196	mg/L	0.000163	8.33%
K 766.490†	11823.3	10.4	mg/L	0.35	10.4	mg/L	0.35	3.33%
Na 589.592†	71723.2	8.25	mg/L	0.104	8.25	mg/L	0.104	1.27%
Sr 407.771†	1518348.3	1.80	mg/L	0.060	1.80	mg/L	0.060	3.32%
Li 670.784†	874.4	0.0170	mg/L	0.00024	0.0170	mg/L	0.00024	1.44%
P 214.914†	50.3	0.0757	mg/L	0.00525	0.0757	mg/L	0.00525	6.94%

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Sequence No.: 107 **Autosampler Location: 215**
Sample ID: L1311003605 WG451336-02 **Date Collected: 11/5/2013 8:28:23 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003605 WG451336-02

Approved: November 06, 2013

Kim H. Rhoden

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003605 WG451336-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1853261.2						32100.74	1.73%
YRADIAL	131596.8						6601.92	5.02%
Ga 417.206	711995.3						16597.75	2.33%
GaRADIAL	39670.8						809.45	2.04%
Ag 328.068†	551.0	0.00228	mg/L	0.000504	0.00228	mg/L	0.000504	22.07%
Al 396.153†	46.3	0.0388	mg/L	0.00270	0.0388	mg/L	0.00270	6.94%
As 188.979†	-8.7	-0.00435	mg/L	0.005848	-0.00435	mg/L	0.005848	134.51%
Ba 233.527†	641.3	0.0111	mg/L	0.00021	0.0111	mg/L	0.00021	1.91%
Be 234.861†	177.1	0.00042	mg/L	0.000049	0.00042	mg/L	0.000049	11.60%
B 249.677†	687.7	0.0254	mg/L	0.00152	0.0254	mg/L	0.00152	5.98%
Ca 227.546†	15045.7	119	mg/L	3.5	119	mg/L	3.5	2.91%
Cd 228.802†	-8.8	-0.00038	mg/L	0.000208	-0.00038	mg/L	0.000208	54.79%
Co 228.616†	39.9	0.00259	mg/L	0.000070	0.00259	mg/L	0.000070	2.72%
Cr 267.716†	151.6	0.00169	mg/L	0.000233	0.00169	mg/L	0.000233	13.76%
Cu 327.393†	-118.1	-0.00130	mg/L	0.000872	-0.00130	mg/L	0.000872	67.18%
Fe 239.562†	226.9	0.107	mg/L	0.0046	0.107	mg/L	0.0046	4.33%
Mg 279.077†	110699.1	128	mg/L	2.4	128	mg/L	2.4	1.90%
Mn 257.610†	266712.9	0.711	mg/L	0.0018	0.711	mg/L	0.0018	0.26%
Mo 202.031†	31.8	0.00388	mg/L	0.000462	0.00388	mg/L	0.000462	11.91%
Ni 231.604†	388.8	0.0163	mg/L	0.00051	0.0163	mg/L	0.00051	3.10%
Pb 220.353†	28.2	0.00436	mg/L	0.003459	0.00436	mg/L	0.003459	79.26%
Sb 206.836†	-0.5	-0.00110	mg/L	0.001718	-0.00110	mg/L	0.001718	156.36%
Se 196.026†	-3.2	0.00519	mg/L	0.002488	0.00519	mg/L	0.002488	47.95%
Si 251.611†	53216.5	2.55	mg/L	0.074	2.55	mg/L	0.074	2.89%
Sn 189.927†	-247.2	-0.0676	mg/L	0.00149	-0.0676	mg/L	0.00149	2.21%
Ti 334.940†	-11649.1	-0.00253	mg/L	0.000509	-0.00253	mg/L	0.000509	20.13%
Tl 190.801†	-20.9	-0.0195	mg/L	0.00726	-0.0195	mg/L	0.00726	37.24%
V 290.880†	2188.5	0.0108	mg/L	0.00480	0.0108	mg/L	0.00480	44.47%
Zn 206.200†	93.9	0.00425	mg/L	0.000552	0.00425	mg/L	0.000552	12.98%
K 766.490†	10490.3	9.19	mg/L	0.203	9.19	mg/L	0.203	2.21%
Na 589.592†	218264.6	25.2	mg/L	0.58	25.2	mg/L	0.58	2.31%
Sr 407.771†	609212.3	0.718	mg/L	0.0453	0.718	mg/L	0.0453	6.31%
Li 670.784†	1400.3	0.0262	mg/L	0.00095	0.0262	mg/L	0.00095	3.63%
P 214.914†	50.0	0.0751	mg/L	0.00084	0.0751	mg/L	0.00084	1.11%

Sequence No.: 108 **Autosampler Location: 216**
Sample ID: L1311003605MS WG451336-07 **Date Collected: 11/5/2013 8:31:29 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003605MS WG451336-07

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: L1311003605MS WG451336-07

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1829501.8						12675.22	0.69%
YRADIAL	130419.0						1696.05	1.30%
Ga 417.206	692149.4						11696.87	1.69%
GaRADIAL	39267.9						570.26	1.45%
Ag 328.068†	33312.9	0.202	mg/L	0.0020	0.202	mg/L	0.0020	0.99%
Al 396.153†	12575.0	5.20	mg/L	0.035	5.20	mg/L	0.035	0.67%
As 188.979†	185.5	0.188	mg/L	0.0044	0.188	mg/L	0.0044	2.33%
Ba 233.527†	27791.7	0.542	mg/L	0.0069	0.542	mg/L	0.0069	1.27%
Be 234.861†	10362.6	0.0244	mg/L	0.00026	0.0244	mg/L	0.00026	1.05%
B 249.677†	38018.0	1.04	mg/L	0.012	1.04	mg/L	0.012	1.13%
Ca 227.546†	15890.1	126	mg/L	1.9	126	mg/L	1.9	1.51%
Cd 228.802†	387.2	0.0221	mg/L	0.00075	0.0221	mg/L	0.00075	3.39%
Co 228.616†	1460.5	0.105	mg/L	0.0005	0.105	mg/L	0.0005	0.52%
Cr 267.716†	16834.5	0.262	mg/L	0.0034	0.262	mg/L	0.0034	1.30%

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Cu 327.393†	30617.3	0.242	mg/L	0.0034	0.242	mg/L	0.0034	1.41%
Fe 239.562†	5045.0	2.19	mg/L	0.033	2.19	mg/L	0.033	1.49%
Mg 279.077†	114066.0	132	mg/L	1.7	132	mg/L	1.7	1.31%
Mn 257.610†	373871.0	0.997	mg/L	0.0149	0.997	mg/L	0.0149	1.49%
Mo 202.031†	5949.1	0.543	mg/L	0.0050	0.543	mg/L	0.0050	0.92%
Ni 231.604†	6370.6	0.280	mg/L	0.0015	0.280	mg/L	0.0015	0.52%
Pb 220.353†	1026.3	0.264	mg/L	0.0045	0.264	mg/L	0.0045	1.71%
Sb 206.836†	719.9	0.587	mg/L	0.0108	0.587	mg/L	0.0108	1.85%
Se 196.026†	89.9	0.191	mg/L	0.0126	0.191	mg/L	0.0126	6.63%
Si 251.611†	105704.9	5.07	mg/L	0.052	5.07	mg/L	0.052	1.02%
Sn 189.927†	-247.1	-0.0676	mg/L	0.00272	-0.0676	mg/L	0.00272	4.03%
Ti 334.940†	281358.5	0.536	mg/L	0.0066	0.536	mg/L	0.0066	1.23%
Tl 190.801†	267.3	0.246	mg/L	0.0064	0.246	mg/L	0.0064	2.59%
V 290.880†	67647.4	0.550	mg/L	0.0079	0.550	mg/L	0.0079	1.44%
Zn 206.200†	8507.2	0.522	mg/L	0.0053	0.522	mg/L	0.0053	1.02%
K 766.490†	41868.6	36.4	mg/L	0.26	36.4	mg/L	0.26	0.71%
Na 589.592†	442959.8	51.5	mg/L	0.28	51.5	mg/L	0.28	0.55%
Sr 407.771†	1073063.5	1.27	mg/L	0.008	1.27	mg/L	0.008	0.64%
Li 670.784†	31259.3	0.549	mg/L	0.0068	0.549	mg/L	0.0068	1.24%
P 214.914†	-31.8	-0.0644	mg/L	0.03906	-0.0644	mg/L	0.03906	60.68%

Sequence No.: 109 **Autosampler Location: 217**
Sample ID: L1311003607 **Date Collected: 11/5/2013 8:33:35 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003607

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003607

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1895092.2						12406.72	0.65%
YRADIAL	127473.8						2935.92	2.30%
Ga 417.206	715593.1						8641.95	1.21%
GaRADIAL	38927.1						293.68	0.75%
Ag 328.068†	280.7	0.00083	mg/L	0.000203	0.00083	mg/L	0.000203	24.28%
Al 396.153†	25.1	0.0301	mg/L	0.00206	0.0301	mg/L	0.00206	6.85%
As 188.979†	-8.1	-0.00503	mg/L	0.005279	-0.00503	mg/L	0.005279	104.91%
Ba 233.527†	2032.2	0.0382	mg/L	0.00060	0.0382	mg/L	0.00060	1.57%
Be 234.861†	182.5	0.00036	mg/L	0.000025	0.00036	mg/L	0.000025	6.83%
B 249.677†	607.0	0.0232	mg/L	0.00218	0.0232	mg/L	0.00218	9.41%
Ca 227.546†	7434.1	58.9	mg/L	1.69	58.9	mg/L	1.69	2.87%
Cd 228.802†	-6.8	-0.00028	mg/L	0.000224	-0.00028	mg/L	0.000224	81.12%
Co 228.616†	-9.3	-0.00100	mg/L	0.000432	-0.00100	mg/L	0.000432	43.32%
Cr 267.716†	97.5	0.00084	mg/L	0.000194	0.00084	mg/L	0.000194	22.97%
Cu 327.393†	90.9	0.00037	mg/L	0.000579	0.00037	mg/L	0.000579	156.21%
Fe 239.562†	270.5	0.127	mg/L	0.0025	0.127	mg/L	0.0025	1.99%
Mg 279.077†	57571.6	66.4	mg/L	1.66	66.4	mg/L	1.66	2.50%
Mn 257.610†	13827.3	0.0366	mg/L	0.00078	0.0366	mg/L	0.00078	2.13%
Mo 202.031†	26.1	0.00322	mg/L	0.000676	0.00322	mg/L	0.000676	21.00%
Ni 231.604†	15.0	-0.00018	mg/L	0.000506	-0.00018	mg/L	0.000506	282.39%
Pb 220.353†	25.7	0.00412	mg/L	0.003321	0.00412	mg/L	0.003321	80.69%
Sb 206.836†	0.8	0.00000	mg/L	0.002227	0.00000	mg/L	0.002227	>999.9%
Se 196.026†	-9.9	-0.00802	mg/L	0.002963	-0.00802	mg/L	0.002963	36.93%
Si 251.611†	42513.1	2.03	mg/L	0.052	2.03	mg/L	0.052	2.57%
Sn 189.927†	-198.1	-0.0542	mg/L	0.00078	-0.0542	mg/L	0.00078	1.44%
Ti 334.940†	-5704.0	-0.00066	mg/L	0.000399	-0.00066	mg/L	0.000399	60.14%
Tl 190.801†	-15.8	-0.0142	mg/L	0.00663	-0.0142	mg/L	0.00663	46.76%
V 290.880†	1912.9	0.0101	mg/L	0.00136	0.0101	mg/L	0.00136	13.47%
Zn 206.200†	39.5	0.00091	mg/L	0.000275	0.00091	mg/L	0.000275	30.23%
K 766.490†	6198.3	5.42	mg/L	0.072	5.42	mg/L	0.072	1.33%
Na 589.592†	182320.0	21.0	mg/L	0.12	21.0	mg/L	0.12	0.55%
Sr 407.771†	210312.2	0.245	mg/L	0.0117	0.245	mg/L	0.0117	4.77%
Li 670.784†	188.0	0.00494	mg/L	0.000242	0.00494	mg/L	0.000242	4.90%
P 214.914†	38.7	0.0558	mg/L	0.01434	0.0558	mg/L	0.01434	25.71%

Approved: November 06, 2013

Kim H. Rhoden

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Sequence No.: 110 **Autosampler Location: 218**
Sample ID: L1311003801 **Date Collected: 11/5/2013 8:36:37 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003801

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1946082.9						12672.42	0.65%
YRADIAL	132360.8						5035.58	3.80%
Ga 417.206	726905.7						9695.62	1.33%
GaRADIAL	40262.4						722.55	1.79%
Ag 328.068†	130.2	-0.00007	mg/L	0.000494	-0.00007	mg/L	0.000494	727.55%
Al 396.153†	75.9	0.0513	mg/L	0.00114	0.0513	mg/L	0.00114	2.22%
As 188.979†	-9.2	-0.00647	mg/L	0.001083	-0.00647	mg/L	0.001083	16.73%
Ba 233.527†	2137.3	0.0403	mg/L	0.00027	0.0403	mg/L	0.00027	0.68%
Be 234.861†	206.7	0.00040	mg/L	0.000067	0.00040	mg/L	0.000067	16.69%
B 249.677†	498.8	0.0202	mg/L	0.00075	0.0202	mg/L	0.00075	3.70%
Ca 227.546†	5373.5	42.6	mg/L	0.65	42.6	mg/L	0.65	1.53%
Cd 228.802†	-7.8	-0.00033	mg/L	0.000098	-0.00033	mg/L	0.000098	29.62%
Co 228.616†	-7.3	-0.00087	mg/L	0.000236	-0.00087	mg/L	0.000236	27.19%
Cr 267.716†	49.0	0.00008	mg/L	0.000082	0.00008	mg/L	0.000082	104.42%
Cu 327.393†	94.6	0.00040	mg/L	0.000917	0.00040	mg/L	0.000917	227.44%
Fe 239.562†	405.0	0.186	mg/L	0.0040	0.186	mg/L	0.0040	2.16%
Mg 279.077†	21373.4	24.7	mg/L	0.19	24.7	mg/L	0.19	0.76%
Mn 257.610†	12835.1	0.0339	mg/L	0.00021	0.0339	mg/L	0.00021	0.62%
Mo 202.031†	11.1	0.00185	mg/L	0.000370	0.00185	mg/L	0.000370	20.00%
Ni 231.604†	24.5	0.00024	mg/L	0.000262	0.00024	mg/L	0.000262	111.25%
Pb 220.353†	17.6	0.00201	mg/L	0.002884	0.00201	mg/L	0.002884	143.66%
Sb 206.836†	-0.8	-0.00138	mg/L	0.002237	-0.00138	mg/L	0.002237	161.65%
Se 196.026†	-9.1	-0.00646	mg/L	0.007073	-0.00646	mg/L	0.007073	109.55%
Si 251.611†	51357.9	2.46	mg/L	0.019	2.46	mg/L	0.019	0.79%
Sn 189.927†	-169.7	-0.0465	mg/L	0.00216	-0.0465	mg/L	0.00216	4.65%
Ti 334.940†	-3959.2	0.00009	mg/L	0.000178	0.00009	mg/L	0.000178	199.15%
Tl 190.801†	-12.2	-0.0109	mg/L	0.00690	-0.0109	mg/L	0.00690	63.52%
V 290.880†	1107.5	0.00453	mg/L	0.000805	0.00453	mg/L	0.000805	17.76%
Zn 206.200†	95.7	0.00435	mg/L	0.000519	0.00435	mg/L	0.000519	11.95%
K 766.490†	3810.6	3.32	mg/L	0.043	3.32	mg/L	0.043	1.29%
Na 589.592†	53440.1	6.14	mg/L	0.035	6.14	mg/L	0.035	0.57%
Sr 407.771†	241049.7	0.282	mg/L	0.0083	0.282	mg/L	0.0083	2.93%
Li 670.784†	397.6	0.00861	mg/L	0.001551	0.00861	mg/L	0.001551	18.01%
P 214.914†	40.5	0.0589	mg/L	0.01297	0.0589	mg/L	0.01297	22.01%

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Sequence No.: 111 **Autosampler Location: 236**
Sample ID: CCV **Date Collected: 11/5/2013 8:39:39 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1912683.9						7147.97	0.37%
YRADIAL	134919.5						2694.27	2.00%
Ga 417.206	696462.4						11225.85	1.61%
GaRADIAL	39148.8						875.37	2.24%
Ag 328.068†	65988.0	0.402	mg/L	0.0013	0.402	mg/L	0.0013	0.33%

Approved: November 06, 2013

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Al 396.153†	24293.4	10.0	mg/L	0.06	10.0	mg/L	0.06	0.65%
As 188.979†	392.5	0.392	mg/L	0.0069	0.392	mg/L	0.0069	1.77%
Ba 233.527†	54072.4	1.06	mg/L	0.008	1.06	mg/L	0.008	0.77%
Be 234.861†	20867.4	0.0491	mg/L	0.00023	0.0491	mg/L	0.00023	0.47%
B 249.677†	17936.6	0.491	mg/L	0.0028	0.491	mg/L	0.0028	0.56%
Ca 227.546†	1227.2	10.2	mg/L	0.13	10.2	mg/L	0.13	1.26%
Cd 228.802†	810.4	0.0461	mg/L	0.00090	0.0461	mg/L	0.00090	1.95%
Co 228.616†	2861.2	0.206	mg/L	0.0021	0.206	mg/L	0.0021	1.04%
Cr 267.716†	33185.7	0.517	mg/L	0.0037	0.517	mg/L	0.0037	0.71%
Cu 327.393†	63327.1	0.501	mg/L	0.0028	0.501	mg/L	0.0028	0.57%
Fe 239.562†	9324.1	4.05	mg/L	0.052	4.05	mg/L	0.052	1.28%
Mg 279.077†	8809.7	10.2	mg/L	0.09	10.2	mg/L	0.09	0.85%
Mn 257.610†	193355.3	0.516	mg/L	0.0059	0.516	mg/L	0.0059	1.14%
Mo 202.031†	11342.7	1.03	mg/L	0.008	1.03	mg/L	0.008	0.79%
Ni 231.604†	12016.6	0.528	mg/L	0.0077	0.528	mg/L	0.0077	1.45%
Pb 220.353†	2004.7	0.520	mg/L	0.0036	0.520	mg/L	0.0036	0.69%
Sb 206.836†	1419.7	1.16	mg/L	0.012	1.16	mg/L	0.012	1.06%
Se 196.026†	191.3	0.393	mg/L	0.0032	0.393	mg/L	0.0032	0.81%
Si 251.611†	105961.1	5.07	mg/L	0.016	5.07	mg/L	0.016	0.32%
Sn 189.927†	3823.4	1.04	mg/L	0.016	1.04	mg/L	0.016	1.55%
Ti 334.940†	548215.9	1.01	mg/L	0.010	1.01	mg/L	0.010	0.95%
Tl 190.801†	577.6	0.531	mg/L	0.0052	0.531	mg/L	0.0052	0.98%
V 290.880†	130162.2	1.07	mg/L	0.015	1.07	mg/L	0.015	1.45%
Zn 206.200†	17198.6	1.06	mg/L	0.006	1.06	mg/L	0.006	0.52%
K 766.490†	59916.3	51.8	mg/L	0.31	51.8	mg/L	0.31	0.59%
Na 589.592†	440146.0	51.1	mg/L	0.61	51.1	mg/L	0.61	1.20%
Sr 407.771†	900305.8	1.07	mg/L	0.009	1.07	mg/L	0.009	0.86%
Li 670.784†	58158.0	1.02	mg/L	0.009	1.02	mg/L	0.009	0.87%
P 214.914†	6031.8	10.3	mg/L	0.16	10.3	mg/L	0.16	1.53%

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Sequence No.: 112
Sample ID: CCB
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 237
Date Collected: 11/5/2013 8:41:45 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1867107.1						35419.23	1.90%
YRADIAL	129877.7						2680.34	2.06%
Ga 417.206	658966.9						13076.69	1.98%
GaRADIAL	37730.2						366.09	0.97%
Ag 328.068†	80.0	-0.00040	mg/L	0.000624	-0.00040	mg/L	0.000624	157.03%
Al 396.153†	-2.4	0.0188	mg/L	0.00245	0.0188	mg/L	0.00245	13.01%
As 188.979†	-0.9	0.00092	mg/L	0.001115	0.00092	mg/L	0.001115	121.61%
Ba 233.527†	-34.4	-0.00215	mg/L	0.000151	-0.00215	mg/L	0.000151	7.02%
Be 234.861†	80.9	0.00014	mg/L	0.000087	0.00014	mg/L	0.000087	61.02%
B 249.677†	5.9	0.00690	mg/L	0.000878	0.00690	mg/L	0.000878	12.72%
Ca 227.546†	18.3	0.157	mg/L	0.0649	0.157	mg/L	0.0649	41.30%
Cd 228.802†	-7.9	-0.00038	mg/L	0.000356	-0.00038	mg/L	0.000356	94.82%
Co 228.616†	-6.2	-0.00078	mg/L	0.000123	-0.00078	mg/L	0.000123	15.66%
Cr 267.716†	5.6	-0.00059	mg/L	0.000158	-0.00059	mg/L	0.000158	26.87%
Cu 327.393†	47.9	0.00003	mg/L	0.000752	0.00003	mg/L	0.000752	>999.9%
Fe 239.562†	-0.8	0.0112	mg/L	0.00220	0.0112	mg/L	0.00220	19.65%
Mg 279.077†	15.6	0.0373	mg/L	0.01118	0.0373	mg/L	0.01118	29.95%
Mn 257.610†	8.1	-0.00029	mg/L	0.000032	-0.00029	mg/L	0.000032	11.03%
Mo 202.031†	2.9	0.00109	mg/L	0.000055	0.00109	mg/L	0.000055	5.05%
Ni 231.604†	3.0	-0.00071	mg/L	0.000454	-0.00071	mg/L	0.000454	63.88%
Pb 220.353†	16.8	0.00180	mg/L	0.000602	0.00180	mg/L	0.000602	33.36%
Sb 206.836†	3.5	0.00217	mg/L	0.003909	0.00217	mg/L	0.003909	180.03%
Se 196.026†	-4.5	0.00280	mg/L	0.002151	0.00280	mg/L	0.002151	76.94%
Si 251.611†	-3.8	-0.00981	mg/L	0.001345	-0.00981	mg/L	0.001345	13.72%
Sn 189.927†	-3.7	-0.00120	mg/L	0.000907	-0.00120	mg/L	0.000907	75.61%
Ti 334.940†	37.0	0.00106	mg/L	0.000176	0.00106	mg/L	0.000176	16.63%

Approved: November 06, 2013

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Tl 190.801†	-6.7	-0.00591	mg/L	0.001350	-0.00591	mg/L	0.001350	22.86%
V 290.880†	788.6	0.00256	mg/L	0.002671	0.00256	mg/L	0.002671	104.45%
Zn 206.200†	15.0	-0.00060	mg/L	0.000282	-0.00060	mg/L	0.000282	46.92%
K 766.490†	-4.0	-0.0473	mg/L	0.03950	-0.0473	mg/L	0.03950	83.46%
Na 589.592†	103.0	-0.00295	mg/L	0.004476	-0.00295	mg/L	0.004476	151.84%
Sr 407.771†	-149.6	-0.00317	mg/L	0.000037	-0.00317	mg/L	0.000037	1.15%
Li 670.784†	-35.1	0.00104	mg/L	0.000309	0.00104	mg/L	0.000309	29.82%
P 214.914†	34.6	0.0488	mg/L	0.01610	0.0488	mg/L	0.01610	32.98%

Sequence No.: 113 **Autosampler Location: 219**
Sample ID: L1311003803 **Date Collected: 11/5/2013 8:44:47 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003803

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311003803

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1889224.2						22596.34	1.20%
YRADIAL	130953.6						4424.05	3.38%
Ga 417.206	715682.2						11077.45	1.55%
GaRADIAL	39959.4						418.74	1.05%
Ag 328.068†	169.2	0.00016	mg/L	0.000263	0.00016	mg/L	0.000263	165.08%
Al 396.153†	196.6	0.101	mg/L	0.0024	0.101	mg/L	0.0024	2.33%
As 188.979†	-11.3	-0.00810	mg/L	0.004478	-0.00810	mg/L	0.004478	55.26%
Ba 233.527†	1316.4	0.0242	mg/L	0.00022	0.0242	mg/L	0.00022	0.90%
Be 234.861†	212.1	0.00043	mg/L	0.000027	0.00043	mg/L	0.000027	6.16%
B 249.677†	261.2	0.0138	mg/L	0.00034	0.0138	mg/L	0.00034	2.48%
Ca 227.546†	8235.7	65.2	mg/L	1.32	65.2	mg/L	1.32	2.03%
Cd 228.802†	-7.3	-0.00029	mg/L	0.000321	-0.00029	mg/L	0.000321	111.91%
Co 228.616†	4.2	-0.00002	mg/L	0.000189	-0.00002	mg/L	0.000189	>999.9%
Cr 267.716†	99.8	0.00088	mg/L	0.000128	0.00088	mg/L	0.000128	14.50%
Cu 327.393†	80.8	0.00029	mg/L	0.001035	0.00029	mg/L	0.001035	361.56%
Fe 239.562†	255.8	0.121	mg/L	0.0047	0.121	mg/L	0.0047	3.89%
Mg 279.077†	41091.0	47.4	mg/L	0.75	47.4	mg/L	0.75	1.59%
Mn 257.610†	9587.7	0.0253	mg/L	0.00044	0.0253	mg/L	0.00044	1.73%
Mo 202.031†	25.0	0.00311	mg/L	0.000338	0.00311	mg/L	0.000338	10.84%
Ni 231.604†	209.3	0.00838	mg/L	0.000293	0.00838	mg/L	0.000293	3.50%
Pb 220.353†	30.2	0.00529	mg/L	0.002328	0.00529	mg/L	0.002328	44.00%
Sb 206.836†	-2.9	-0.00310	mg/L	0.001116	-0.00310	mg/L	0.001116	35.96%
Se 196.026†	-4.1	0.00361	mg/L	0.002299	0.00361	mg/L	0.002299	63.73%
Si 251.611†	77090.1	3.70	mg/L	0.069	3.70	mg/L	0.069	1.87%
Sn 189.927†	-200.4	-0.0549	mg/L	0.00196	-0.0549	mg/L	0.00196	3.56%
Ti 334.940†	-5969.1	-0.00020	mg/L	0.000443	-0.00020	mg/L	0.000443	223.52%
Tl 190.801†	-16.0	-0.0143	mg/L	0.00293	-0.0143	mg/L	0.00293	20.52%
V 290.880†	1616.0	0.00814	mg/L	0.002249	0.00814	mg/L	0.002249	27.62%
Zn 206.200†	172.5	0.00905	mg/L	0.000294	0.00905	mg/L	0.000294	3.25%
K 766.490†	5826.1	5.10	mg/L	0.133	5.10	mg/L	0.133	2.61%
Na 589.592†	93188.6	10.7	mg/L	0.09	10.7	mg/L	0.09	0.87%
Sr 407.771†	189723.5	0.221	mg/L	0.0085	0.221	mg/L	0.0085	3.83%
Li 670.784†	410.6	0.00884	mg/L	0.000511	0.00884	mg/L	0.000511	5.78%
P 214.914†	55.4	0.0843	mg/L	0.02689	0.0843	mg/L	0.02689	31.88%

Sequence No.: 114 **Autosampler Location: 220**
Sample ID: L1311003805 **Date Collected: 11/5/2013 8:47:49 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311003805

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Approved: November 06, 2013

Kim H. Rhoden

Mean Data: L1311003805

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1902952.4						5793.89	0.30%
YRADIAL	130612.2						4842.08	3.71%
Ga 417.206	722509.7						4801.26	0.66%
GaRADIAL	39707.4						431.64	1.09%
Ag 328.068†	347.2	0.00125	mg/L	0.000386	0.00125	mg/L	0.000386	30.90%
Al 396.153†	123.3	0.0709	mg/L	0.00470	0.0709	mg/L	0.00470	6.63%
As 188.979†	-8.1	-0.00505	mg/L	0.004080	-0.00505	mg/L	0.004080	80.84%
Ba 233.527†	2067.1	0.0389	mg/L	0.00016	0.0389	mg/L	0.00016	0.41%
Be 234.861†	193.3	0.00038	mg/L	0.000048	0.00038	mg/L	0.000048	12.65%
B 249.677†	323.7	0.0155	mg/L	0.00034	0.0155	mg/L	0.00034	2.17%
Ca 227.546†	7360.8	58.3	mg/L	0.82	58.3	mg/L	0.82	1.41%
Cd 228.802†	-6.9	-0.00028	mg/L	0.000054	-0.00028	mg/L	0.000054	19.01%
Co 228.616†	-1.6	-0.00045	mg/L	0.000682	-0.00045	mg/L	0.000682	152.23%
Cr 267.716†	100.6	0.00089	mg/L	0.000213	0.00089	mg/L	0.000213	23.95%
Cu 327.393†	36.5	-0.00006	mg/L	0.000291	-0.00006	mg/L	0.000291	501.85%
Fe 239.562†	360.6	0.166	mg/L	0.0051	0.166	mg/L	0.0051	3.07%
Mg 279.077†	59161.6	68.2	mg/L	1.03	68.2	mg/L	1.03	1.50%
Mn 257.610†	15619.6	0.0413	mg/L	0.00050	0.0413	mg/L	0.00050	1.20%
Mo 202.031†	13.5	0.00207	mg/L	0.001323	0.00207	mg/L	0.001323	63.98%
Ni 231.604†	7.0	-0.00053	mg/L	0.000557	-0.00053	mg/L	0.000557	104.66%
Pb 220.353†	29.5	0.00510	mg/L	0.000996	0.00510	mg/L	0.000996	19.53%
Sb 206.836†	-5.9	-0.00550	mg/L	0.001025	-0.00550	mg/L	0.001025	18.63%
Se 196.026†	-4.5	0.00280	mg/L	0.006749	0.00280	mg/L	0.006749	240.74%
Si 251.611†	43544.8	2.08	mg/L	0.032	2.08	mg/L	0.032	1.52%
Sn 189.927†	-185.9	-0.0509	mg/L	0.00019	-0.0509	mg/L	0.00019	0.37%
Ti 334.940†	-5523.5	-0.00042	mg/L	0.000077	-0.00042	mg/L	0.000077	18.27%
Tl 190.801†	-15.5	-0.0139	mg/L	0.00381	-0.0139	mg/L	0.00381	27.49%
V 290.880†	1673.2	0.00807	mg/L	0.001945	0.00807	mg/L	0.001945	24.11%
Zn 206.200†	57.0	0.00198	mg/L	0.000388	0.00198	mg/L	0.000388	19.59%
K 766.490†	6377.4	5.57	mg/L	0.081	5.57	mg/L	0.081	1.45%
Na 589.592†	188173.1	21.7	mg/L	0.15	21.7	mg/L	0.15	0.70%
Sr 407.771†	216585.5	0.253	mg/L	0.0091	0.253	mg/L	0.0091	3.59%
Li 670.784†	245.6	0.00595	mg/L	0.000991	0.00595	mg/L	0.000991	16.66%
P 214.914†	48.3	0.0722	mg/L	0.00972	0.0722	mg/L	0.00972	13.47%

Sequence No.: 115
Sample ID: L1311003807
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 221
Date Collected: 11/5/2013 8:50:51 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1311003807

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: L1311003807

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1899097.3						24641.88	1.30%
YRADIAL	133842.9						1659.52	1.24%
Ga 417.206	721002.2						14343.42	1.99%
GaRADIAL	40503.8						509.27	1.26%
Ag 328.068†	275.1	0.00077	mg/L	0.000554	0.00077	mg/L	0.000554	72.04%
Al 396.153†	8.4	0.0232	mg/L	0.00305	0.0232	mg/L	0.00305	13.16%
As 188.979†	-9.2	-0.00608	mg/L	0.001945	-0.00608	mg/L	0.001945	31.99%
Ba 233.527†	2011.7	0.0378	mg/L	0.00034	0.0378	mg/L	0.00034	0.91%
Be 234.861†	189.2	0.00039	mg/L	0.000076	0.00039	mg/L	0.000076	19.39%
B 249.677†	242.0	0.0133	mg/L	0.00018	0.0133	mg/L	0.00018	1.34%
Ca 227.546†	7696.8	61.0	mg/L	0.56	61.0	mg/L	0.56	0.92%
Cd 228.802†	-10.0	-0.00046	mg/L	0.000134	-0.00046	mg/L	0.000134	29.05%
Co 228.616†	-5.8	-0.00074	mg/L	0.000142	-0.00074	mg/L	0.000142	19.10%
Cr 267.716†	111.5	0.00106	mg/L	0.000105	0.00106	mg/L	0.000105	9.86%
Cu 327.393†	-54.2	-0.00078	mg/L	0.000168	-0.00078	mg/L	0.000168	21.52%
Fe 239.562†	145.9	0.0733	mg/L	0.00196	0.0733	mg/L	0.00196	2.67%
Mg 279.077†	59691.1	68.8	mg/L	0.69	68.8	mg/L	0.69	1.00%

Approved: November 06, 2013

Kim H. Rhoden

Mn 257.610†	12971.4	0.0343	mg/L	0.00024	0.0343	mg/L	0.00024	0.69%
Mo 202.031†	21.1	0.00275	mg/L	0.000346	0.00275	mg/L	0.000346	12.56%
Ni 231.604†	3.5	-0.00069	mg/L	0.000789	-0.00069	mg/L	0.000789	114.54%
Pb 220.353†	22.5	0.00326	mg/L	0.001538	0.00326	mg/L	0.001538	47.17%
Sb 206.836†	-2.4	-0.00270	mg/L	0.002943	-0.00270	mg/L	0.002943	108.95%
Se 196.026†	-7.5	-0.00318	mg/L	0.002497	-0.00318	mg/L	0.002497	78.64%
Si 251.611†	45882.8	2.20	mg/L	0.011	2.20	mg/L	0.011	0.48%
Sn 189.927†	-194.5	-0.0533	mg/L	0.00141	-0.0533	mg/L	0.00141	2.64%
Ti 334.940†	-6153.8	-0.00118	mg/L	0.000386	-0.00118	mg/L	0.000386	32.80%
Tl 190.801†	-11.8	-0.0106	mg/L	0.00430	-0.0106	mg/L	0.00430	40.76%
V 290.880†	1536.0	0.00693	mg/L	0.001757	0.00693	mg/L	0.001757	25.36%
Zn 206.200†	42.8	0.00111	mg/L	0.000347	0.00111	mg/L	0.000347	31.15%
K 766.490†	6101.0	5.34	mg/L	0.087	5.34	mg/L	0.087	1.62%
Na 589.592†	52877.6	6.07	mg/L	0.075	6.07	mg/L	0.075	1.23%
Sr 407.771†	217340.5	0.254	mg/L	0.0093	0.254	mg/L	0.0093	3.69%
Li 670.784†	141.6	0.00413	mg/L	0.000644	0.00413	mg/L	0.000644	15.60%
P 214.914†	38.4	0.0553	mg/L	0.00732	0.0553	mg/L	0.00732	13.24%

Sequence No.: 116 **Autosampler Location: 222**
Sample ID: L1311004501 **Date Collected: 11/5/2013 8:53:53 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004501

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004501

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1926851.2						23263.30	1.21%
YRADIAL	131729.3						4069.95	3.09%
Ga 417.206	727305.5						14133.48	1.94%
GaRADIAL	40016.4						214.46	0.54%
Ag 328.068†	276.2	0.00078	mg/L	0.000636	0.00078	mg/L	0.000636	81.58%
Al 396.153†	35.0	0.0342	mg/L	0.00272	0.0342	mg/L	0.00272	7.95%
As 188.979†	-9.7	-0.00692	mg/L	0.003645	-0.00692	mg/L	0.003645	52.67%
Ba 233.527†	2338.0	0.0442	mg/L	0.00021	0.0442	mg/L	0.00021	0.48%
Be 234.861†	182.6	0.00035	mg/L	0.000025	0.00035	mg/L	0.000025	7.15%
B 249.677†	347.5	0.0161	mg/L	0.00025	0.0161	mg/L	0.00025	1.56%
Ca 227.546†	6055.9	48.0	mg/L	0.48	48.0	mg/L	0.48	1.00%
Cd 228.802†	-6.0	-0.00022	mg/L	0.000257	-0.00022	mg/L	0.000257	116.21%
Co 228.616†	-8.6	-0.00095	mg/L	0.000413	-0.00095	mg/L	0.000413	43.23%
Cr 267.716†	72.8	0.00045	mg/L	0.000063	0.00045	mg/L	0.000063	13.97%
Cu 327.393†	-50.6	-0.00075	mg/L	0.000258	-0.00075	mg/L	0.000258	34.54%
Fe 239.562†	358.6	0.166	mg/L	0.0045	0.166	mg/L	0.0045	2.69%
Mg 279.077†	33151.8	38.2	mg/L	1.14	38.2	mg/L	1.14	2.98%
Mn 257.610†	21500.1	0.0570	mg/L	0.00080	0.0570	mg/L	0.00080	1.40%
Mo 202.031†	19.6	0.00263	mg/L	0.000356	0.00263	mg/L	0.000356	13.53%
Ni 231.604†	7.7	-0.00050	mg/L	0.000163	-0.00050	mg/L	0.000163	32.60%
Pb 220.353†	18.5	0.00223	mg/L	0.001689	0.00223	mg/L	0.001689	75.91%
Sb 206.836†	-0.1	-0.00075	mg/L	0.003828	-0.00075	mg/L	0.003828	512.20%
Se 196.026†	-5.3	0.00113	mg/L	0.005870	0.00113	mg/L	0.005870	518.38%
Si 251.611†	54313.7	2.60	mg/L	0.053	2.60	mg/L	0.053	2.02%
Sn 189.927†	-182.7	-0.0501	mg/L	0.00110	-0.0501	mg/L	0.00110	2.20%
Ti 334.940†	-4565.6	-0.00021	mg/L	0.000359	-0.00021	mg/L	0.000359	168.54%
Tl 190.801†	-14.3	-0.0128	mg/L	0.00455	-0.0128	mg/L	0.00455	35.53%
V 290.880†	1146.0	0.00450	mg/L	0.001977	0.00450	mg/L	0.001977	43.97%
Zn 206.200†	21.8	-0.00017	mg/L	0.000295	-0.00017	mg/L	0.000295	170.62%
K 766.490†	5124.1	4.48	mg/L	0.198	4.48	mg/L	0.198	4.41%
Na 589.592†	62765.8	7.21	mg/L	0.046	7.21	mg/L	0.046	0.64%
Sr 407.771†	338508.2	0.398	mg/L	0.0196	0.398	mg/L	0.0196	4.92%
Li 670.784†	1053.2	0.0201	mg/L	0.00131	0.0201	mg/L	0.00131	6.50%
P 214.914†	43.9	0.0646	mg/L	0.01625	0.0646	mg/L	0.01625	25.15%

Sequence No.: 117 **Autosampler Location: 223**
Sample ID: L1311004503 **Date Collected: 11/5/2013 8:56:55 PM**

Approved: November 06, 2013

Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004503

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004503

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1933906.2						26081.74	1.35%
YRADIAL	134199.3						4745.49	3.54%
Ga 417.206	729267.5						14479.16	1.99%
GaRADIAL	39985.2						711.72	1.78%
Ag 328.068†	322.5	0.00107	mg/L	0.000142	0.00107	mg/L	0.000142	13.30%
Al 396.153†	48.1	0.0397	mg/L	0.00441	0.0397	mg/L	0.00441	11.12%
As 188.979†	-10.0	-0.00716	mg/L	0.004233	-0.00716	mg/L	0.004233	59.10%
Ba 233.527†	2352.2	0.0445	mg/L	0.00111	0.0445	mg/L	0.00111	2.48%
Be 234.861†	211.6	0.00042	mg/L	0.000085	0.00042	mg/L	0.000085	20.23%
B 249.677†	333.6	0.0158	mg/L	0.00035	0.0158	mg/L	0.00035	2.21%
Ca 227.546†	6080.4	48.2	mg/L	1.31	48.2	mg/L	1.31	2.71%
Cd 228.802†	-11.6	-0.00055	mg/L	0.000128	-0.00055	mg/L	0.000128	23.47%
Co 228.616†	-9.8	-0.00105	mg/L	0.000428	-0.00105	mg/L	0.000428	40.89%
Cr 267.716†	59.9	0.00025	mg/L	0.000065	0.00025	mg/L	0.000065	25.89%
Cu 327.393†	-13.6	-0.00045	mg/L	0.000382	-0.00045	mg/L	0.000382	83.95%
Fe 239.562†	378.4	0.175	mg/L	0.0047	0.175	mg/L	0.0047	2.72%
Mg 279.077†	33193.2	38.3	mg/L	0.49	38.3	mg/L	0.49	1.28%
Mn 257.610†	22117.0	0.0587	mg/L	0.00142	0.0587	mg/L	0.00142	2.42%
Mo 202.031†	18.4	0.00252	mg/L	0.000028	0.00252	mg/L	0.000028	1.12%
Ni 231.604†	5.5	-0.00060	mg/L	0.000225	-0.00060	mg/L	0.000225	37.59%
Pb 220.353†	16.2	0.00162	mg/L	0.003778	0.00162	mg/L	0.003778	233.23%
Sb 206.836†	0.0	-0.00067	mg/L	0.002567	-0.00067	mg/L	0.002567	382.82%
Se 196.026†	-6.7	-0.00164	mg/L	0.004317	-0.00164	mg/L	0.004317	263.37%
Si 251.611†	55433.4	2.66	mg/L	0.079	2.66	mg/L	0.079	2.96%
Sn 189.927†	-176.0	-0.0482	mg/L	0.00236	-0.0482	mg/L	0.00236	4.89%
Ti 334.940†	-4645.0	-0.00033	mg/L	0.000070	-0.00033	mg/L	0.000070	21.19%
Tl 190.801†	-11.1	-0.00993	mg/L	0.005153	-0.00993	mg/L	0.005153	51.91%
V 290.880†	1373.4	0.00637	mg/L	0.000654	0.00637	mg/L	0.000654	10.27%
Zn 206.200†	27.0	0.00014	mg/L	0.000275	0.00014	mg/L	0.000275	191.92%
K 766.490†	5014.3	4.38	mg/L	0.125	4.38	mg/L	0.125	2.85%
Na 589.592†	60524.1	6.95	mg/L	0.182	6.95	mg/L	0.182	2.62%
Sr 407.771†	334033.9	0.393	mg/L	0.0200	0.393	mg/L	0.0200	5.10%
Li 670.784†	1018.8	0.0195	mg/L	0.00115	0.0195	mg/L	0.00115	5.89%
P 214.914†	38.9	0.0562	mg/L	0.00954	0.0562	mg/L	0.00954	16.97%

Sequence No.: 118 **Autosampler Location: 224**
Sample ID: L1311004505 **Date Collected: 11/5/2013 9:00:00 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004505

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004505

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1902750.7						32978.55	1.73%
YRADIAL	132636.5						1068.70	0.81%
Ga 417.206	719601.3						14448.66	2.01%
GaRADIAL	39670.9						694.02	1.75%
Ag 328.068†	293.9	0.00082	mg/L	0.000620	0.00082	mg/L	0.000620	75.51%
Al 396.153†	42.1	0.0371	mg/L	0.00167	0.0371	mg/L	0.00167	4.50%
As 188.979†	-10.9	-0.00783	mg/L	0.000985	-0.00783	mg/L	0.000985	12.58%
Ba 233.527†	2680.1	0.0509	mg/L	0.00037	0.0509	mg/L	0.00037	0.72%

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Be 234.861†	178.3	0.00037	mg/L	0.000085	0.00037	mg/L	0.000085	23.29%
B 249.677†	403.2	0.0177	mg/L	0.00019	0.0177	mg/L	0.00019	1.07%
Ca 227.546†	7590.1	60.1	mg/L	1.96	60.1	mg/L	1.96	3.25%
Cd 228.802†	-7.0	-0.00027	mg/L	0.000234	-0.00027	mg/L	0.000234	85.69%
Co 228.616†	-7.2	-0.00085	mg/L	0.000311	-0.00085	mg/L	0.000311	36.46%
Cr 267.716†	81.1	0.00059	mg/L	0.000131	0.00059	mg/L	0.000131	22.13%
Cu 327.393†	-12.1	-0.00045	mg/L	0.000378	-0.00045	mg/L	0.000378	83.31%
Fe 239.562†	110.3	0.0584	mg/L	0.00250	0.0584	mg/L	0.00250	4.28%
Mg 279.077†	40606.8	46.8	mg/L	0.54	46.8	mg/L	0.54	1.16%
Mn 257.610†	5369.8	0.0140	mg/L	0.00037	0.0140	mg/L	0.00037	2.63%
Mo 202.031†	23.6	0.00299	mg/L	0.000367	0.00299	mg/L	0.000367	12.30%
Ni 231.604†	-1.2	-0.00089	mg/L	0.000231	-0.00089	mg/L	0.000231	25.89%
Pb 220.353†	36.3	0.00687	mg/L	0.003833	0.00687	mg/L	0.003833	55.75%
Sb 206.836†	-2.3	-0.00260	mg/L	0.000496	-0.00260	mg/L	0.000496	19.08%
Se 196.026†	-1.9	0.00793	mg/L	0.003396	0.00793	mg/L	0.003396	42.79%
Si 251.611†	52221.5	2.50	mg/L	0.068	2.50	mg/L	0.068	2.72%
Sn 189.927†	-201.6	-0.0552	mg/L	0.00111	-0.0552	mg/L	0.00111	2.01%
Ti 334.940†	-5864.7	-0.00077	mg/L	0.000344	-0.00077	mg/L	0.000344	44.50%
Tl 190.801†	-21.5	-0.0192	mg/L	0.00710	-0.0192	mg/L	0.00710	36.87%
V 290.880†	1553.7	0.00765	mg/L	0.002037	0.00765	mg/L	0.002037	26.63%
Zn 206.200†	15.0	-0.00059	mg/L	0.000391	-0.00059	mg/L	0.000391	66.08%
K 766.490†	5349.2	4.68	mg/L	0.062	4.68	mg/L	0.062	1.32%
Na 589.592†	73084.0	8.40	mg/L	0.201	8.40	mg/L	0.201	2.39%
Sr 407.771†	451578.2	0.532	mg/L	0.0154	0.532	mg/L	0.0154	2.89%
Li 670.784†	1712.8	0.0316	mg/L	0.00057	0.0316	mg/L	0.00057	1.81%
P 214.914†	50.8	0.0765	mg/L	0.00416	0.0765	mg/L	0.00416	5.44%

Sequence No.: 119 **Autosampler Location: 225**
Sample ID: L1311004507 **Date Collected: 11/5/2013 9:03:05 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1311004507

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: L1311004507

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1916377.7						9406.18	0.49%
YRADIAL	132258.9						3187.96	2.41%
Ga 417.206	720454.3						1314.67	0.18%
GaRADIAL	40396.9						444.07	1.10%
Ag 328.068†	314.5	0.00101	mg/L	0.001670	0.00101	mg/L	0.001670	164.90%
Al 396.153†	33.7	0.0337	mg/L	0.00293	0.0337	mg/L	0.00293	8.70%
As 188.979†	-12.4	-0.00962	mg/L	0.004604	-0.00962	mg/L	0.004604	47.87%
Ba 233.527†	2341.2	0.0443	mg/L	0.00023	0.0443	mg/L	0.00023	0.52%
Be 234.861†	187.9	0.00037	mg/L	0.000022	0.00037	mg/L	0.000022	6.02%
B 249.677†	304.0	0.0150	mg/L	0.00025	0.0150	mg/L	0.00025	1.69%
Ca 227.546†	6055.1	48.0	mg/L	0.39	48.0	mg/L	0.39	0.82%
Cd 228.802†	-9.2	-0.00040	mg/L	0.000260	-0.00040	mg/L	0.000260	65.28%
Co 228.616†	-15.5	-0.00145	mg/L	0.000642	-0.00145	mg/L	0.000642	44.11%
Cr 267.716†	81.6	0.00059	mg/L	0.000279	0.00059	mg/L	0.000279	47.26%
Cu 327.393†	-28.5	-0.00057	mg/L	0.000592	-0.00057	mg/L	0.000592	103.36%
Fe 239.562†	364.2	0.169	mg/L	0.0021	0.169	mg/L	0.0021	1.22%
Mg 279.077†	33827.8	39.0	mg/L	0.66	39.0	mg/L	0.66	1.69%
Mn 257.610†	21812.8	0.0578	mg/L	0.00077	0.0578	mg/L	0.00077	1.34%
Mo 202.031†	20.4	0.00270	mg/L	0.000209	0.00270	mg/L	0.000209	7.72%
Ni 231.604†	12.2	-0.00030	mg/L	0.000517	-0.00030	mg/L	0.000517	169.70%
Pb 220.353†	18.3	0.00216	mg/L	0.004360	0.00216	mg/L	0.004360	202.33%
Sb 206.836†	-1.0	-0.00156	mg/L	0.001890	-0.00156	mg/L	0.001890	121.55%
Se 196.026†	-7.4	-0.00305	mg/L	0.008986	-0.00305	mg/L	0.008986	294.63%
Si 251.611†	55370.0	2.65	mg/L	0.038	2.65	mg/L	0.038	1.45%
Sn 189.927†	-179.1	-0.0491	mg/L	0.00046	-0.0491	mg/L	0.00046	0.94%
Ti 334.940†	-4585.3	-0.00025	mg/L	0.000401	-0.00025	mg/L	0.000401	160.51%
Tl 190.801†	-16.1	-0.0144	mg/L	0.00354	-0.0144	mg/L	0.00354	24.61%
V 290.880†	1261.0	0.00543	mg/L	0.001384	0.00543	mg/L	0.001384	25.51%
Zn 206.200†	21.3	-0.00020	mg/L	0.000468	-0.00020	mg/L	0.000468	229.80%

Approved: November 06, 2013

K 766.490†	5195.4	4.54	mg/L	0.109	4.54	mg/L	0.109	2.39%
Na 589.592†	60984.9	7.01	mg/L	0.064	7.01	mg/L	0.064	0.91%
Sr 407.771†	345450.8	0.406	mg/L	0.0136	0.406	mg/L	0.0136	3.36%
Li 670.784†	977.6	0.0188	mg/L	0.00072	0.0188	mg/L	0.00072	3.82%
P 214.914†	39.2	0.0566	mg/L	0.00846	0.0566	mg/L	0.00846	14.94%

Sequence No.: 120 **Autosampler Location: 238**
Sample ID: CCV **Date Collected: 11/5/2013 9:06:07 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	180.0 kPa	0.47 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1921060.5						26485.14	1.38%
YRADIAL	135779.6						3261.70	2.40%
Ga 417.206	696085.0						12386.71	1.78%
GaRADIAL	39687.1						783.19	1.97%
Ag 328.068†	65270.8	0.397	mg/L	0.0072	0.397	mg/L	0.0072	1.82%
Al 396.153†	24467.6	10.1	mg/L	0.09	10.1	mg/L	0.09	0.87%
As 188.979†	393.4	0.393	mg/L	0.0114	0.393	mg/L	0.0114	2.91%
Ba 233.527†	52971.7	1.03	mg/L	0.017	1.03	mg/L	0.017	1.67%
Be 234.861†	20694.1	0.0487	mg/L	0.00095	0.0487	mg/L	0.00095	1.95%
B 249.677†	17601.0	0.482	mg/L	0.0090	0.482	mg/L	0.0090	1.87%
Ca 227.546†	1230.8	10.2	mg/L	0.14	10.2	mg/L	0.14	1.39%
Cd 228.802†	809.6	0.0461	mg/L	0.00090	0.0461	mg/L	0.00090	1.96%
Co 228.616†	2864.6	0.206	mg/L	0.0039	0.206	mg/L	0.0039	1.89%
Cr 267.716†	32764.1	0.511	mg/L	0.0076	0.511	mg/L	0.0076	1.48%
Cu 327.393†	62544.7	0.495	mg/L	0.0094	0.495	mg/L	0.0094	1.89%
Fe 239.562†	9315.7	4.05	mg/L	0.034	4.05	mg/L	0.034	0.83%
Mg 279.077†	8817.0	10.2	mg/L	0.06	10.2	mg/L	0.06	0.59%
Mn 257.610†	193721.5	0.517	mg/L	0.0071	0.517	mg/L	0.0071	1.37%
Mo 202.031†	11136.5	1.02	mg/L	0.021	1.02	mg/L	0.021	2.08%
Ni 231.604†	11818.8	0.520	mg/L	0.0063	0.520	mg/L	0.0063	1.21%
Pb 220.353†	2017.3	0.523	mg/L	0.0123	0.523	mg/L	0.0123	2.36%
Sb 206.836†	1423.8	1.16	mg/L	0.023	1.16	mg/L	0.023	1.98%
Se 196.026†	189.8	0.390	mg/L	0.0059	0.390	mg/L	0.0059	1.52%
Si 251.611†	104201.7	4.99	mg/L	0.079	4.99	mg/L	0.079	1.58%
Sn 189.927†	3829.3	1.04	mg/L	0.022	1.04	mg/L	0.022	2.12%
Ti 334.940†	550795.5	1.01	mg/L	0.007	1.01	mg/L	0.007	0.74%
Tl 190.801†	583.1	0.536	mg/L	0.0088	0.536	mg/L	0.0088	1.64%
V 290.880†	127501.2	1.05	mg/L	0.025	1.05	mg/L	0.025	2.35%
Zn 206.200†	16939.6	1.04	mg/L	0.022	1.04	mg/L	0.022	2.13%
K 766.490†	60367.1	52.2	mg/L	0.36	52.2	mg/L	0.36	0.68%
Na 589.592†	432922.2	50.3	mg/L	0.88	50.3	mg/L	0.88	1.76%
Sr 407.771†	893377.5	1.06	mg/L	0.027	1.06	mg/L	0.027	2.56%
Li 670.784†	57943.5	1.02	mg/L	0.004	1.02	mg/L	0.004	0.41%
P 214.914†	6039.4	10.3	mg/L	0.24	10.3	mg/L	0.24	2.33%

Sequence No.: 121 **Autosampler Location: 239**
Sample ID: CCB **Date Collected: 11/5/2013 9:08:13 PM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	179.0 kPa	0.47 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD

Approved: November 06, 2013

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	1861498.8						19033.55	1.02%
YRADIAL	128087.7						3564.39	2.78%
Ga 417.206	652555.8						6620.30	1.01%
GaRADIAL	37315.4						794.84	2.13%
Ag 328.068†	47.6	-0.00060	mg/L	0.000288	-0.00060	mg/L	0.000288	48.33%
Al 396.153†	-2.7	0.0187	mg/L	0.00274	0.0187	mg/L	0.00274	14.66%
As 188.979†	-0.5	0.00126	mg/L	0.005608	0.00126	mg/L	0.005608	444.51%
Ba 233.527†	-32.0	-0.00210	mg/L	0.000167	-0.00210	mg/L	0.000167	7.95%
Be 234.861†	64.0	0.00010	mg/L	0.000037	0.00010	mg/L	0.000037	36.26%
B 249.677†	-92.8	0.00422	mg/L	0.001144	0.00422	mg/L	0.001144	27.13%
Ca 227.546†	19.3	0.165	mg/L	0.0773	0.165	mg/L	0.0773	46.91%
Cd 228.802†	-9.6	-0.00048	mg/L	0.000102	-0.00048	mg/L	0.000102	21.21%
Co 228.616†	-7.8	-0.00090	mg/L	0.000162	-0.00090	mg/L	0.000162	18.02%
Cr 267.716†	6.9	-0.00057	mg/L	0.000151	-0.00057	mg/L	0.000151	26.69%
Cu 327.393†	-71.3	-0.00091	mg/L	0.000303	-0.00091	mg/L	0.000303	33.24%
Fe 239.562†	-0.4	0.0113	mg/L	0.00076	0.0113	mg/L	0.00076	6.70%
Mg 279.077†	24.4	0.0475	mg/L	0.00976	0.0475	mg/L	0.00976	20.56%
Mn 257.610†	18.2	-0.00026	mg/L	0.000029	-0.00026	mg/L	0.000029	11.05%
Mo 202.031†	5.9	0.00136	mg/L	0.000515	0.00136	mg/L	0.000515	37.83%
Ni 231.604†	-0.3	-0.00086	mg/L	0.000238	-0.00086	mg/L	0.000238	27.69%
Pb 220.353†	9.5	-0.00008	mg/L	0.002353	-0.00008	mg/L	0.002353	>999.9%
Sb 206.836†	1.3	0.00033	mg/L	0.003105	0.00033	mg/L	0.003105	939.29%
Se 196.026†	-4.5	0.00268	mg/L	0.005324	0.00268	mg/L	0.005324	198.84%
Si 251.611†	7.4	-0.00927	mg/L	0.002686	-0.00927	mg/L	0.002686	28.97%
Sn 189.927†	0.4	-0.00007	mg/L	0.001432	-0.00007	mg/L	0.001432	>999.9%
Ti 334.940†	30.8	0.00105	mg/L	0.000058	0.00105	mg/L	0.000058	5.53%
Tl 190.801†	-2.6	-0.00220	mg/L	0.000299	-0.00220	mg/L	0.000299	13.60%
V 290.880†	661.3	0.00151	mg/L	0.002101	0.00151	mg/L	0.002101	139.44%
Zn 206.200†	24.3	-0.00003	mg/L	0.000086	-0.00003	mg/L	0.000086	271.20%
K 766.490†	-54.4	-0.0920	mg/L	0.06518	-0.0920	mg/L	0.06518	70.83%
Na 589.592†	162.8	0.00392	mg/L	0.013154	0.00392	mg/L	0.013154	335.46%
Sr 407.771†	-41.5	-0.00304	mg/L	0.000163	-0.00304	mg/L	0.000163	5.36%
Li 670.784†	30.7	0.00219	mg/L	0.000266	0.00219	mg/L	0.000266	12.16%
P 214.914†	43.9	0.0647	mg/L	0.01966	0.0647	mg/L	0.01966	30.41%

Sequence No.: 122
Sample ID: BLK
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 226
Date Collected: 11/5/2013 9:11:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: BLK

Analyte	Back Pressure	Flow
All	178.0 kPa	0.47 L/min

Mean Data: BLK

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1901645.7						23766.99	1.25%
YRADIAL	130225.7						2227.57	1.71%
Ga 417.206	685398.9						12382.01	1.81%
GaRADIAL	39073.6						279.24	0.71%
Ag 328.068†	36.7	-0.00066	mg/L	0.000135	-0.00066	mg/L	0.000135	20.54%
Al 396.153†	0.5	0.0201	mg/L	0.00126	0.0201	mg/L	0.00126	6.28%
As 188.979†	1.0	0.00283	mg/L	0.005139	0.00283	mg/L	0.005139	181.35%
Ba 233.527†	-25.1	-0.00197	mg/L	0.000056	-0.00197	mg/L	0.000056	2.85%
Be 234.861†	181.6	0.00038	mg/L	0.000047	0.00038	mg/L	0.000047	12.37%
B 249.677†	-109.1	0.00377	mg/L	0.000642	0.00377	mg/L	0.000642	17.03%
Ca 227.546†	27.3	0.229	mg/L	0.0104	0.229	mg/L	0.0104	4.55%
Cd 228.802†	-10.9	-0.00056	mg/L	0.000159	-0.00056	mg/L	0.000159	28.47%
Co 228.616†	-7.7	-0.00090	mg/L	0.000443	-0.00090	mg/L	0.000443	49.33%
Cr 267.716†	-0.5	-0.00068	mg/L	0.000133	-0.00068	mg/L	0.000133	19.59%
Cu 327.393†	-45.3	-0.00071	mg/L	0.000694	-0.00071	mg/L	0.000694	98.43%
Fe 239.562†	1.8	0.0123	mg/L	0.00073	0.0123	mg/L	0.00073	5.95%
Mg 279.077†	27.8	0.0514	mg/L	0.01479	0.0514	mg/L	0.01479	28.79%
Mn 257.610†	-7.1	-0.00033	mg/L	0.000008	-0.00033	mg/L	0.000008	2.56%
Mo 202.031†	-11.1	-0.00018	mg/L	0.000486	-0.00018	mg/L	0.000486	264.97%
Ni 231.604†	7.2	-0.00053	mg/L	0.000228	-0.00053	mg/L	0.000228	43.11%

Approved: November 06, 2013

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Reprocessing Begun
Logged In Analyst: peicp2 Technique: ICP Continuous

Results Data Set (original): 110613H2
Results Library (original): C:\pe\peicp2\Results\results1.mdb
Results Data Set (reprocessed): 110613H2R
Results Library (reprocessed): C:\pe\peicp2\Results\results1.mdb

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Sequence No.: 1 Autosampler Location: 1
Sample ID: S0 Date Collected: 11/6/2013 9:46:29 AM
Analyst: Data Type: Reprocessed on 11/6/2013 10:26:27 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Nebulizer Parameters: S0

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	3692883.4	29371.94	0.80%		
YRADIAL	233745.4	8447.56	3.61%		
Ga 417.206	613377.3	7339.60	1.20%		
GaRADIAL	32270.5	1392.14	4.31%		
Ag 328.068†	-187.1	195.98	104.77%	[0.00]	mg/L
Al 396.153†	-1.0	8.02	840.36%	[0.00]	mg/L
As 188.979†	-7.3	4.32	59.35%	[0.00]	mg/L
Ba 233.527†	-142.2	10.87	7.65%	[0.00]	mg/L
Be 234.861†	-1362.7	38.53	2.83%	[0.00]	mg/L
B 249.677†	117.4	32.07	27.33%	[0.00]	mg/L
Ca 227.546†	-62.4	3.69	5.91%	[0.00]	mg/L
Cd 228.802†	29.4	3.94	13.41%	[0.00]	mg/L
Co 228.616†	-10.1	16.14	159.82%	[0.00]	mg/L
Cr 267.716†	139.4	5.00	3.59%	[0.00]	mg/L
Cu 327.393†	-718.3	27.80	3.87%	[0.00]	mg/L
Fe 239.562†	-4.2	2.34	55.20%	[0.00]	mg/L
Mg 279.077†	18.9	4.65	24.66%	[0.00]	mg/L
Mn 257.610†	333.2	10.94	3.28%	[0.00]	mg/L
Mo 202.031†	43.8	4.66	10.64%	[0.00]	mg/L
Ni 231.604†	-182.3	13.19	7.23%	[0.00]	mg/L
Pb 220.353†	-50.8	4.92	9.68%	[0.00]	mg/L
Sb 206.836†	11.7	5.69	48.59%	[0.00]	mg/L
Se 196.026†	15.8	3.03	19.17%	[0.00]	mg/L
Si 251.611†	588.4	150.25	25.54%	[0.00]	mg/L
Sn 189.927†	19.9	2.81	14.09%	[0.00]	mg/L
Ti 334.940†	840.0	19.32	2.30%	[0.00]	mg/L
Tl 190.801†	-57.1	8.05	14.10%	[0.00]	mg/L
V 290.880†	6661.0	239.96	3.60%	[0.00]	mg/L
Zn 206.200†	-13.1	7.68	58.62%	[0.00]	mg/L
K 766.490†	-59.6	29.32	49.21%	[0.00]	mg/L
Na 589.592†	742.4	63.98	8.62%	[0.00]	mg/L
Sr 407.771†	-701.2	49.95	7.12%	[0.00]	mg/L
Li 670.784†	25.0	40.38	161.19%	[0.00]	mg/L
P 214.914†	61.5	13.58	22.09%	[0.00]	mg/L

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Sequence No.: 2 Autosampler Location: 2
Sample ID: S1 Date Collected: 11/6/2013 9:49:32 AM
Analyst: Data Type: Reprocessed on 11/6/2013 10:27:07 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Nebulizer Parameters: S1

Approved: November 07, 2013

Analyte	Back Pressure	Flow
All	170.0 kPa	0.45 L/min

Mean Data: S1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	3777062.4	28708.16	0.76%		
YRADIAL	230713.1	5807.41	2.52%		
Ga 417.206	628443.4	7632.70	1.21%		
GaRADIAL	33473.8	1030.32	3.08%		
Ag 328.068†	364.4	59.60	16.35%	[0.0032]	mg/L
Al 396.153†	161.1	6.06	3.76%	[0.08]	mg/L
Ba 233.527†	415.7	13.75	3.31%	[0.008]	mg/L
Be 234.861†	189.6	23.20	12.24%	[0.0004]	mg/L
Cd 228.802†	-3.1	3.45	112.17%	[0.0004]	mg/L
Standard intensity and concentration values are not in the same order.					
Co 228.616†	12.2	3.21	26.22%	[0.0016]	mg/L
Cr 267.716†	273.5	7.14	2.61%	[0.004]	mg/L
Cu 327.393†	545.6	68.70	12.59%	[0.004]	mg/L
Fe 239.562†	58.6	4.61	7.86%	[0.032]	mg/L
Mg 279.077†	62.0	8.38	13.52%	[0.08]	mg/L
Mn 257.610†	1600.5	15.59	0.97%	[0.004]	mg/L
Mo 202.031†	90.4	4.05	4.48%	[0.008]	mg/L
Ni 231.604†	106.1	2.46	2.32%	[0.004]	mg/L
Pb 220.353†	4.2	6.97	165.05%	[0.004]	mg/L
Sb 206.836†	15.7	3.25	20.67%	[0.0096]	mg/L
Si 251.611†	760.2	17.46	2.30%	[0.04]	mg/L
Sn 189.927†	29.6	1.17	3.95%	[0.008]	mg/L
Ti 334.940†	4064.0	122.78	3.02%	[0.008]	mg/L
V 290.880†	1067.7	104.41	9.78%	[0.008]	mg/L
Zn 206.200†	143.8	9.73	6.77%	[0.008]	mg/L
K 766.490†	521.5	52.66	10.10%	[0.4]	mg/L
Na 589.592†	2847.1	63.77	2.24%	[0.4]	mg/L
Sr 407.771†	5631.1	157.81	2.80%	[0.008]	mg/L
Li 670.784†	332.6	59.96	18.03%	[0.008]	mg/L
P 214.914†	56.7	4.28	7.54%	[0.08]	mg/L

Sequence No.: 3 **Autosampler Location: 3**
Sample ID: S2 **Date Collected: 11/6/2013 9:52:32 AM**
Analyst: **Data Type: Reprocessed on 11/6/2013 10:27:10 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S2

Analyte	Back Pressure	Flow
All	170.0 kPa	0.45 L/min

Mean Data: S2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	3653002.5	44774.48	1.23%		
YRADIAL	231720.7	9724.79	4.20%		
Ga 417.206	609638.7	8709.68	1.43%		
GaRADIAL	33613.1	617.49	1.84%		
Ag 328.068†	1008.8	116.67	11.57%	[0.0064]	mg/L
Al 396.153†	329.4	6.33	1.92%	[0.16]	mg/L
As 188.979†	6.9	3.53	51.04%	[0.0064]	mg/L
Ba 233.527†	851.6	19.39	2.28%	[0.016]	mg/L
Be 234.861†	339.5	16.66	4.91%	[0.0008]	mg/L
B 249.677†	227.7	19.82	8.71%	[0.008]	mg/L
Ca 227.546†	23.7	5.45	23.03%	[0.16]	mg/L
Cd 228.802†	8.0	2.87	36.00%	[0.0008]	mg/L
Standard intensity and concentration values are not in the same order.					
Co 228.616†	37.2	2.57	6.91%	[0.0032]	mg/L
Cr 267.716†	563.8	11.61	2.06%	[0.008]	mg/L
Cu 327.393†	933.9	168.24	18.02%	[0.008]	mg/L
Fe 239.562†	120.2	2.29	1.90%	[0.064]	mg/L

Approved: November 07, 2013

Mg 279.077†	121.2	5.32	4.39%	[0.16]	mg/L
Mn 257.610†	3281.3	32.83	1.00%	[0.008]	mg/L
Mo 202.031†	182.1	5.56	3.06%	[0.016]	mg/L
Ni 231.604†	194.1	9.02	4.65%	[0.008]	mg/L
Pb 220.353†	33.4	10.83	32.41%	[0.008]	mg/L
Sb 206.836†	21.3	0.74	3.45%	[0.0192]	mg/L
Se 196.026†	8.3	1.61	19.27%	[0.0062]	mg/L
Si 251.611†	1704.4	65.22	3.83%	[0.08]	mg/L
Sn 189.927†	64.9	2.08	3.21%	[0.016]	mg/L
Ti 334.940†	8657.9	476.41	5.50%	[0.016]	mg/L
Tl 190.801†	6.9	1.04	15.00%	[0.008]	mg/L
V 290.880†	2280.6	104.59	4.59%	[0.016]	mg/L
Zn 206.200†	293.6	2.50	0.85%	[0.016]	mg/L
K 766.490†	886.3	72.14	8.14%	[0.8]	mg/L
Na 589.592†	5669.6	144.55	2.55%	[0.8]	mg/L
Sr 407.771†	11238.0	394.53	3.51%	[0.016]	mg/L
Li 670.784†	754.7	19.66	2.61%	[0.016]	mg/L
P 214.914†	110.2	6.68	6.06%	[0.16]	mg/L

Sequence No.: 4 **Autosampler Location: 4**
Sample ID: S3 **Date Collected: 11/6/2013 9:55:32 AM**
Analyst: **Data Type: Reprocessed on 11/6/2013 10:27:12 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: S3

Analyte	Back Pressure	Flow
All	170.0 kPa	0.45 L/min

Mean Data: S3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	3712807.5	87837.54	2.37%		
YRADIAL	230121.4	4983.53	2.17%		
Ga 417.206	642380.7	16016.09	2.49%		
GaRADIAL	35012.0	670.32	1.91%		
Ag 328.068†	66747.8	1938.71	2.90%	[0.40]	mg/L
Al 396.153†	19557.2	86.84	0.44%	[10.00]	mg/L
As 188.979†	408.2	16.37	4.01%	[0.40]	mg/L
Ba 233.527†	53806.3	1914.48	3.56%	[1.00]	mg/L
Be 234.861†	21743.5	765.35	3.52%	[0.05]	mg/L
B 249.677†	18097.4	692.56	3.83%	[0.50]	mg/L
Ca 227.546†	1188.9	38.69	3.25%	[10.00]	mg/L
Cd 228.802†	855.0	23.38	2.73%	[0.05]	mg/L
Standard intensity and concentration values are not in the same order.					
Co 228.616†	2874.4	88.49	3.08%	[0.20]	mg/L
Cr 267.716†	33333.3	1042.96	3.13%	[0.50]	mg/L
Cu 327.393†	61706.0	1887.47	3.06%	[0.50]	mg/L
Fe 239.562†	7702.8	67.76	0.88%	[4.00]	mg/L
Mg 279.077†	7386.5	120.14	1.63%	[10.00]	mg/L
Mn 257.610†	190908.1	2974.07	1.56%	[0.50]	mg/L
Mo 202.031†	11322.5	385.69	3.41%	[1.00]	mg/L
Ni 231.604†	12024.4	444.20	3.69%	[0.50]	mg/L
Pb 220.353†	2017.0	72.94	3.62%	[0.50]	mg/L
Sb 206.836†	1457.1	41.05	2.82%	[1.20]	mg/L
Se 196.026†	207.7	9.37	4.51%	[0.40]	mg/L
Si 251.611†	107516.2	3871.73	3.60%	[5.00]	mg/L
Sn 189.927†	3855.7	116.27	3.02%	[1.00]	mg/L
Ti 334.940†	533209.1	5935.87	1.11%	[1.00]	mg/L
Tl 190.801†	582.6	22.70	3.90%	[0.50]	mg/L
V 290.880†	125928.1	5456.67	4.33%	[1.00]	mg/L
Zn 206.200†	18265.1	669.33	3.66%	[1.00]	mg/L
K 766.490†	47886.7	285.78	0.60%	[50.00]	mg/L
Na 589.592†	335971.6	2039.50	0.61%	[50.00]	mg/L
Sr 407.771†	688378.6	6146.84	0.89%	[1.00]	mg/L
Li 670.784†	43405.1	220.03	0.51%	[1.00]	mg/L
P 214.914†	6042.7	226.91	3.76%	[10]	mg/L

Approved: November 07, 2013

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Sequence No.: 5
Sample ID: S4
Analyst:
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 11/6/2013 9:57:37 AM
Data Type: Reprocessed on 11/6/2013 10:27:13 AM

Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: S4

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: S4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	3756482.9	77243.09	2.06%		
YRADIAL	246821.8	11104.96	4.50%		
Ga 417.206	653509.7	10891.20	1.67%		
GaRADIAL	35588.2	1576.00	4.43%		
Ag 328.068†	132731.2	64.12	0.05%	[0.80]	mg/L
Al 396.153†	39686.7	351.95	0.89%	[20.00]	mg/L
As 188.979†	818.1	23.60	2.89%	[0.80]	mg/L
Ba 233.527†	108017.4	893.66	0.83%	[2.00]	mg/L
Be 234.861†	43441.4	327.80	0.75%	[0.10]	mg/L
B 249.677†	36927.1	40.87	0.11%	[1.00]	mg/L
Ca 227.546†	2421.9	52.65	2.17%	[20.00]	mg/L
Cd 228.802†	1710.1	33.26	1.94%	[0.10]	mg/L
Standard intensity and concentration values are not in the same order.					
Co 228.616†	5721.7	191.71	3.35%	[0.40]	mg/L
Cr 267.716†	67117.7	215.84	0.32%	[1.00]	mg/L
Cu 327.393†	123488.0	59.08	0.05%	[1.00]	mg/L
Fe 239.562†	14995.2	208.87	1.39%	[8.00]	mg/L
Mg 279.077†	14319.4	109.20	0.76%	[20.00]	mg/L
Mn 257.610†	399508.2	4644.35	1.16%	[1.00]	mg/L
Mo 202.031†	22640.2	120.35	0.53%	[2.00]	mg/L
Ni 231.604†	23861.6	260.28	1.09%	[1.00]	mg/L
Pb 220.353†	4008.6	121.01	3.02%	[1.00]	mg/L
Sb 206.836†	2928.3	75.26	2.57%	[2.40]	mg/L
Se 196.026†	411.5	12.09	2.94%	[0.80]	mg/L
Si 251.611†	212931.2	1171.71	0.55%	[10.00]	mg/L
Sn 189.927†	7658.5	242.36	3.16%	[2.00]	mg/L
Ti 334.940†	1090856.9	2768.51	0.25%	[2.00]	mg/L
Tl 190.801†	1143.3	37.88	3.31%	[1.00]	mg/L
V 290.880†	251713.8	3735.81	1.48%	[2.00]	mg/L
Zn 206.200†	36407.6	162.68	0.45%	[2.00]	mg/L
K 766.490†	98986.9	1081.98	1.09%	[100.00]	mg/L
Na 589.592†	711334.0	27032.79	3.80%	[100.00]	mg/L
Sr 407.771†	1388631.8	52927.60	3.81%	[2.00]	mg/L
Li 670.784†	89462.9	734.98	0.82%	[2.00]	mg/L
P 214.914†	12239.5	431.20	3.52%	[20]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	4	Lin, Calc Int	-21.2	166100	0.00000	0.999995	
Al 396.153	4	Lin, Calc Int	-31.2	1981	0.00000	0.999975	
As 188.979	3	Wt. Lin	0.4	1021	0.00000	0.999999	
Ba 233.527	4	Lin, Calc Int	-34.3	53990	0.00000	0.999998	
Be 234.861	4	Lin, Calc Int	5.3	434400	0.00000	1.000000	
B 249.677	3	Lin, Calc Int	-97.4	36900	0.00000	0.999951	
Ca 227.546	3	Lin, Calc Int	-2.1	120.8	0.00000	0.999950	
Cd 228.802	4	Lin, Calc Int	-4.9	17160	0.00000	0.999988	
Co 228.616	4	Lin, Calc Int	-4.3	14330	0.00000	0.999995	
Cr 267.716	4	Lin, Calc Int	-18.2	67050	0.00000	0.999994	
Cu 327.393	4	Lin, Calc Int	-5.4	123500	0.00000	1.000000	
Fe 239.562	4	Lin, Calc Int	25.2	1881	0.00000	0.999912	
Mg 279.077	4	Lin, Calc Int	31.8	718.6	0.00000	0.999884	
Mn 257.610	4	Lin, Calc Int	-1075.1	397300	0.00000	0.999765	
Mo 202.031	4	Lin, Calc Int	0.6	11320	0.00000	1.000000	

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Ni 231.604	4	Lin, Calc Int	16.0	23880	0.00000	0.999993
Pb 220.353	4	Lin, Calc Int	-1.7	4016	0.00000	0.999990
Sb 206.836	4	Lin, Calc Int	-0.3	1219	0.00000	0.999996
Se 196.026	3	Wt. Lin	5.2	507.1	0.00000	0.999999
Si 251.611	4	Lin, Calc Int	102.5	21320	0.00000	0.999988
Sn 189.927	4	Lin, Calc Int	4.1	3832	0.00000	0.999994
Ti 334.940	4	Lin, Calc Int	-1638.4	544000	0.00000	0.999941
Tl 190.801	3	Lin, Calc Int	1.0	1146	0.00000	0.999945
V 290.880	4	Lin, Calc Int	111.3	125800	0.00000	1.000000
Zn 206.200	4	Lin, Calc Int	7.8	18210	0.00000	0.999999
K 766.490	4	Non Lin, Calc Int	99.4	922.7	0.66151	1.000000
Na 589.592	4	Non Lin, Calc Int	307.7	6317	7.93530	1.000000
Sr 407.771	4	Lin, Calc Int	-675.7	693500	0.00000	0.999991
Li 670.784	4	Lin, Calc Int	-161.0	44560	0.00000	0.999895
P 214.914	4	Lin, Calc Int	-3.3	610.6	0.00000	0.999979

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Sequence No.: 6 **Autosampler Location: 11**
Sample ID: ICV 2nd Vendor **Date Collected: 11/6/2013 9:59:43 AM**
Analyst: **Data Type: Reprocessed on 11/6/2013 10:27:14 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICV 2nd Vendor

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: ICV 2nd Vendor

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3814872.4						92229.98	2.42%
YRADIAL	244218.5						2385.79	0.98%
Ga 417.206	664806.7						16377.50	2.46%
GaRADIAL	35506.4						671.96	1.89%
Ag 328.068†	65137.0	0.396	mg/L	0.0120	0.396	mg/L	0.0120	3.03%
QC value within limits for Ag 328.068 Recovery = 98.92%								
Al 396.153†	19320.8	9.71	mg/L	0.047	9.71	mg/L	0.047	0.49%
QC value within limits for Al 396.153 Recovery = 97.05%								
As 188.979†	410.9	0.397	mg/L	0.0081	0.397	mg/L	0.0081	2.03%
QC value within limits for As 188.979 Recovery = 99.33%								
Ba 233.527†	51228.9	0.950	mg/L	0.0327	0.950	mg/L	0.0327	3.44%
QC value less than the lower limit for Ba 233.527 Recovery = 94.98%								
Be 234.861†	21268.9	0.0484	mg/L	0.00135	0.0484	mg/L	0.00135	2.80%
QC value within limits for Be 234.861 Recovery = 96.84%								
B 249.677†	18431.8	0.498	mg/L	0.0122	0.498	mg/L	0.0122	2.44%
QC value within limits for B 249.677 Recovery = 99.67%								
Ca 227.546†	1152.1	9.99	mg/L	0.267	9.99	mg/L	0.267	2.68%
QC value within limits for Ca 227.546 Recovery = 99.90%								
Cd 228.802†	851.3	0.0485	mg/L	0.00158	0.0485	mg/L	0.00158	3.26%
QC value within limits for Cd 228.802 Recovery = 97.08%								
Co 228.616†	2907.2	0.202	mg/L	0.0045	0.202	mg/L	0.0045	2.21%
QC value within limits for Co 228.616 Recovery = 101.16%								
Cr 267.716†	32047.3	0.479	mg/L	0.0138	0.479	mg/L	0.0138	2.89%
QC value within limits for Cr 267.716 Recovery = 95.71%								
Cu 327.393†	59105.3	0.480	mg/L	0.0117	0.480	mg/L	0.0117	2.45%
QC value within limits for Cu 327.393 Recovery = 96.05%								
Fe 239.562†	7343.7	3.89	mg/L	0.122	3.89	mg/L	0.122	3.14%
QC value within limits for Fe 239.562 Recovery = 97.26%								
Mg 279.077†	7023.1	9.74	mg/L	0.317	9.74	mg/L	0.317	3.26%
QC value within limits for Mg 279.077 Recovery = 97.44%								
Mn 257.610†	185518.2	0.470	mg/L	0.0061	0.470	mg/L	0.0061	1.29%
QC value less than the lower limit for Mn 257.610 Recovery = 94.08%								
Mo 202.031†	10904.6	0.964	mg/L	0.0307	0.964	mg/L	0.0307	3.19%
QC value within limits for Mo 202.031 Recovery = 96.38%								
Ni 231.604†	11342.1	0.474	mg/L	0.0136	0.474	mg/L	0.0136	2.86%
QC value less than the lower limit for Ni 231.604 Recovery = 94.79%								
Pb 220.353†	1946.4	0.487	mg/L	0.0103	0.487	mg/L	0.0103	2.12%
QC value within limits for Pb 220.353 Recovery = 97.31%								
Sb 206.836†	1460.4	1.20	mg/L	0.035	1.20	mg/L	0.035	2.92%

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   QC value within limits for Sb 206.836  Recovery = 99.75%
Se 196.026†              202.3       0.390 mg/L        0.0104       0.390 mg/L        0.0104   2.66%
   QC value within limits for Se 196.026  Recovery = 97.53%
Si 251.611†            103004.0        4.82 mg/L         0.137        4.82 mg/L         0.137   2.84%
   QC value within limits for Si 251.611  Recovery = 96.30%
Sn 189.927†             3916.7        1.02 mg/L         0.022        1.02 mg/L         0.022   2.14%
   QC value within limits for Sn 189.927  Recovery = 102.10%
Ti 334.940†            536320.9       0.990 mg/L        0.0114       0.990 mg/L        0.0114   1.15%
   QC value within limits for Ti 334.940  Recovery = 99.02%
Tl 190.801†              565.8       0.507 mg/L        0.0027       0.507 mg/L        0.0027   0.53%
   QC value within limits for Tl 190.801  Recovery = 101.37%
V 290.880†             118496.5       0.940 mg/L        0.0345       0.940 mg/L        0.0345   3.67%
   QC value less than the lower limit for V 290.880  Recovery = 93.98%
Zn 206.200†             17530.5       0.967 mg/L        0.0286       0.967 mg/L        0.0286   2.96%
   QC value within limits for Zn 206.200  Recovery = 96.69%
K 766.490†              50080.9        52.2 mg/L          0.13        52.2 mg/L          0.13   0.25%
   QC value within limits for K 766.490  Recovery = 104.32%
Na 589.592†            357044.3        53.0 mg/L          1.38        53.0 mg/L          1.38   2.60%
   QC value greater than the upper limit for Na 589.592  Recovery = 105.90%
Sr 407.771†            674146.7       0.973 mg/L        0.0038       0.973 mg/L        0.0038   0.39%
   QC value within limits for Sr 407.771  Recovery = 97.27%
Li 670.784†             44125.0       0.994 mg/L        0.0053       0.994 mg/L        0.0053   0.54%
   QC value within limits for Li 670.784  Recovery = 99.38%
P 214.914†               6130.3        10.0 mg/L          0.20        10.0 mg/L          0.20   1.96%
   QC value within limits for P 214.914  Recovery = 100.44%
QC Failed.  Continue with analysis.

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Sequence No.: 7                                    Autosampler Location: 1
Sample ID: ICB                                     Date Collected: 11/6/2013 10:01:47 AM
Analyst:                                           Data Type: Reprocessed on 11/6/2013 10:27:17 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                 Initial Sample Vol:
Dilution:                                          Sample Prep Vol:

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Nebulizer Parameters: ICB
Analyte                 Back Pressure    Flow
All                     171.0 kPa        0.45 L/min

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Mean Data: ICB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            3680983.1                                                    10260.69   0.28%
YRADIAL               231715.2                                                     3461.57   1.49%
Ga 417.206            618823.4                                                     1607.19   0.26%
GaRADIAL               33783.8                                                      733.72   2.17%
Ag 328.068†              -61.3    -0.00024 mg/L      0.000606    -0.00024 mg/L      0.000606 248.90%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               -0.5      0.0154 mg/L       0.00503      0.0154 mg/L       0.00503  32.60%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                1.7     0.00130 mg/L      0.005885     0.00130 mg/L      0.005885 453.04%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -22.8     0.00021 mg/L      0.000076     0.00021 mg/L      0.000076  35.27%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†                6.4     0.00001 mg/L      0.000013     0.00001 mg/L      0.000013 221.23%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               526.9      0.0169 mg/L       0.00187      0.0169 mg/L       0.00187  11.03%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                6.6      0.0710 mg/L       0.02257      0.0710 mg/L       0.02257  31.80%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -3.6     0.00007 mg/L      0.000470     0.00007 mg/L      0.000470 698.87%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -5.4    -0.00007 mg/L      0.000563    -0.00007 mg/L      0.000563 756.44%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                8.4     0.00040 mg/L      0.000111     0.00040 mg/L      0.000111  28.00%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               35.4     0.00033 mg/L      0.000258     0.00033 mg/L      0.000258  77.54%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                5.7     -0.0104 mg/L       0.00089     -0.0104 mg/L       0.00089   8.56%
   QC value within limits for Fe 239.562  Recovery = Not calculated
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Mg 279.077†                0.4     -0.0437 mg/L       0.00234     -0.0437 mg/L       0.00234   5.34%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               -6.3     0.00269 mg/L      0.000031     0.00269 mg/L      0.000031   1.16%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               16.9     0.00145 mg/L      0.000790     0.00145 mg/L      0.000790  54.64%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†                6.8    -0.00038 mg/L      0.000944    -0.00038 mg/L      0.000944 245.61%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               -1.1     0.00014 mg/L      0.001562     0.00014 mg/L      0.001562 >999.9%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                1.3     0.00127 mg/L      0.003864     0.00127 mg/L      0.003864 304.80%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                3.9    -0.00246 mg/L      0.005012    -0.00246 mg/L      0.005012 203.78%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†              -89.4    -0.00901 mg/L      0.000226    -0.00901 mg/L      0.000226   2.51%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               17.1     0.00339 mg/L      0.000746     0.00339 mg/L      0.000746  22.01%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             -100.4     0.00284 mg/L      0.000033     0.00284 mg/L      0.000033   1.15%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -3.1    -0.00355 mg/L      0.005729    -0.00355 mg/L      0.005729 161.23%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               324.9     0.00170 mg/L      0.000772     0.00170 mg/L      0.000772  45.40%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                2.3    -0.00030 mg/L      0.000176    -0.00030 mg/L      0.000176  58.77%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                90.2    -0.00996 mg/L      0.073256    -0.00996 mg/L      0.073256 735.56%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               48.6     -0.0410 mg/L       0.01149     -0.0410 mg/L       0.01149  28.02%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              -62.8     0.00088 mg/L      0.000142     0.00088 mg/L      0.000142  16.06%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               54.7     0.00484 mg/L      0.002466     0.00484 mg/L      0.002466  50.95%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                23.1      0.0433 mg/L       0.01286      0.0433 mg/L       0.01286  29.69%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
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Sequence No.: 8 **Autosampler Location: 11**
Sample ID: ICV 2nd Vendor **Date Collected: 11/6/2013 10:05:23 AM**
Analyst: **Data Type: Reprocessed on 11/6/2013 10:27:18 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: ICV 2nd Vendor

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: ICV 2nd Vendor

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3772033.5						221993.68	5.89%
YRADIAL	249455.8						3915.23	1.57%
Ga 417.206	649331.4						33667.24	5.18%
GaRADIAL	36608.6						1039.61	2.84%
Ag 328.068†	68369.5	0.415	mg/L	0.0203	0.415	mg/L	0.0203	4.89%
QC value within limits for Ag 328.068 Recovery = 103.82%								
Al 396.153†	19855.8	9.97	mg/L	0.160	9.97	mg/L	0.160	1.61%
QC value within limits for Al 396.153 Recovery = 99.73%								
As 188.979†	427.3	0.413	mg/L	0.0178	0.413	mg/L	0.0178	4.31%
QC value within limits for As 188.979 Recovery = 103.30%								
Ba 233.527†	53279.9	0.988	mg/L	0.0507	0.988	mg/L	0.0507	5.14%
QC value within limits for Ba 233.527 Recovery = 98.78%								
Be 234.861†	22400.6	0.0510	mg/L	0.00248	0.0510	mg/L	0.00248	4.87%
QC value within limits for Be 234.861 Recovery = 101.95%								
B 249.677†	18638.8	0.504	mg/L	0.0247	0.504	mg/L	0.0247	4.91%
QC value within limits for B 249.677 Recovery = 100.76%								
Ca 227.546†	1193.5	10.4	mg/L	0.39	10.4	mg/L	0.39	3.74%

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   QC value within limits for Ca 227.546  Recovery = 103.53%
Cd 228.802†              890.6      0.0508 mg/L       0.00276      0.0508 mg/L       0.00276   5.44%
   QC value within limits for Cd 228.802  Recovery = 101.52%
Co 228.616†             2948.0       0.205 mg/L        0.0103       0.205 mg/L        0.0103   5.01%
   QC value within limits for Co 228.616  Recovery = 102.58%
Cr 267.716†            33215.5       0.496 mg/L        0.0238       0.496 mg/L        0.0238   4.81%
   QC value within limits for Cr 267.716  Recovery = 99.20%
Cu 327.393†            61947.4       0.503 mg/L        0.0239       0.503 mg/L        0.0239   4.74%
   QC value within limits for Cu 327.393  Recovery = 100.66%
Fe 239.562†             7847.9        4.16 mg/L         0.221        4.16 mg/L         0.221   5.33%
   QC value within limits for Fe 239.562  Recovery = 103.96%
Mg 279.077†             7430.2        10.3 mg/L          0.51        10.3 mg/L          0.51   4.96%
   QC value within limits for Mg 279.077  Recovery = 103.12%
Mn 257.610†           190342.2       0.483 mg/L        0.0067       0.483 mg/L        0.0067   1.39%
   QC value within limits for Mn 257.610  Recovery = 96.51%
Mo 202.031†            11331.2        1.00 mg/L         0.052        1.00 mg/L         0.052   5.24%
   QC value within limits for Mo 202.031  Recovery = 100.15%
Ni 231.604†            11792.7       0.493 mg/L        0.0189       0.493 mg/L        0.0189   3.84%
   QC value within limits for Ni 231.604  Recovery = 98.56%
Pb 220.353†             1969.1       0.492 mg/L        0.0194       0.492 mg/L        0.0194   3.94%
   QC value within limits for Pb 220.353  Recovery = 98.45%
Sb 206.836†             1516.5        1.24 mg/L         0.062        1.24 mg/L         0.062   4.96%
   QC value within limits for Sb 206.836  Recovery = 103.58%
Se 196.026†              212.1       0.410 mg/L        0.0199       0.410 mg/L        0.0199   4.86%
   QC value within limits for Se 196.026  Recovery = 102.39%
Si 251.611†           107975.4        5.05 mg/L         0.245        5.05 mg/L         0.245   4.85%
   QC value within limits for Si 251.611  Recovery = 100.96%
Sn 189.927†             3948.6        1.03 mg/L         0.043        1.03 mg/L         0.043   4.19%
   QC value within limits for Sn 189.927  Recovery = 102.94%
Ti 334.940†           551750.1        1.02 mg/L         0.012        1.02 mg/L         0.012   1.14%
   QC value within limits for Ti 334.940  Recovery = 101.86%
Tl 190.801†              569.0       0.510 mg/L        0.0237       0.510 mg/L        0.0237   4.65%
   QC value within limits for Tl 190.801  Recovery = 102.00%
V 290.880†            122021.9       0.968 mg/L        0.0527       0.968 mg/L        0.0527   5.44%
   QC value within limits for V 290.880  Recovery = 96.78%
Zn 206.200†            18106.3       0.999 mg/L        0.0452       0.999 mg/L        0.0452   4.53%
   QC value within limits for Zn 206.200  Recovery = 99.86%
K 766.490†             50767.8        52.9 mg/L          0.86        52.9 mg/L          0.86   1.63%
   QC value greater than the upper limit for K 766.490  Recovery = 105.70%
Na 589.592†           357045.2        53.0 mg/L          1.57        53.0 mg/L          1.57   2.96%
   QC value greater than the upper limit for Na 589.592  Recovery = 105.90%
Sr 407.771†           674305.2       0.973 mg/L        0.0146       0.973 mg/L        0.0146   1.50%
   QC value within limits for Sr 407.771  Recovery = 97.29%
Li 670.784†            45327.8        1.02 mg/L         0.013        1.02 mg/L         0.013   1.32%
   QC value within limits for Li 670.784  Recovery = 102.08%
P 214.914†              6214.9        10.2 mg/L          0.48        10.2 mg/L          0.48   4.76%
   QC value within limits for P 214.914  Recovery = 101.83%
QC Failed.  Continue with analysis.

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Sequence No.: 9                                   Autosampler Location: 1
Sample ID: ICB                                    Date Collected: 11/6/2013 10:07:28 AM
Analyst:                                          Data Type: Reprocessed on 11/6/2013 10:27:19 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                Initial Sample Vol:
Dilution:                                         Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: ICB
Analyte                 Back Pressure    Flow
All                     171.0 kPa        0.45 L/min

------------------------------------------------------------------------------------------
Mean Data: ICB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units     Std.Dev.     Conc. Units     Std.Dev.   RSD
Y 371.029            3645080.7                                                  75896.53   2.08%
YRADIAL               227265.8                                                   4526.72   1.99%
Ga 417.206            607936.9                                                  16258.26   2.67%
GaRADIAL               33299.8                                                    745.02   2.24%
Ag 328.068†             -107.5    -0.00052 mg/L      0.000112    -0.00052 mg/L      0.000112  21.63%
   QC value within limits for Ag 328.068  Recovery = Not calculated
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Al 396.153†              -6.5      0.0123 mg/L       0.00231      0.0123 mg/L       0.00231  18.73%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†              -0.4    -0.00080 mg/L      0.005829    -0.00080 mg/L      0.005829 724.82%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†             -17.3     0.00031 mg/L      0.000194     0.00031 mg/L      0.000194  61.57%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†             -34.1    -0.00009 mg/L      0.000091    -0.00009 mg/L      0.000091 105.18%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†              370.7      0.0127 mg/L       0.00176      0.0127 mg/L       0.00176  13.88%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†               1.3      0.0269 mg/L       0.04685      0.0269 mg/L       0.04685 174.40%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†              -7.1    -0.00013 mg/L      0.000374    -0.00013 mg/L      0.000374 292.57%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†             -11.0    -0.00047 mg/L      0.000259    -0.00047 mg/L      0.000259  55.56%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -0.5     0.00027 mg/L      0.000125     0.00027 mg/L      0.000125  47.00%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              67.7     0.00060 mg/L      0.000205     0.00060 mg/L      0.000205  34.39%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               3.6     -0.0115 mg/L       0.00084     -0.0115 mg/L       0.00084   7.33%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               2.8     -0.0403 mg/L       0.00487     -0.0403 mg/L       0.00487  12.09%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†             -19.0     0.00266 mg/L      0.000015     0.00266 mg/L      0.000015   0.55%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031               19.9     0.00171 mg/L      0.000410     0.00171 mg/L      0.000410  24.05%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604               -0.0    -0.00067 mg/L      0.000135    -0.00067 mg/L      0.000135  20.31%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353                6.0     0.00191 mg/L      0.000713     0.00191 mg/L      0.000713  37.25%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836               -1.7    -0.00118 mg/L      0.000812    -0.00118 mg/L      0.000812  69.05%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026                3.3    -0.00369 mg/L      0.004826    -0.00369 mg/L      0.004826 130.88%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611              -82.0    -0.00867 mg/L      0.000291    -0.00867 mg/L      0.000291   3.36%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927               16.8     0.00330 mg/L      0.001698     0.00330 mg/L      0.001698  51.40%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940              -82.2     0.00286 mg/L      0.000165     0.00286 mg/L      0.000165   5.76%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801               -8.5    -0.00825 mg/L      0.003680    -0.00825 mg/L      0.003680  44.63%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880               603.7     0.00392 mg/L      0.002327     0.00392 mg/L      0.002327  59.40%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200               -6.0    -0.00076 mg/L      0.000153    -0.00076 mg/L      0.000153  20.22%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490               124.1      0.0268 mg/L       0.06253      0.0268 mg/L       0.06253 233.01%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592              -25.7     -0.0528 mg/L       0.00944     -0.0528 mg/L       0.00944  17.89%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771              -29.0     0.00093 mg/L      0.000137     0.00093 mg/L      0.000137  14.75%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784               96.8     0.00579 mg/L      0.001106     0.00579 mg/L      0.001106  19.11%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914                26.2      0.0484 mg/L       0.00668      0.0484 mg/L       0.00668  13.79%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 10                                    Autosampler Location: 12
Sample ID: ICSA                                     Date Collected: 11/6/2013 10:10:50 AM
Analyst:                                            Data Type: Reprocessed on 11/6/2013 10:27:21 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: ICSA
Analyte                 Back Pressure    Flow
All                   171.0 kPa         0.45 L/min
```

Approved: November 07, 2013

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3651732.9						125804.18	3.45%
YRADIAL	249339.7						7940.21	3.18%
Ga 417.206	653449.8						15107.19	2.31%
GaRADIAL	36043.0						1046.07	2.90%
Ag 328.068†	-7442.7	0.00122	mg/L	0.001139	0.00122	mg/L	0.001139	93.64%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	503924.0	254	mg/L	14.0	254	mg/L	14.0	5.51%
QC value within limits for Al 396.153 Recovery = 101.79%								
As 188.979†	-4.0	-0.00002	mg/L	0.005140	-0.00002	mg/L	0.005140	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	261.4	0.00299	mg/L	0.000129	0.00299	mg/L	0.000129	4.32%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	10370.1	0.00001	mg/L	0.000381	0.00001	mg/L	0.000381	>999.9%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	2163.9	0.0192	mg/L	0.00393	0.0192	mg/L	0.00393	20.42%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	33865.2	283	mg/L	11.2	283	mg/L	11.2	3.95%
QC value within limits for Ca 227.546 Recovery = 113.11%								
Cd 228.802†	0.7	0.00062	mg/L	0.000125	0.00062	mg/L	0.000125	20.00%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	5.7	-0.00178	mg/L	0.000481	-0.00178	mg/L	0.000481	27.04%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	109.5	0.00013	mg/L	0.000082	0.00013	mg/L	0.000082	61.33%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-814.5	-0.00084	mg/L	0.000651	-0.00084	mg/L	0.000651	77.35%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	183864.1	97.7	mg/L	0.41	97.7	mg/L	0.41	0.42%
QC value within limits for Fe 239.562 Recovery = 97.74%								
Mg 279.077†	182060.2	253	mg/L	1.4	253	mg/L	1.4	0.57%
QC value within limits for Mg 279.077 Recovery = 101.31%								
Mn 257.610†	-1011.7	0.00568	mg/L	0.000388	0.00568	mg/L	0.000388	6.84%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	18.0	0.00308	mg/L	0.000606	0.00308	mg/L	0.000606	19.68%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	2.1	-0.00058	mg/L	0.000970	-0.00058	mg/L	0.000970	168.26%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	-108.6	0.00097	mg/L	0.002906	0.00097	mg/L	0.002906	300.03%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-16.4	-0.00962	mg/L	0.002223	-0.00962	mg/L	0.002223	23.10%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-11.6	-0.00651	mg/L	0.010769	-0.00651	mg/L	0.010769	165.48%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	841.5	0.0346	mg/L	0.00304	0.0346	mg/L	0.00304	8.79%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-288.5	-0.0764	mg/L	0.00515	-0.0764	mg/L	0.00515	6.75%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-21241.7	0.00602	mg/L	0.002346	0.00602	mg/L	0.002346	38.96%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-20.5	-0.0123	mg/L	0.01241	-0.0123	mg/L	0.01241	100.98%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	3021.2	0.00003	mg/L	0.002693	0.00003	mg/L	0.002693	>999.9%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	24.3	0.00270	mg/L	0.000618	0.00270	mg/L	0.000618	22.92%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	96.6	-0.00303	mg/L	0.045731	-0.00303	mg/L	0.045731	>999.9%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	44.8	-0.0416	mg/L	0.00900	-0.0416	mg/L	0.00900	21.63%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	5358.8	-0.00024	mg/L	0.000467	-0.00024	mg/L	0.000467	191.41%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	102.3	0.00591	mg/L	0.000946	0.00591	mg/L	0.000946	16.02%
QC value within limits for Li 670.784 Recovery = Not calculated								
P 214.914†	42.5	0.0750	mg/L	0.04901	0.0750	mg/L	0.04901	65.34%
QC value within limits for P 214.914 Recovery = Not calculated								

All analyte(s) passed QC.

Approved: November 07, 2013

Kim H. Rhoden

Sequence No.: 11
Sample ID: ICSAB
Analyst:
Logged In Analyst (Original) : peicp2
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 11/6/2013 10:12:54 AM
Data Type: Reprocessed on 11/6/2013 10:27:22 AM

Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3650494.9						42255.47	1.16%
YRADIAL	237237.1						7933.63	3.34%
Ga 417.206	652842.7						5602.78	0.86%
GaRADIAL	35096.0						848.87	2.42%
Ag 328.068†	75703.4	0.502	mg/L	0.0142	0.502	mg/L	0.0142	2.84%
QC value within limits for Ag 328.068 Recovery = 100.42%								
Al 396.153†	512888.6	259	mg/L	19.5	259	mg/L	19.5	7.51%
QC value within limits for Al 396.153 Recovery = 103.60%								
As 188.979†	239.3	0.238	mg/L	0.0039	0.238	mg/L	0.0039	1.66%
QC value within limits for As 188.979 Recovery = 95.05%								
Ba 233.527†	13221.9	0.243	mg/L	0.0077	0.243	mg/L	0.0077	3.17%
QC value within limits for Ba 233.527 Recovery = 97.20%								
Be 234.861†	117900.6	0.248	mg/L	0.0013	0.248	mg/L	0.0013	0.54%
QC value within limits for Be 234.861 Recovery = 99.03%								
B 249.677†	1941.8	-0.00027	mg/L	0.003498	-0.00027	mg/L	0.003498	>999.9%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	31780.2	266	mg/L	7.2	266	mg/L	7.2	2.71%
QC value within limits for Ca 227.546 Recovery = 106.34%								
Cd 228.802†	8376.9	0.488	mg/L	0.0038	0.488	mg/L	0.0038	0.77%
QC value within limits for Cd 228.802 Recovery = 97.68%								
Co 228.616†	3354.8	0.232	mg/L	0.0028	0.232	mg/L	0.0028	1.20%
QC value within limits for Co 228.616 Recovery = 92.73%								
Cr 267.716†	16285.7	0.242	mg/L	0.0099	0.242	mg/L	0.0099	4.09%
QC value within limits for Cr 267.716 Recovery = 96.66%								
Cu 327.393†	28529.4	0.237	mg/L	0.0063	0.237	mg/L	0.0063	2.64%
QC value within limits for Cu 327.393 Recovery = 94.72%								
Fe 239.562†	183806.3	97.7	mg/L	0.39	97.7	mg/L	0.39	0.40%
QC value within limits for Fe 239.562 Recovery = 97.71%								
Mg 279.077†	183368.6	255	mg/L	1.7	255	mg/L	1.7	0.65%
QC value within limits for Mg 279.077 Recovery = 102.03%								
Mn 257.610†	93880.2	0.245	mg/L	0.0070	0.245	mg/L	0.0070	2.86%
QC value within limits for Mn 257.610 Recovery = 97.85%								
Mo 202.031†	1.9	0.00182	mg/L	0.001627	0.00182	mg/L	0.001627	89.58%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	11375.0	0.475	mg/L	0.0028	0.475	mg/L	0.0028	0.59%
QC value within limits for Ni 231.604 Recovery = 95.05%								
Pb 220.353†	1839.9	0.487	mg/L	0.0014	0.487	mg/L	0.0014	0.28%
QC value within limits for Pb 220.353 Recovery = 97.33%								
Sb 206.836†	581.0	0.479	mg/L	0.0076	0.479	mg/L	0.0076	1.59%
QC value within limits for Sb 206.836 Recovery = 95.78%								
Se 196.026†	116.6	0.247	mg/L	0.0153	0.247	mg/L	0.0153	6.20%
QC value within limits for Se 196.026 Recovery = 98.70%								
Si 251.611†	45.5	-0.00267	mg/L	0.003383	-0.00267	mg/L	0.003383	126.49%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	-302.5	-0.0800	mg/L	0.00104	-0.0800	mg/L	0.00104	1.30%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-20867.1	0.00405	mg/L	0.001387	0.00405	mg/L	0.001387	34.23%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	551.9	0.487	mg/L	0.0086	0.487	mg/L	0.0086	1.77%
QC value within limits for Tl 190.801 Recovery = 97.47%								
V 290.880†	33461.3	0.242	mg/L	0.0100	0.242	mg/L	0.0100	4.12%
QC value within limits for V 290.880 Recovery = 96.76%								
Zn 206.200†	8375.7	0.464	mg/L	0.0035	0.464	mg/L	0.0035	0.75%
QC value within limits for Zn 206.200 Recovery = 92.72%								
K 766.490†	5033.9	5.32	mg/L	0.025	5.32	mg/L	0.025	0.47%
QC value within limits for K 766.490 Recovery = 106.44%								

Approved: November 07, 2013

Kim H. Rhoden

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Na 589.592†            36013.8        5.61 mg/L         0.011        5.61 mg/L         0.011   0.20%
   QC value within limits for Na 589.592  Recovery = 112.26%
Sr 407.771†             5385.8     0.00035 mg/L      0.000199     0.00035 mg/L      0.000199  57.52%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               51.7     0.00477 mg/L      0.000814     0.00477 mg/L      0.000814  17.05%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†               -19.1     -0.0258 mg/L       0.04057     -0.0258 mg/L       0.04057 157.44%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
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Sequence No.: 12 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/6/2013 10:14:57 AM**
Analyst: **Data Type: Reprocessed on 11/6/2013 10:27:23 AM**
Logged In Analyst (Original) : peicp2
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	**Back Pressure**	**Flow**
All	171.0 kPa	0.45 L/min

Mean Data: CCV

Analyte	**Mean Corrected Intensity**	**Calib. Conc.**	**Units**	**Std.Dev.**	**Sample Conc.**	**Units**	**Std.Dev.**	**RSD**
Y 371.029	3674566.8						52894.59	1.44%
YRADIAL	234665.8						10534.28	4.49%
Ga 417.206	636139.1						17207.97	2.71%
GaRADIAL	34485.4						683.93	1.98%
Ag 328.068†	68000.0	0.413	mg/L	0.0176	0.413	mg/L	0.0176	4.26%
QC value within limits for Ag 328.068 Recovery = 103.29%								
Al 396.153†	20484.4	10.3	mg/L	0.07	10.3	mg/L	0.07	0.70%
QC value within limits for Al 396.153 Recovery = 102.87%								
As 188.979†	423.6	0.409	mg/L	0.0056	0.409	mg/L	0.0056	1.37%
QC value within limits for As 188.979 Recovery = 102.34%								
Ba 233.527†	55158.5	1.02	mg/L	0.032	1.02	mg/L	0.032	3.11%
QC value within limits for Ba 233.527 Recovery = 102.26%								
Be 234.861†	22428.5	0.0511	mg/L	0.00217	0.0511	mg/L	0.00217	4.24%
QC value within limits for Be 234.861 Recovery = 102.13%								
B 249.677†	18760.7	0.507	mg/L	0.0160	0.507	mg/L	0.0160	3.16%
QC value within limits for B 249.677 Recovery = 101.42%								
Ca 227.546†	1227.5	10.7	mg/L	0.22	10.7	mg/L	0.22	2.06%
QC value within limits for Ca 227.546 Recovery = 106.66%								
Cd 228.802†	885.1	0.0504	mg/L	0.00131	0.0504	mg/L	0.00131	2.61%
QC value within limits for Cd 228.802 Recovery = 100.90%								
Co 228.616†	2939.5	0.205	mg/L	0.0015	0.205	mg/L	0.0015	0.72%
QC value within limits for Co 228.616 Recovery = 102.34%								
Cr 267.716†	34334.5	0.513	mg/L	0.0150	0.513	mg/L	0.0150	2.93%
QC value within limits for Cr 267.716 Recovery = 102.54%								
Cu 327.393†	63460.2	0.516	mg/L	0.0226	0.516	mg/L	0.0226	4.39%
QC value within limits for Cu 327.393 Recovery = 103.11%								
Fe 239.562†	7812.9	4.14	mg/L	0.070	4.14	mg/L	0.070	1.69%
QC value within limits for Fe 239.562 Recovery = 103.49%								
Mg 279.077†	7565.9	10.5	mg/L	0.25	10.5	mg/L	0.25	2.34%
QC value within limits for Mg 279.077 Recovery = 105.01%								
Mn 257.610†	202601.4	0.513	mg/L	0.0149	0.513	mg/L	0.0149	2.91%
QC value within limits for Mn 257.610 Recovery = 102.69%								
Mo 202.031†	11785.6	1.04	mg/L	0.009	1.04	mg/L	0.009	0.88%
QC value within limits for Mo 202.031 Recovery = 104.17%								
Ni 231.604†	12694.8	0.531	mg/L	0.0044	0.531	mg/L	0.0044	0.84%
QC value within limits for Ni 231.604 Recovery = 106.12%								
Pb 220.353†	2066.8	0.517	mg/L	0.0019	0.517	mg/L	0.0019	0.36%
QC value within limits for Pb 220.353 Recovery = 103.33%								
Sb 206.836†	1493.3	1.22	mg/L	0.026	1.22	mg/L	0.026	2.14%
QC value within limits for Sb 206.836 Recovery = 102.00%								
Se 196.026†	218.9	0.423	mg/L	0.0172	0.423	mg/L	0.0172	4.06%
QC value within limits for Se 196.026 Recovery = 105.74%								
Si 251.611†	109549.0	5.12	mg/L	0.225	5.12	mg/L	0.225	4.39%
QC value within limits for Si 251.611 Recovery = 102.43%								
Sn 189.927†	3946.0	1.03	mg/L	0.009	1.03	mg/L	0.009	0.91%

Approved: November 07, 2013

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   QC value within limits for Sn 189.927  Recovery = 102.87%
Ti 334.940†          541232.1       0.999 mg/L        0.0012       0.999 mg/L        0.0012   0.12%
   QC value within limits for Ti 334.940  Recovery = 99.93%
Tl 190.801†             601.9       0.539 mg/L        0.0037       0.539 mg/L        0.0037   0.68%
   QC value within limits for Tl 190.801  Recovery = 107.72%
V 290.880†           128301.0        1.02 mg/L         0.027        1.02 mg/L         0.027   2.69%
   QC value within limits for V 290.880  Recovery = 101.77%
Zn 206.200†           18847.0        1.04 mg/L         0.027        1.04 mg/L         0.027   2.60%
   QC value within limits for Zn 206.200  Recovery = 103.95%
K 766.490†            50983.7        53.1 mg/L          0.45        53.1 mg/L          0.45   0.85%
   QC value within limits for K 766.490  Recovery = 106.14%
Na 589.592†          362158.3        53.7 mg/L          0.64        53.7 mg/L          0.64   1.20%
   QC value within limits for Na 589.592  Recovery = 107.33%
Sr 407.771†          718836.8        1.04 mg/L         0.017        1.04 mg/L         0.017   1.64%
   QC value within limits for Sr 407.771  Recovery = 103.71%
Li 670.784†           46335.6        1.04 mg/L         0.004        1.04 mg/L         0.004   0.36%
   QC value within limits for Li 670.784  Recovery = 104.34%
P 214.914†             6167.7        10.1 mg/L          0.11        10.1 mg/L          0.11   1.11%
   QC value within limits for P 214.914  Recovery = 101.06%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 13                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/6/2013 10:17:02 AM
Analyst:                                            Data Type: Reprocessed on 11/6/2013 10:27:24 AM
Logged In Analyst (Original) : peicp2
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                    171.0 kPa        0.45 L/min

------------------------------------------------------------------------------------------
Mean Data: CCB
                   Mean Corrected         Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.      Conc. Units      Std.Dev.   RSD
Y 371.029            3750913.2                                                     77372.87   2.06%
YRADIAL               222902.4                                                     12603.27   5.65%
Ga 417.206            630698.8                                                     14561.11   2.31%
GaRADIAL               32655.8                                                      1256.56   3.85%
Ag 328.068†             -220.8    -0.00120 mg/L      0.000200    -0.00120 mg/L      0.000200  16.65%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               14.5      0.0230 mg/L       0.01051      0.0230 mg/L       0.01051  45.66%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†               -0.6    -0.00097 mg/L      0.002951    -0.00097 mg/L      0.002951 303.69%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -17.7     0.00031 mg/L      0.000158     0.00031 mg/L      0.000158  51.58%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               14.4     0.00002 mg/L      0.000048     0.00002 mg/L      0.000048 216.92%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               230.9     0.00890 mg/L      0.001124     0.00890 mg/L      0.001124  12.63%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                9.6      0.0963 mg/L       0.09138      0.0963 mg/L       0.09138  94.86%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -2.0     0.00017 mg/L      0.000213     0.00017 mg/L      0.000213 123.69%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -9.5    -0.00036 mg/L      0.000058    -0.00036 mg/L      0.000058  15.80%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†               -1.2     0.00025 mg/L      0.000317     0.00025 mg/L      0.000317 124.33%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†              226.5     0.00188 mg/L      0.001068     0.00188 mg/L      0.001068  56.78%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†               22.8    -0.00130 mg/L      0.005311    -0.00130 mg/L      0.005311 406.95%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†               41.1      0.0129 mg/L       0.01844      0.0129 mg/L       0.01844 143.34%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†                5.7     0.00272 mg/L      0.000027     0.00272 mg/L      0.000027   1.01%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               11.1     0.00093 mg/L      0.000466     0.00093 mg/L      0.000466  50.22%
   QC value within limits for Mo 202.031  Recovery = Not calculated
```

Approved: November 07, 2013

```
Cd 228.802†              -2.0     0.00017 mg/L      0.000213     0.00017 mg/L      0.000213 123.69%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†              -9.5    -0.00036 mg/L      0.000058    -0.00036 mg/L      0.000058  15.80%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†              -1.2     0.00025 mg/L      0.000317     0.00025 mg/L      0.000317 124.33%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†             226.5     0.00188 mg/L      0.001068     0.00188 mg/L      0.001068  56.78%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†              22.8    -0.00130 mg/L      0.005311    -0.00130 mg/L      0.005311 406.95%
   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†              41.1      0.0129 mg/L       0.01844      0.0129 mg/L       0.01844 143.34%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†               5.7     0.00272 mg/L      0.000027     0.00272 mg/L      0.000027   1.01%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†              11.1     0.00093 mg/L      0.000466     0.00093 mg/L      0.000466  50.22%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              13.2    -0.00012 mg/L      0.000335    -0.00012 mg/L      0.000335 283.26%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†               9.3     0.00274 mg/L      0.001532     0.00274 mg/L      0.001532  56.00%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†              -1.2    -0.00074 mg/L      0.000572    -0.00074 mg/L      0.000572  77.20%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†               1.5    -0.00725 mg/L      0.001186    -0.00725 mg/L      0.001186  16.35%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†            -122.0     -0.0105 mg/L       0.00128     -0.0105 mg/L       0.00128  12.12%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†              12.3     0.00214 mg/L      0.001181     0.00214 mg/L      0.001181  55.24%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†            -105.9     0.00283 mg/L      0.000327     0.00283 mg/L      0.000327  11.56%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               1.7     0.00065 mg/L      0.003473     0.00065 mg/L      0.003473 531.80%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†              324.5     0.00169 mg/L      0.001194     0.00169 mg/L      0.001194  70.43%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†               9.0     0.00007 mg/L      0.000085     0.00007 mg/L      0.000085 120.47%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†               56.1     -0.0469 mg/L       0.07334     -0.0469 mg/L       0.07334 156.27%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†              -3.3     -0.0492 mg/L       0.01631     -0.0492 mg/L       0.01631  33.14%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†               8.0     0.00098 mg/L      0.000234     0.00098 mg/L      0.000234  23.86%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†              46.2     0.00465 mg/L      0.000311     0.00465 mg/L      0.000311   6.68%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†               20.8      0.0394 mg/L       0.00149      0.0394 mg/L       0.00149   3.78%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
User canceled analysis.
```

Approved: November 07, 2013

Kim H. Rhoden

```
Ni 231.604†               13.2    -0.00012 mg/L      0.000335    -0.00012 mg/L      0.000335 283.26%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                9.3     0.00274 mg/L      0.001532     0.00274 mg/L      0.001532  56.00%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†               -1.2    -0.00074 mg/L      0.000572    -0.00074 mg/L      0.000572  77.20%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                1.5    -0.00725 mg/L      0.001186    -0.00725 mg/L      0.001186  16.35%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†             -122.0     -0.0105 mg/L       0.00128     -0.0105 mg/L       0.00128  12.12%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               12.3     0.00214 mg/L      0.001181     0.00214 mg/L      0.001181  55.24%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†             -105.9     0.00283 mg/L      0.000327     0.00283 mg/L      0.000327  11.56%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†                1.7     0.00065 mg/L      0.003473     0.00065 mg/L      0.003473 531.80%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               324.5     0.00169 mg/L      0.001193     0.00169 mg/L      0.001193  70.42%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                9.0     0.00007 mg/L      0.000085     0.00007 mg/L      0.000085 120.47%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                56.1     -0.0469 mg/L       0.07334     -0.0469 mg/L       0.07334 156.27%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               -3.3     -0.0492 mg/L       0.01631     -0.0492 mg/L       0.01631  33.14%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†                8.0     0.00098 mg/L      0.000234     0.00098 mg/L      0.000234  23.86%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               46.2     0.00465 mg/L      0.000311     0.00465 mg/L      0.000311   6.68%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                20.8      0.0394 mg/L       0.00149      0.0394 mg/L       0.00149   3.78%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
```

Approved: November 07, 2013

Kim H. Rhoden

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Analysis Begun

Start Time: 11/6/2013 10:28:15 AM **Plasma On Time: 11/6/2013 6:34:48 AM**
Logged In Analyst: peicp2 **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N4011401 **Autosampler Model: Cetac**

Sample Information File: C:\pe\peicp2\Sample Information\WEDNESDAY1.sif
Batch ID:
Results Data Set: 110613H2R
Results Library: C:\pe\peicp2\Results\results1.mdb

==========

Sequence No.: 1 **Autosampler Location: 14**
Sample ID: PBW AH WG451280-02 **Date Collected: 11/6/2013 10:28:16 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: PBW AH WG451280-02

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: PBW AH WG451280-02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3730514.3						51921.59	1.39%
YRADIAL	252867.1						31982.74	12.65%
Ga 417.206	621665.3						12241.16	1.97%
GaRADIAL	34483.3						2524.32	7.32%
Ag 328.068†	-112.5	-0.00055	mg/L	0.000792	-0.00055	mg/L	0.000792	144.69%
Al 396.153†	0.5	0.0160	mg/L	0.00023	0.0160	mg/L	0.00023	1.45%
As 188.979†	-1.4	-0.00174	mg/L	0.007447	-0.00174	mg/L	0.007447	428.97%
Ba 233.527†	-9.0	0.00047	mg/L	0.000317	0.00047	mg/L	0.000317	67.70%
Be 234.861†	7.9	0.00001	mg/L	0.000114	0.00001	mg/L	0.000114	>999.9%
B 249.677†	-71.6	0.00069	mg/L	0.000538	0.00069	mg/L	0.000538	78.00%
Ca 227.546†	-0.6	0.0121	mg/L	0.04346	0.0121	mg/L	0.04346	359.86%
Cd 228.802†	-0.7	0.00026	mg/L	0.000292	0.00026	mg/L	0.000292	113.96%
Co 228.616†	0.5	0.00033	mg/L	0.000360	0.00033	mg/L	0.000360	108.92%
Cr 267.716†	6.6	0.00037	mg/L	0.000083	0.00037	mg/L	0.000083	22.55%
Cu 327.393†	-26.0	-0.00016	mg/L	0.000568	-0.00016	mg/L	0.000568	345.45%
Fe 239.562†	30.1	0.00259	mg/L	0.001507	0.00259	mg/L	0.001507	58.12%
Mg 279.077†	5.3	-0.0369	mg/L	0.00496	-0.0369	mg/L	0.00496	13.43%
Mn 257.610†	42.2	0.00281	mg/L	0.000030	0.00281	mg/L	0.000030	1.07%
Mo 202.031†	1.9	0.00012	mg/L	0.000406	0.00012	mg/L	0.000406	333.82%
Ni 231.604†	12.7	-0.00014	mg/L	0.000333	-0.00014	mg/L	0.000333	239.59%
Pb 220.353†	3.8	0.00137	mg/L	0.003647	0.00137	mg/L	0.003647	267.13%
Sb 206.836†	2.2	0.00202	mg/L	0.003006	0.00202	mg/L	0.003006	148.73%
Se 196.026†	5.7	0.00096	mg/L	0.005820	0.00096	mg/L	0.005820	607.33%
Si 251.611†	-73.2	-0.00824	mg/L	0.000701	-0.00824	mg/L	0.000701	8.51%
Sn 189.927†	3.4	-0.00017	mg/L	0.001160	-0.00017	mg/L	0.001160	666.53%
Ti 334.940†	-107.0	0.00282	mg/L	0.000226	0.00282	mg/L	0.000226	8.01%
Tl 190.801†	-1.7	-0.00236	mg/L	0.008837	-0.00236	mg/L	0.008837	375.23%
V 290.880†	194.0	0.00066	mg/L	0.002270	0.00066	mg/L	0.002270	345.05%
Zn 206.200†	25.2	0.00096	mg/L	0.000389	0.00096	mg/L	0.000389	40.57%
K 766.490†	48.3	-0.0553	mg/L	0.09205	-0.0553	mg/L	0.09205	166.50%
Na 589.592†	6.0	-0.0478	mg/L	0.02384	-0.0478	mg/L	0.02384	49.92%
Sr 407.771†	36.3	0.00103	mg/L	0.000139	0.00103	mg/L	0.000139	13.57%
Li 670.784†	52.4	0.00479	mg/L	0.000672	0.00479	mg/L	0.000672	14.04%
P 214.914†	8.1	0.0188	mg/L	0.02590	0.0188	mg/L	0.02590	138.09%

==========

Sequence No.: 2 **Autosampler Location: 15**
Sample ID: LCSW AH WG451280-03 **Date Collected: 11/6/2013 10:31:17 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Approved: November 07, 2013

Kim H. Rhoden

Nebulizer Parameters: LCSW AH WG451280-03

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: LCSW AH WG451280-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3762510.6						38116.17	1.01%
YRADIAL	241672.7						6962.95	2.88%
Ga 417.206	652149.2						12966.11	1.99%
GaRADIAL	34348.6						810.12	2.36%
Ag 328.068†	33510.5	0.204	mg/L	0.0027	0.204	mg/L	0.0027	1.34%
Al 396.153†	10149.1	5.11	mg/L	0.037	5.11	mg/L	0.037	0.73%
As 188.979†	205.2	0.198	mg/L	0.0065	0.198	mg/L	0.0065	3.30%
Ba 233.527†	26823.5	0.498	mg/L	0.0015	0.498	mg/L	0.0015	0.30%
Be 234.861†	10738.5	0.0244	mg/L	0.00028	0.0244	mg/L	0.00028	1.14%
B 249.677†	36491.1	0.990	mg/L	0.0042	0.990	mg/L	0.0042	0.43%
Ca 227.546†	595.9	5.18	mg/L	0.043	5.18	mg/L	0.043	0.83%
Cd 228.802†	423.2	0.0243	mg/L	0.00075	0.0243	mg/L	0.00075	3.08%
Co 228.616†	1445.0	0.101	mg/L	0.0007	0.101	mg/L	0.0007	0.68%
Cr 267.716†	16769.6	0.251	mg/L	0.0015	0.251	mg/L	0.0015	0.59%
Cu 327.393†	30939.5	0.251	mg/L	0.0025	0.251	mg/L	0.0025	1.01%
Fe 239.562†	3772.6	1.99	mg/L	0.018	1.99	mg/L	0.018	0.88%
Mg 279.077†	3589.8	4.96	mg/L	0.043	4.96	mg/L	0.043	0.86%
Mn 257.610†	99659.5	0.254	mg/L	0.0016	0.254	mg/L	0.0016	0.63%
Mo 202.031†	5789.4	0.512	mg/L	0.0029	0.512	mg/L	0.0029	0.58%
Ni 231.604†	6070.4	0.253	mg/L	0.0016	0.253	mg/L	0.0016	0.63%
Pb 220.353†	1018.2	0.255	mg/L	0.0049	0.255	mg/L	0.0049	1.92%
Sb 206.836†	728.1	0.597	mg/L	0.0120	0.597	mg/L	0.0120	2.02%
Se 196.026†	105.3	0.198	mg/L	0.0026	0.198	mg/L	0.0026	1.33%
Si 251.611†	53987.5	2.52	mg/L	0.017	2.52	mg/L	0.017	0.69%
Sn 189.927†	1969.1	0.513	mg/L	0.0040	0.513	mg/L	0.0040	0.77%
Ti 334.940†	271933.9	0.504	mg/L	0.0065	0.504	mg/L	0.0065	1.29%
Tl 190.801†	291.6	0.261	mg/L	0.0028	0.261	mg/L	0.0028	1.09%
V 290.880†	62536.6	0.496	mg/L	0.0057	0.496	mg/L	0.0057	1.16%
Zn 206.200†	9240.2	0.509	mg/L	0.0024	0.509	mg/L	0.0024	0.47%
K 766.490†	25601.3	27.1	mg/L	0.02	27.1	mg/L	0.02	0.08%
Na 589.592†	184205.4	28.1	mg/L	0.20	28.1	mg/L	0.20	0.70%
Sr 407.771†	354227.0	0.512	mg/L	0.0056	0.512	mg/L	0.0056	1.09%
Li 670.784†	22954.9	0.519	mg/L	0.0052	0.519	mg/L	0.0052	1.00%
P 214.914†	-66.0	-0.103	mg/L	0.0548	-0.103	mg/L	0.0548	53.39%

Sequence No.: 3
Sample ID: L1310186601
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 16
Date Collected: 11/6/2013 10:33:21 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186601

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: L1310186601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3720753.6						44814.87	1.20%
YRADIAL	233686.7						5860.98	2.51%
Ga 417.206	646101.7						11285.70	1.75%
GaRADIAL	34846.0						535.16	1.54%
Ag 328.068†	-242.5	-0.00120	mg/L	0.001255	-0.00120	mg/L	0.001255	104.55%
Al 396.153†	155.3	0.0942	mg/L	0.00132	0.0942	mg/L	0.00132	1.40%
As 188.979†	2.1	0.00178	mg/L	0.002505	0.00178	mg/L	0.002505	140.92%
Ba 233.527†	864.9	0.0166	mg/L	0.00007	0.0166	mg/L	0.00007	0.43%
Be 234.861†	93.5	0.00014	mg/L	0.000060	0.00014	mg/L	0.000060	43.80%
B 249.677†	1103.2	0.0324	mg/L	0.00444	0.0324	mg/L	0.00444	13.69%
Ca 227.546†	261.8	2.19	mg/L	0.086	2.19	mg/L	0.086	3.91%
Cd 228.802†	-6.4	-0.00010	mg/L	0.000112	-0.00010	mg/L	0.000112	115.46%
Co 228.616†	-9.2	-0.00036	mg/L	0.000076	-0.00036	mg/L	0.000076	21.41%

Approved: November 07, 2013

Kim H. Rhoden

Cr 267.716†	43.3	0.00090	mg/L	0.000127	0.00090	mg/L	0.000127	14.11%
Cu 327.393†	107.6	0.00094	mg/L	0.000695	0.00094	mg/L	0.000695	74.19%
Fe 239.562†	539.6	0.273	mg/L	0.0087	0.273	mg/L	0.0087	3.16%
Mg 279.077†	328.4	0.413	mg/L	0.0116	0.413	mg/L	0.0116	2.81%
Mn 257.610†	1613.6	0.00678	mg/L	0.000058	0.00678	mg/L	0.000058	0.86%
Mo 202.031†	9.9	0.00083	mg/L	0.000656	0.00083	mg/L	0.000656	79.23%
Ni 231.604†	-2.0	-0.00075	mg/L	0.000212	-0.00075	mg/L	0.000212	28.14%
Pb 220.353†	7.6	0.00231	mg/L	0.004153	0.00231	mg/L	0.004153	179.84%
Sb 206.836†	2.5	0.00232	mg/L	0.001613	0.00232	mg/L	0.001613	69.39%
Se 196.026†	1.3	-0.00771	mg/L	0.001068	-0.00771	mg/L	0.001068	13.86%
Si 251.611†	103699.4	4.86	mg/L	0.196	4.86	mg/L	0.196	4.04%
Sn 189.927†	-11.8	-0.00414	mg/L	0.000616	-0.00414	mg/L	0.000616	14.88%
Ti 334.940†	317.0	0.00392	mg/L	0.000397	0.00392	mg/L	0.000397	10.12%
Tl 190.801†	-7.3	-0.00720	mg/L	0.001551	-0.00720	mg/L	0.001551	21.54%
V 290.880†	532.8	0.00329	mg/L	0.002850	0.00329	mg/L	0.002850	86.55%
Zn 206.200†	73.5	0.00362	mg/L	0.000510	0.00362	mg/L	0.000510	14.07%
K 766.490†	672.5	0.615	mg/L	0.0909	0.615	mg/L	0.0909	14.78%
Na 589.592†	35277.4	5.50	mg/L	0.051	5.50	mg/L	0.051	0.93%
Sr 407.771†	9531.2	0.0146	mg/L	0.00050	0.0146	mg/L	0.00050	3.44%
Li 670.784†	107.1	0.00602	mg/L	0.000831	0.00602	mg/L	0.000831	13.81%
P 214.914†	129.2	0.217	mg/L	0.0063	0.217	mg/L	0.0063	2.90%

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Sequence No.: 4
Sample ID: L1310186701
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 17
Date Collected: 11/6/2013 10:36:21 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186701

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: L1310186701

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3794579.8						28569.55	0.75%
YRADIAL	240498.2						10138.64	4.22%
Ga 417.206	679087.5						4767.90	0.70%
GaRADIAL	36506.3						550.41	1.51%
Ag 328.068†	-56.6	-0.00007	mg/L	0.000573	-0.00007	mg/L	0.000573	768.75%
Al 396.153†	172.2	0.103	mg/L	0.0050	0.103	mg/L	0.0050	4.90%
As 188.979†	-2.1	-0.00202	mg/L	0.004386	-0.00202	mg/L	0.004386	217.03%
Ba 233.527†	1332.2	0.0253	mg/L	0.00021	0.0253	mg/L	0.00021	0.82%
Be 234.861†	609.0	0.00131	mg/L	0.000038	0.00131	mg/L	0.000038	2.90%
B 249.677†	1354.0	0.0392	mg/L	0.00211	0.0392	mg/L	0.00211	5.39%
Ca 227.546†	2009.9	16.7	mg/L	0.04	16.7	mg/L	0.04	0.23%
Cd 228.802†	-8.4	-0.00018	mg/L	0.000204	-0.00018	mg/L	0.000204	115.94%
Co 228.616†	50.6	0.00382	mg/L	0.000141	0.00382	mg/L	0.000141	3.69%
Cr 267.716†	17.5	0.00051	mg/L	0.000232	0.00051	mg/L	0.000232	45.69%
Cu 327.393†	117.5	0.00101	mg/L	0.000871	0.00101	mg/L	0.000871	85.90%
Fe 239.562†	676.4	0.346	mg/L	0.0143	0.346	mg/L	0.0143	4.14%
Mg 279.077†	1880.2	2.57	mg/L	0.127	2.57	mg/L	0.127	4.95%
Mn 257.610†	4400.4	0.0138	mg/L	0.00005	0.0138	mg/L	0.00005	0.38%
Mo 202.031†	16.2	0.00139	mg/L	0.000218	0.00139	mg/L	0.000218	15.64%
Ni 231.604†	71.3	0.00232	mg/L	0.000352	0.00232	mg/L	0.000352	15.22%
Pb 220.353†	19.5	0.00528	mg/L	0.002948	0.00528	mg/L	0.002948	55.78%
Sb 206.836†	1.4	0.00139	mg/L	0.001812	0.00139	mg/L	0.001812	130.42%
Se 196.026†	-1.6	-0.0133	mg/L	0.01502	-0.0133	mg/L	0.01502	113.06%
Si 251.611†	317739.0	14.9	mg/L	0.07	14.9	mg/L	0.07	0.46%
Sn 189.927†	-82.2	-0.0225	mg/L	0.00141	-0.0225	mg/L	0.00141	6.25%
Ti 334.940†	-1494.1	0.00276	mg/L	0.000277	0.00276	mg/L	0.000277	10.01%
Tl 190.801†	-9.6	-0.00927	mg/L	0.004499	-0.00927	mg/L	0.004499	48.52%
V 290.880†	506.6	0.00302	mg/L	0.000121	0.00302	mg/L	0.000121	4.02%
Zn 206.200†	230.4	0.0122	mg/L	0.00054	0.0122	mg/L	0.00054	4.41%
K 766.490†	912.4	0.848	mg/L	0.0239	0.848	mg/L	0.0239	2.82%
Na 589.592†	217320.8	33.0	mg/L	0.21	33.0	mg/L	0.21	0.62%
Sr 407.771†	97984.3	0.142	mg/L	0.0059	0.142	mg/L	0.0059	4.14%
Li 670.784†	737.3	0.0202	mg/L	0.00109	0.0202	mg/L	0.00109	5.41%
P 214.914†	97.5	0.165	mg/L	0.0183	0.165	mg/L	0.0183	11.11%

Approved: November 07, 2013

Sequence No.: 5 **Autosampler Location: 18**
Sample ID: L1310186702 WG451280-01 **Date Collected: 11/6/2013 10:39:22 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186702 WG451280-01

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: L1310186702 WG451280-01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3793395.1						55285.58	1.46%
YRADIAL	242801.7						3251.83	1.34%
Ga 417.206	677577.6						8480.82	1.25%
GaRADIAL	36961.3						575.11	1.56%
Ag 328.068†	-722.7	-0.00017	mg/L	0.000257	-0.00017	mg/L	0.000257	155.21%
Al 396.153†	338.6	0.188	mg/L	0.0038	0.188	mg/L	0.0038	2.02%
As 188.979†	-2.4	-0.00030	mg/L	0.005270	-0.00030	mg/L	0.005270	>999.9%
Ba 233.527†	809.3	0.0154	mg/L	0.00050	0.0154	mg/L	0.00050	3.22%
Be 234.861†	1344.9	0.00097	mg/L	0.000232	0.00097	mg/L	0.000232	24.08%
B 249.677†	2751.5	0.0734	mg/L	0.00308	0.0734	mg/L	0.00308	4.20%
Ca 227.546†	2269.2	19.0	mg/L	0.39	19.0	mg/L	0.39	2.04%
Cd 228.802†	-5.2	0.00004	mg/L	0.000186	0.00004	mg/L	0.000186	483.62%
Co 228.616†	74.7	0.00529	mg/L	0.000530	0.00529	mg/L	0.000530	10.02%
Cr 267.716†	39.0	0.00016	mg/L	0.000195	0.00016	mg/L	0.000195	120.18%
Cu 327.393†	-69.5	-0.00001	mg/L	0.000424	-0.00001	mg/L	0.000424	>999.9%
Fe 239.562†	16387.3	8.70	mg/L	0.102	8.70	mg/L	0.102	1.17%
Mg 279.077†	2337.9	3.20	mg/L	0.046	3.20	mg/L	0.046	1.44%
Mn 257.610†	14316.7	0.0392	mg/L	0.00059	0.0392	mg/L	0.00059	1.52%
Mo 202.031†	14.1	0.00134	mg/L	0.000771	0.00134	mg/L	0.000771	57.53%
Ni 231.604†	74.6	0.00245	mg/L	0.000461	0.00245	mg/L	0.000461	18.78%
Pb 220.353†	19.3	0.00495	mg/L	0.000622	0.00495	mg/L	0.000622	12.55%
Sb 206.836†	0.7	0.00113	mg/L	0.003037	0.00113	mg/L	0.003037	267.82%
Se 196.026†	3.5	-0.00155	mg/L	0.004457	-0.00155	mg/L	0.004457	288.31%
Si 251.611†	377250.2	17.7	mg/L	0.10	17.7	mg/L	0.10	0.56%
Sn 189.927†	-92.8	-0.0253	mg/L	0.00175	-0.0253	mg/L	0.00175	6.91%
Ti 334.940†	-1454.7	0.00316	mg/L	0.000226	0.00316	mg/L	0.000226	7.17%
Tl 190.801†	-12.3	-0.0116	mg/L	0.00170	-0.0116	mg/L	0.00170	14.66%
V 290.880†	735.1	0.00340	mg/L	0.000384	0.00340	mg/L	0.000384	11.28%
Zn 206.200†	219.6	0.0118	mg/L	0.00010	0.0118	mg/L	0.00010	0.83%
K 766.490†	854.5	0.754	mg/L	0.0086	0.754	mg/L	0.0086	1.14%
Na 589.592†	436544.3	63.9	mg/L	0.14	63.9	mg/L	0.14	0.21%
Sr 407.771†	98106.4	0.142	mg/L	0.0043	0.142	mg/L	0.0043	3.02%
Li 670.784†	540.5	0.0157	mg/L	0.00019	0.0157	mg/L	0.00019	1.23%
P 214.914†	317.0	0.525	mg/L	0.0042	0.525	mg/L	0.0042	0.81%

Sequence No.: 6 **Autosampler Location: 19**
Sample ID: L1310186703MS WG451280-05 **Date Collected: 11/6/2013 10:42:23 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186703MS WG451280-05

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: L1310186703MS WG451280-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3796806.4						16311.32	0.43%
YRADIAL	242244.0						2161.55	0.89%
Ga 417.206	670597.7						6717.57	1.00%
GaRADIAL	35752.2						110.79	0.31%

Approved: November 07, 2013

Kim H. Rhoden

Ag 328.068†	31917.3	0.198 mg/L	0.0016	0.198 mg/L	0.0016	0.83%
Al 396.153†	10548.6	5.31 mg/L	0.057	5.31 mg/L	0.057	1.08%
As 188.979†	205.2	0.200 mg/L	0.0072	0.200 mg/L	0.0072	3.60%
Ba 233.527†	27457.2	0.509 mg/L	0.0088	0.509 mg/L	0.0088	1.72%
Be 234.861†	11746.8	0.0247 mg/L	0.00015	0.0247 mg/L	0.00015	0.60%
B 249.677†	39582.4	1.07 mg/L	0.020	1.07 mg/L	0.020	1.92%
Ca 227.546†	2892.0	24.4 mg/L	0.26	24.4 mg/L	0.26	1.07%
Cd 228.802†	412.5	0.0237 mg/L	0.00068	0.0237 mg/L	0.00068	2.85%
Co 228.616†	1536.8	0.107 mg/L	0.0017	0.107 mg/L	0.0017	1.60%
Cr 267.716†	16524.6	0.246 mg/L	0.0044	0.246 mg/L	0.0044	1.79%
Cu 327.393†	30219.3	0.246 mg/L	0.0020	0.246 mg/L	0.0020	0.81%
Fe 239.562†	20089.9	10.7 mg/L	0.12	10.7 mg/L	0.12	1.10%
Mg 279.077†	6011.7	8.33 mg/L	0.175	8.33 mg/L	0.175	2.10%
Mn 257.610†	113495.2	0.289 mg/L	0.0048	0.289 mg/L	0.0048	1.67%
Mo 202.031†	5864.1	0.518 mg/L	0.0054	0.518 mg/L	0.0054	1.03%
Ni 231.604†	6121.4	0.255 mg/L	0.0037	0.255 mg/L	0.0037	1.43%
Pb 220.353†	1026.4	0.257 mg/L	0.0037	0.257 mg/L	0.0037	1.43%
Sb 206.836†	720.6	0.591 mg/L	0.0092	0.591 mg/L	0.0092	1.55%
Se 196.026†	99.3	0.188 mg/L	0.0028	0.188 mg/L	0.0028	1.50%
Si 251.611†	423982.5	19.9 mg/L	0.09	19.9 mg/L	0.09	0.45%
Sn 189.927†	2218.8	0.578 mg/L	0.0067	0.578 mg/L	0.0067	1.15%
Ti 334.940†	273461.4	0.509 mg/L	0.0035	0.509 mg/L	0.0035	0.69%
Tl 190.801†	282.1	0.252 mg/L	0.0072	0.252 mg/L	0.0072	2.86%
V 290.880†	63175.3	0.499 mg/L	0.0119	0.499 mg/L	0.0119	2.39%
Zn 206.200†	9233.1	0.509 mg/L	0.0102	0.509 mg/L	0.0102	2.01%
K 766.490†	26231.7	27.7 mg/L	0.23	27.7 mg/L	0.23	0.84%
Na 589.592†	621279.0	88.5 mg/L	0.40	88.5 mg/L	0.40	0.45%
Sr 407.771†	464929.0	0.671 mg/L	0.0033	0.671 mg/L	0.0033	0.49%
Li 670.784†	23688.7	0.535 mg/L	0.0042	0.535 mg/L	0.0042	0.78%
P 214.914†	238.2	0.395 mg/L	0.0346	0.395 mg/L	0.0346	8.76%

Sequence No.: 7
Sample ID: L1310186704SD WG451280-06
Analyst: KHR
Initial Sample Wt:
Dilution:

Autosampler Location: 20
Date Collected: 11/6/2013 10:44:28 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: L1310186704SD WG451280-06

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: L1310186704SD WG451280-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	3794991.5						54686.50	1.44%
YRADIAL	241605.7						5620.90	2.33%
Ga 417.206	667366.9						13244.93	1.98%
GaRADIAL	36211.9						182.90	0.51%
Ag 328.068†	33737.7	0.209	mg/L	0.0018	0.209	mg/L	0.0018	0.87%
Al 396.153†	10594.1	5.33	mg/L	0.021	5.33	mg/L	0.021	0.39%
As 188.979†	209.2	0.204	mg/L	0.0018	0.204	mg/L	0.0018	0.90%
Ba 233.527†	28805.9	0.534	mg/L	0.0140	0.534	mg/L	0.0140	2.61%
Be 234.861†	12338.5	0.0260	mg/L	0.00032	0.0260	mg/L	0.00032	1.22%
B 249.677†	42805.6	1.16	mg/L	0.012	1.16	mg/L	0.012	1.04%
Ca 227.546†	3025.2	25.5	mg/L	0.37	25.5	mg/L	0.37	1.47%
Cd 228.802†	424.9	0.0244	mg/L	0.00042	0.0244	mg/L	0.00042	1.72%
Co 228.616†	1581.8	0.110	mg/L	0.0028	0.110	mg/L	0.0028	2.50%
Cr 267.716†	17387.1	0.259	mg/L	0.0061	0.259	mg/L	0.0061	2.35%
Cu 327.393†	31749.9	0.258	mg/L	0.0023	0.258	mg/L	0.0023	0.89%
Fe 239.562†	20206.1	10.7	mg/L	0.19	10.7	mg/L	0.19	1.77%
Mg 279.077†	6160.3	8.53	mg/L	0.151	8.53	mg/L	0.151	1.77%
Mn 257.610†	119217.9	0.304	mg/L	0.0087	0.304	mg/L	0.0087	2.85%
Mo 202.031†	6059.8	0.536	mg/L	0.0127	0.536	mg/L	0.0127	2.38%
Ni 231.604†	6333.3	0.264	mg/L	0.0092	0.264	mg/L	0.0092	3.49%
Pb 220.353†	1057.8	0.264	mg/L	0.0066	0.264	mg/L	0.0066	2.50%
Sb 206.836†	755.6	0.620	mg/L	0.0129	0.620	mg/L	0.0129	2.08%
Se 196.026†	109.0	0.207	mg/L	0.0041	0.207	mg/L	0.0041	2.00%
Si 251.611†	427347.4	20.0	mg/L	0.20	20.0	mg/L	0.20	0.98%
Sn 189.927†	2257.5	0.588	mg/L	0.0143	0.588	mg/L	0.0143	2.44%

Approved: November 07, 2013

Kim H. Rhoden

Ti 334.940†	274883.6	0.512	mg/L	0.0006	0.512	mg/L	0.0006	0.11%
Tl 190.801†	293.1	0.262	mg/L	0.0040	0.262	mg/L	0.0040	1.54%
V 290.880†	66352.8	0.524	mg/L	0.0179	0.524	mg/L	0.0179	3.41%
Zn 206.200†	9601.2	0.529	mg/L	0.0122	0.529	mg/L	0.0122	2.30%
K 766.490†	26506.3	28.0	mg/L	0.04	28.0	mg/L	0.04	0.13%
Na 589.592†	608952.9	86.9	mg/L	1.08	86.9	mg/L	1.08	1.24%
Sr 407.771†	463815.2	0.669	mg/L	0.0067	0.669	mg/L	0.0067	1.00%
Li 670.784†	24067.0	0.544	mg/L	0.0023	0.544	mg/L	0.0023	0.42%
P 214.914†	232.3	0.386	mg/L	0.0448	0.386	mg/L	0.0448	11.61%

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Sequence No.: 8 **Autosampler Location: 21**
Sample ID: L1310186705 **Date Collected: 11/6/2013 10:46:33 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186705

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: L1310186705

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3842989.9						33577.33	0.87%
YRADIAL	247313.7						8229.18	3.33%
Ga 417.206	692769.6						8660.47	1.25%
GaRADIAL	37594.5						371.61	0.99%
Ag 328.068†	-84.8	-0.00005	mg/L	0.000615	-0.00005	mg/L	0.000615	>999.9%
Al 396.153†	456.6	0.246	mg/L	0.0072	0.246	mg/L	0.0072	2.93%
As 188.979†	-7.6	-0.00676	mg/L	0.003667	-0.00676	mg/L	0.003667	54.26%
Ba 233.527†	822.4	0.0158	mg/L	0.00028	0.0158	mg/L	0.00028	1.74%
Be 234.861†	729.0	0.00149	mg/L	0.000180	0.00149	mg/L	0.000180	12.13%
B 249.677†	12128.7	0.331	mg/L	0.0088	0.331	mg/L	0.0088	2.67%
Ca 227.546†	5247.9	43.5	mg/L	0.70	43.5	mg/L	0.70	1.61%
Cd 228.802†	-9.2	-0.00018	mg/L	0.000027	-0.00018	mg/L	0.000027	14.92%
Co 228.616†	128.1	0.00923	mg/L	0.000955	0.00923	mg/L	0.000955	10.35%
Cr 267.716†	71.5	0.00128	mg/L	0.000268	0.00128	mg/L	0.000268	20.89%
Cu 327.393†	68.4	0.00064	mg/L	0.000999	0.00064	mg/L	0.000999	156.17%
Fe 239.562†	1514.8	0.791	mg/L	0.0204	0.791	mg/L	0.0204	2.58%
Mg 279.077†	16073.9	22.3	mg/L	0.67	22.3	mg/L	0.67	2.98%
Mn 257.610†	47030.6	0.121	mg/L	0.0036	0.121	mg/L	0.0036	2.96%
Mo 202.031†	24.3	0.00214	mg/L	0.000082	0.00214	mg/L	0.000082	3.83%
Ni 231.604†	100.2	0.00352	mg/L	0.000690	0.00352	mg/L	0.000690	19.62%
Pb 220.353†	25.8	0.00677	mg/L	0.002654	0.00677	mg/L	0.002654	39.20%
Sb 206.836†	-3.4	-0.00253	mg/L	0.002148	-0.00253	mg/L	0.002148	84.82%
Se 196.026†	0.2	-0.00975	mg/L	0.003143	-0.00975	mg/L	0.003143	32.24%
Si 251.611†	209640.0	9.83	mg/L	0.046	9.83	mg/L	0.046	0.47%
Sn 189.927†	-149.1	-0.0400	mg/L	0.00260	-0.0400	mg/L	0.00260	6.50%
Ti 334.940†	-4027.9	0.00213	mg/L	0.000417	0.00213	mg/L	0.000417	19.61%
Tl 190.801†	-8.0	-0.00804	mg/L	0.002722	-0.00804	mg/L	0.002722	33.85%
V 290.880†	1070.8	0.00691	mg/L	0.001981	0.00691	mg/L	0.001981	28.66%
Zn 206.200†	250.0	0.0133	mg/L	0.00015	0.0133	mg/L	0.00015	1.15%
K 766.490†	1829.3	1.75	mg/L	0.060	1.75	mg/L	0.060	3.44%
Na 589.592†	915888.2	125	mg/L	1.0	125	mg/L	1.0	0.80%
Sr 407.771†	148937.5	0.214	mg/L	0.0069	0.214	mg/L	0.0069	3.22%
Li 670.784†	461.8	0.0140	mg/L	0.00031	0.0140	mg/L	0.00031	2.24%
P 214.914†	31.9	0.0578	mg/L	0.00546	0.0578	mg/L	0.00546	9.45%

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Sequence No.: 9 **Autosampler Location: 22**
Sample ID: L1310186705PS WG451450-03 **Date Collected: 11/6/2013 10:49:35 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186705PS WG451450-03

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Approved: November 07, 2013

Kim H. Rhoden

Mean Data: L1310186705PS WG451450-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	4190750.5						194482.22	4.64%
YRADIAL	280671.4						4556.63	1.62%
Ga 417.206	746222.7						31144.88	4.17%
GaRADIAL	40357.6						843.43	2.09%
Ag 328.068†	33309.0	0.203	mg/L	0.0051	0.203	mg/L	0.0051	2.50%
Al 396.153†	10748.9	5.41	mg/L	0.196	5.41	mg/L	0.196	3.63%
As 188.979†	199.2	0.193	mg/L	0.0052	0.193	mg/L	0.0052	2.69%
Ba 233.527†	28271.5	0.524	mg/L	0.0195	0.524	mg/L	0.0195	3.71%
Be 234.861†	11531.8	0.0261	mg/L	0.00066	0.0261	mg/L	0.00066	2.53%
B 249.677†	50199.6	1.36	mg/L	0.042	1.36	mg/L	0.042	3.08%
Ca 227.546†	5331.4	44.4	mg/L	0.81	44.4	mg/L	0.81	1.83%
Cd 228.802†	400.1	0.0230	mg/L	0.00043	0.0230	mg/L	0.00043	1.87%
Co 228.616†	1537.8	0.107	mg/L	0.0027	0.107	mg/L	0.0027	2.50%
Cr 267.716†	17036.9	0.254	mg/L	0.0070	0.254	mg/L	0.0070	2.77%
Cu 327.393†	31139.7	0.253	mg/L	0.0063	0.253	mg/L	0.0063	2.50%
Fe 239.562†	5437.2	2.88	mg/L	0.114	2.88	mg/L	0.114	3.96%
Mg 279.077†	18512.6	25.7	mg/L	0.97	25.7	mg/L	0.97	3.76%
Mn 257.610†	143815.1	0.365	mg/L	0.0136	0.365	mg/L	0.0136	3.73%
Mo 202.031†	5704.8	0.504	mg/L	0.0126	0.504	mg/L	0.0126	2.50%
Ni 231.604†	6154.8	0.257	mg/L	0.0067	0.257	mg/L	0.0067	2.60%
Pb 220.353†	997.7	0.250	mg/L	0.0077	0.250	mg/L	0.0077	3.09%
Sb 206.836†	718.2	0.589	mg/L	0.0142	0.589	mg/L	0.0142	2.41%
Se 196.026†	96.4	0.181	mg/L	0.0122	0.181	mg/L	0.0122	6.77%
Si 251.611†	254706.4	11.9	mg/L	0.40	11.9	mg/L	0.40	3.39%
Sn 189.927†	-146.2	-0.0392	mg/L	0.00093	-0.0392	mg/L	0.00093	2.37%
Ti 334.940†	281936.9	0.528	mg/L	0.0165	0.528	mg/L	0.0165	3.12%
Tl 190.801†	284.2	0.254	mg/L	0.0030	0.254	mg/L	0.0030	1.20%
V 290.880†	64530.3	0.511	mg/L	0.0277	0.511	mg/L	0.0277	5.43%
Zn 206.200†	9378.0	0.517	mg/L	0.0128	0.517	mg/L	0.0128	2.48%
K 766.490†	27425.3	28.9	mg/L	1.22	28.9	mg/L	1.22	4.23%
Na 589.592†	1010391.4	136	mg/L	1.4	136	mg/L	1.4	1.00%
Sr 407.771†	476610.3	0.687	mg/L	0.0100	0.687	mg/L	0.0100	1.46%
Li 670.784†	24052.5	0.543	mg/L	0.0226	0.543	mg/L	0.0226	4.15%
P 214.914†	-88.4	-0.139	mg/L	0.0441	-0.139	mg/L	0.0441	31.67%

Sequence No.: 10 **Autosampler Location: 23**
Sample ID: L1310186705DL WG451450-04 **Date Collected: 11/6/2013 10:52:08 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186705DL WG451450-04

Analyte	Back Pressure	Flow
All	171.0 kPa	0.45 L/min

Mean Data: L1310186705DL WG451450-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	3887715.7						48999.55	1.26%
YRADIAL	248553.1						4481.00	1.80%
Ga 417.206	688741.8						16422.54	2.38%
GaRADIAL	37256.5						638.45	1.71%
Ag 328.068†	-144.4	-0.00068	mg/L	0.000604	-0.00068	mg/L	0.000604	88.74%
Al 396.153†	83.2	0.0577	mg/L	0.00385	0.0577	mg/L	0.00385	6.68%
As 188.979†	1.8	0.00162	mg/L	0.001426	0.00162	mg/L	0.001426	88.19%
Ba 233.527†	147.4	0.00336	mg/L	0.000273	0.00336	mg/L	0.000273	8.12%
Be 234.861†	241.2	0.00051	mg/L	0.000069	0.00051	mg/L	0.000069	13.62%
B 249.677†	3077.1	0.0860	mg/L	0.00528	0.0860	mg/L	0.00528	6.15%
Ca 227.546†	977.1	8.11	mg/L	0.087	8.11	mg/L	0.087	1.08%
Cd 228.802†	-4.9	0.00000	mg/L	0.000153	0.00000	mg/L	0.000153	>999.9%
Co 228.616†	16.2	0.00143	mg/L	0.000392	0.00143	mg/L	0.000392	27.49%
Cr 267.716†	27.9	0.00068	mg/L	0.000084	0.00068	mg/L	0.000084	12.39%
Cu 327.393†	151.8	0.00128	mg/L	0.001005	0.00128	mg/L	0.001005	78.33%
Fe 239.562†	304.1	0.148	mg/L	0.0023	0.148	mg/L	0.0023	1.56%

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Mg 279.077†	3218.8	4.43	mg/L	0.031	4.43	mg/L	0.031	0.70%
Mn 257.610†	9096.0	0.0256	mg/L	0.00077	0.0256	mg/L	0.00077	3.02%
Mo 202.031†	12.1	0.00103	mg/L	0.000166	0.00103	mg/L	0.000166	16.12%
Ni 231.604†	17.3	0.00005	mg/L	0.000099	0.00005	mg/L	0.000099	181.74%
Pb 220.353†	8.8	0.00259	mg/L	0.002268	0.00259	mg/L	0.002268	87.52%
Sb 206.836†	-2.2	-0.00156	mg/L	0.001071	-0.00156	mg/L	0.001071	68.73%
Se 196.026†	2.3	-0.00570	mg/L	0.006103	-0.00570	mg/L	0.006103	107.01%
Si 251.611†	41539.4	1.94	mg/L	0.058	1.94	mg/L	0.058	2.99%
Sn 189.927†	-50.4	-0.0142	mg/L	0.00136	-0.0142	mg/L	0.00136	9.56%
Ti 334.940†	-896.3	0.00258	mg/L	0.000246	0.00258	mg/L	0.000246	9.53%
Tl 190.801†	-3.9	-0.00426	mg/L	0.003796	-0.00426	mg/L	0.003796	89.20%
V 290.880†	358.3	0.00182	mg/L	0.001840	0.00182	mg/L	0.001840	101.00%
Zn 206.200†	70.7	0.00346	mg/L	0.000076	0.00346	mg/L	0.000076	2.19%
K 766.490†	492.8	0.397	mg/L	0.0720	0.397	mg/L	0.0720	18.11%
Na 589.592†	188983.0	28.8	mg/L	0.61	28.8	mg/L	0.61	2.11%
Sr 407.771†	30361.7	0.0445	mg/L	0.00084	0.0445	mg/L	0.00084	1.89%
Li 670.784†	92.7	0.00569	mg/L	0.001069	0.00569	mg/L	0.001069	18.77%
P 214.914†	18.6	0.0358	mg/L	0.00470	0.0358	mg/L	0.00470	13.13%

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Sequence No.: 11 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/6/2013 10:55:08 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	170.0 kPa	0.45 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3936038.9						50706.75	1.29%
YRADIAL	249259.2						3211.40	1.29%
Ga 417.206	685087.2						6527.87	0.95%
GaRADIAL	36577.2						820.30	2.24%
Ag 328.068†	65439.1	0.398	mg/L	0.0091	0.398	mg/L	0.0091	2.29%
QC value within limits for Ag 328.068 Recovery = 99.41%								
Al 396.153†	20001.4	10.0	mg/L	0.10	10.0	mg/L	0.10	1.01%
QC value within limits for Al 396.153 Recovery = 100.47%								
As 188.979†	408.9	0.395	mg/L	0.0097	0.395	mg/L	0.0097	2.46%
QC value within limits for As 188.979 Recovery = 98.82%								
Ba 233.527†	53439.8	0.991	mg/L	0.0193	0.991	mg/L	0.0193	1.94%
QC value within limits for Ba 233.527 Recovery = 99.08%								
Be 234.861†	21457.5	0.0488	mg/L	0.00105	0.0488	mg/L	0.00105	2.15%
QC value within limits for Be 234.861 Recovery = 97.65%								
B 249.677†	18543.2	0.501	mg/L	0.0121	0.501	mg/L	0.0121	2.41%
QC value within limits for B 249.677 Recovery = 100.27%								
Ca 227.546†	1185.4	10.3	mg/L	0.06	10.3	mg/L	0.06	0.62%
QC value within limits for Ca 227.546 Recovery = 102.90%								
Cd 228.802†	836.2	0.0477	mg/L	0.00099	0.0477	mg/L	0.00099	2.08%
QC value within limits for Cd 228.802 Recovery = 95.31%								
Co 228.616†	2870.6	0.200	mg/L	0.0038	0.200	mg/L	0.0038	1.89%
QC value within limits for Co 228.616 Recovery = 99.90%								
Cr 267.716†	32996.1	0.493	mg/L	0.0099	0.493	mg/L	0.0099	2.01%
QC value within limits for Cr 267.716 Recovery = 98.55%								
Cu 327.393†	60579.4	0.492	mg/L	0.0112	0.492	mg/L	0.0112	2.27%
QC value within limits for Cu 327.393 Recovery = 98.44%								
Fe 239.562†	7665.4	4.06	mg/L	0.020	4.06	mg/L	0.020	0.50%
QC value within limits for Fe 239.562 Recovery = 101.53%								
Mg 279.077†	7256.8	10.1	mg/L	0.16	10.1	mg/L	0.16	1.55%
QC value within limits for Mg 279.077 Recovery = 100.70%								
Mn 257.610†	193984.2	0.492	mg/L	0.0088	0.492	mg/L	0.0088	1.80%
QC value within limits for Mn 257.610 Recovery = 98.35%								
Mo 202.031†	11157.5	0.986	mg/L	0.0150	0.986	mg/L	0.0150	1.52%
QC value within limits for Mo 202.031 Recovery = 98.62%								
Ni 231.604†	11915.5	0.498	mg/L	0.0084	0.498	mg/L	0.0084	1.68%
QC value within limits for Ni 231.604 Recovery = 99.59%								
Pb 220.353†	2039.6	0.510	mg/L	0.0063	0.510	mg/L	0.0063	1.24%

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   QC value within limits for Pb 220.353  Recovery = 101.96%
Sb 206.836†            1443.9        1.18 mg/L        0.010        1.18 mg/L        0.010   0.86%
   QC value within limits for Sb 206.836  Recovery = 98.62%
Se 196.026†             207.3       0.400 mg/L       0.0065       0.400 mg/L       0.0065   1.62%
   QC value within limits for Se 196.026  Recovery = 100.03%
Si 251.611†          106249.4        4.97 mg/L        0.106        4.97 mg/L        0.106   2.13%
   QC value within limits for Si 251.611  Recovery = 99.34%
Sn 189.927†            3883.8        1.01 mg/L        0.015        1.01 mg/L        0.015   1.52%
   QC value within limits for Sn 189.927  Recovery = 101.24%
Ti 334.940†          538256.5       0.994 mg/L       0.0127       0.994 mg/L       0.0127   1.28%
   QC value within limits for Ti 334.940  Recovery = 99.38%
Tl 190.801†             581.1       0.520 mg/L       0.0095       0.520 mg/L       0.0095   1.83%
   QC value within limits for Tl 190.801  Recovery = 104.07%
V 290.880†           125315.9       0.994 mg/L       0.0178       0.994 mg/L       0.0178   1.79%
   QC value within limits for V 290.880  Recovery = 99.40%
Zn 206.200†           18075.9       0.997 mg/L       0.0147       0.997 mg/L       0.0147   1.47%
   QC value within limits for Zn 206.200  Recovery = 99.69%
K 766.490†            50352.4        52.4 mg/L         0.52        52.4 mg/L         0.52   1.00%
   QC value within limits for K 766.490  Recovery = 104.87%
Na 589.592†          354580.9        52.6 mg/L         0.81        52.6 mg/L         0.81   1.53%
   QC value within limits for Na 589.592  Recovery = 105.22%
Sr 407.771†          713749.4        1.03 mg/L        0.009        1.03 mg/L        0.009   0.92%
   QC value within limits for Sr 407.771  Recovery = 102.98%
Li 670.784†           45232.3        1.02 mg/L        0.011        1.02 mg/L        0.011   1.06%
   QC value within limits for Li 670.784  Recovery = 101.86%
P 214.914†             6083.3        9.97 mg/L        0.203        9.97 mg/L        0.203   2.04%
   QC value within limits for P 214.914  Recovery = 99.68%
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 12                                    Autosampler Location: 1
Sample ID: CCB                                      Date Collected: 11/6/2013 10:57:14 AM
Analyst:                                            Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

------------------------------------------------------------------------------------------
Nebulizer Parameters: CCB
Analyte                 Back Pressure    Flow
All                     171.0 kPa        0.45 L/min

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Mean Data: CCB
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            3841853.3                                                    59359.63   1.55%
YRADIAL               248937.4                                                    13400.68   5.38%
Ga 417.206            646465.2                                                    10104.45   1.56%
GaRADIAL               36257.7                                                     1102.28   3.04%
Ag 328.068†             -107.1    -0.00052 mg/L      0.000123    -0.00052 mg/L      0.000123  23.75%
   QC value within limits for Ag 328.068  Recovery = Not calculated
Al 396.153†               -5.8      0.0127 mg/L       0.00208      0.0127 mg/L       0.00208  16.41%
   QC value within limits for Al 396.153  Recovery = Not calculated
As 188.979†                1.3     0.00086 mg/L      0.001903     0.00086 mg/L      0.001903 222.13%
   QC value within limits for As 188.979  Recovery = Not calculated
Ba 233.527†              -31.3     0.00006 mg/L      0.000111     0.00006 mg/L      0.000111 195.77%
   QC value within limits for Ba 233.527  Recovery = Not calculated
Be 234.861†               29.8     0.00006 mg/L      0.000060     0.00006 mg/L      0.000060  99.73%
   QC value within limits for Be 234.861  Recovery = Not calculated
B 249.677†               552.9      0.0176 mg/L       0.00104      0.0176 mg/L       0.00104   5.90%
   QC value within limits for B 249.677  Recovery = Not calculated
Ca 227.546†                9.7      0.0963 mg/L       0.04938      0.0963 mg/L       0.04938  51.30%
   QC value within limits for Ca 227.546  Recovery = Not calculated
Cd 228.802†               -6.6    -0.00011 mg/L      0.000170    -0.00011 mg/L      0.000170 158.84%
   QC value within limits for Cd 228.802  Recovery = Not calculated
Co 228.616†               -8.7    -0.00031 mg/L      0.000094    -0.00031 mg/L      0.000094  30.24%
   QC value within limits for Co 228.616  Recovery = Not calculated
Cr 267.716†                2.8     0.00031 mg/L      0.000213     0.00031 mg/L      0.000213  67.58%
   QC value within limits for Cr 267.716  Recovery = Not calculated
Cu 327.393†               33.3     0.00032 mg/L      0.000358     0.00032 mg/L      0.000358 113.26%
   QC value within limits for Cu 327.393  Recovery = Not calculated
Fe 239.562†                3.6     -0.0115 mg/L       0.00015     -0.0115 mg/L       0.00015   1.31%
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   QC value within limits for Fe 239.562  Recovery = Not calculated
Mg 279.077†                4.5     -0.0380 mg/L       0.00941     -0.0380 mg/L       0.00941  24.73%
   QC value within limits for Mg 279.077  Recovery = Not calculated
Mn 257.610†              -26.1     0.00264 mg/L      0.000049     0.00264 mg/L      0.000049   1.86%
   QC value within limits for Mn 257.610  Recovery = Not calculated
Mo 202.031†               18.2     0.00156 mg/L      0.000081     0.00156 mg/L      0.000081   5.19%
   QC value within limits for Mo 202.031  Recovery = Not calculated
Ni 231.604†              -11.0    -0.00113 mg/L      0.000201    -0.00113 mg/L      0.000201  17.82%
   QC value within limits for Ni 231.604  Recovery = Not calculated
Pb 220.353†                8.3     0.00250 mg/L      0.002715     0.00250 mg/L      0.002715 108.55%
   QC value within limits for Pb 220.353  Recovery = Not calculated
Sb 206.836†                2.5     0.00232 mg/L      0.001858     0.00232 mg/L      0.001858  80.00%
   QC value within limits for Sb 206.836  Recovery = Not calculated
Se 196.026†                3.5    -0.00332 mg/L      0.008154    -0.00332 mg/L      0.008154 245.45%
   QC value within limits for Se 196.026  Recovery = Not calculated
Si 251.611†               70.4    -0.00152 mg/L      0.001146    -0.00152 mg/L      0.001146  75.15%
   QC value within limits for Si 251.611  Recovery = Not calculated
Sn 189.927†               10.5     0.00166 mg/L      0.001393     0.00166 mg/L      0.001393  83.88%
   QC value within limits for Sn 189.927  Recovery = Not calculated
Ti 334.940†              -65.5     0.00291 mg/L      0.000055     0.00291 mg/L      0.000055   1.89%
   QC value within limits for Ti 334.940  Recovery = Not calculated
Tl 190.801†               -1.0    -0.00173 mg/L      0.005904    -0.00173 mg/L      0.005904 341.06%
   QC value within limits for Tl 190.801  Recovery = Not calculated
V 290.880†               384.5     0.00217 mg/L      0.001577     0.00217 mg/L      0.001577  72.53%
   QC value within limits for V 290.880  Recovery = Not calculated
Zn 206.200†                5.8    -0.00011 mg/L      0.000483    -0.00011 mg/L      0.000483 459.16%
   QC value within limits for Zn 206.200  Recovery = Not calculated
K 766.490†                46.8     -0.0569 mg/L       0.07612     -0.0569 mg/L       0.07612 133.67%
   QC value within limits for K 766.490  Recovery = Not calculated
Na 589.592†               94.2     -0.0338 mg/L       0.00836     -0.0338 mg/L       0.00836  24.74%
   QC value within limits for Na 589.592  Recovery = Not calculated
Sr 407.771†              -33.1     0.00092 mg/L      0.000056     0.00092 mg/L      0.000056   6.03%
   QC value within limits for Sr 407.771  Recovery = Not calculated
Li 670.784†               32.4     0.00434 mg/L      0.001236     0.00434 mg/L      0.001236  28.46%
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                29.7      0.0541 mg/L       0.01448      0.0541 mg/L       0.01448  26.76%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.

==========================================================================================
Sequence No.: 13                                    Autosampler Location: 24
Sample ID: L1310186706                              Date Collected: 11/6/2013 11:00:14 AM
Analyst: KHR                                        Data Type: Original
Initial Sample Wt:                                  Initial Sample Vol:
Dilution:                                           Sample Prep Vol:

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Nebulizer Parameters: L1310186706
Analyte                 Back Pressure    Flow
All                     171.0 kPa        0.45 L/min

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Mean Data: L1310186706
                   Mean Corrected        Calib.                          Sample
Analyte               Intensity     Conc. Units      Std.Dev.     Conc. Units      Std.Dev.   RSD
Y 371.029            3825400.3                                                    31120.40   0.81%
YRADIAL               244677.0                                                     5561.09   2.27%
Ga 417.206            690963.2                                                     8754.24   1.27%
GaRADIAL               37499.1                                                      606.81   1.62%
Ag 328.068†              -85.7    -0.00011 mg/L      0.000027    -0.00011 mg/L      0.000027  25.35%
Al 396.153†              438.2       0.237 mg/L        0.0102       0.237 mg/L        0.0102   4.32%
As 188.979†               -7.7    -0.00681 mg/L      0.001659    -0.00681 mg/L      0.001659  24.35%
Ba 233.527†              808.1      0.0156 mg/L       0.00004      0.0156 mg/L       0.00004   0.25%
Be 234.861†              649.8     0.00133 mg/L      0.000131     0.00133 mg/L      0.000131   9.88%
B 249.677†             11103.0       0.303 mg/L        0.0076       0.303 mg/L        0.0076   2.51%
Ca 227.546†             5100.6        42.3 mg/L          0.76        42.3 mg/L          0.76   1.80%
Cd 228.802†               -9.2    -0.00017 mg/L      0.000250    -0.00017 mg/L      0.000250 142.97%
Co 228.616†              125.7     0.00906 mg/L      0.000721     0.00906 mg/L      0.000721   7.96%
Cr 267.716†               52.7     0.00101 mg/L      0.000186     0.00101 mg/L      0.000186  18.47%
Cu 327.393†               12.9     0.00018 mg/L      0.000427     0.00018 mg/L      0.000427 232.36%
Fe 239.562†             1337.6       0.697 mg/L        0.0147       0.697 mg/L        0.0147   2.10%
Mg 279.077†            15738.4        21.9 mg/L          0.37        21.9 mg/L          0.37   1.71%
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Mn 257.610†	44432.0	0.115	mg/L	0.0025	0.115	mg/L	0.0025	2.22%
Mo 202.031†	26.4	0.00231	mg/L	0.000174	0.00231	mg/L	0.000174	7.52%
Ni 231.604†	111.5	0.00399	mg/L	0.000434	0.00399	mg/L	0.000434	10.86%
Pb 220.353†	8.4	0.00245	mg/L	0.003231	0.00245	mg/L	0.003231	132.00%
Sb 206.836†	-0.0	0.00022	mg/L	0.002331	0.00022	mg/L	0.002331	>999.9%
Se 196.026†	-1.0	-0.0120	mg/L	0.00654	-0.0120	mg/L	0.00654	54.55%
Si 251.611†	205309.9	9.62	mg/L	0.015	9.62	mg/L	0.015	0.15%
Sn 189.927†	-151.5	-0.0406	mg/L	0.00187	-0.0406	mg/L	0.00187	4.61%
Ti 334.940†	-3883.4	0.00221	mg/L	0.000213	0.00221	mg/L	0.000213	9.63%
Tl 190.801†	-15.6	-0.0146	mg/L	0.00436	-0.0146	mg/L	0.00436	29.78%
V 290.880†	796.9	0.00476	mg/L	0.000313	0.00476	mg/L	0.000313	6.56%
Zn 206.200†	277.9	0.0149	mg/L	0.00004	0.0149	mg/L	0.00004	0.29%
K 766.490†	1792.6	1.71	mg/L	0.038	1.71	mg/L	0.038	2.22%
Na 589.592†	884669.5	121	mg/L	0.3	121	mg/L	0.3	0.28%
Sr 407.771†	147156.0	0.212	mg/L	0.0079	0.212	mg/L	0.0079	3.74%
Li 670.784†	456.6	0.0139	mg/L	0.00031	0.0139	mg/L	0.00031	2.25%
P 214.914†	37.5	0.0668	mg/L	0.01895	0.0668	mg/L	0.01895	28.38%

Sequence No.: 14 **Autosampler Location: 25**
Sample ID: L1310186801 **Date Collected: 11/6/2013 11:03:15 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186801

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: L1310186801

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	4066832.6						263707.52	6.48%
YRADIAL	276663.9						20043.27	7.24%
Ga 417.206	739783.3						55068.81	7.44%
GaRADIAL	41700.2						3093.85	7.42%
Ag 328.068†	57.2	0.00046	mg/L	0.000266	0.00046	mg/L	0.000266	57.88%
Al 396.153†	49.8	0.0406	mg/L	0.00283	0.0406	mg/L	0.00283	6.98%
As 188.979†	-6.7	-0.00612	mg/L	0.001194	-0.00612	mg/L	0.001194	19.51%
Ba 233.527†	4544.0	0.0848	mg/L	0.00458	0.0848	mg/L	0.00458	5.40%
Be 234.861†	181.9	0.00039	mg/L	0.000180	0.00039	mg/L	0.000180	46.17%
B 249.677†	935.4	0.0280	mg/L	0.00180	0.0280	mg/L	0.00180	6.45%
Ca 227.546†	4642.3	38.5	mg/L	2.43	38.5	mg/L	2.43	6.33%
Cd 228.802†	-7.8	-0.00014	mg/L	0.000185	-0.00014	mg/L	0.000185	134.21%
Co 228.616†	-7.8	-0.00026	mg/L	0.000312	-0.00026	mg/L	0.000312	122.05%
Cr 267.716†	154.2	0.00257	mg/L	0.000361	0.00257	mg/L	0.000361	14.04%
Cu 327.393†	83.6	0.00073	mg/L	0.000765	0.00073	mg/L	0.000765	105.28%
Fe 239.562†	172.8	0.0783	mg/L	0.00750	0.0783	mg/L	0.00750	9.57%
Mg 279.077†	4161.7	5.75	mg/L	0.568	5.75	mg/L	0.568	9.89%
Mn 257.610†	366.8	0.00364	mg/L	0.000121	0.00364	mg/L	0.000121	3.32%
Mo 202.031†	49.0	0.00428	mg/L	0.000733	0.00428	mg/L	0.000733	17.13%
Ni 231.604†	19.6	0.00016	mg/L	0.000120	0.00016	mg/L	0.000120	77.13%
Pb 220.353†	14.8	0.00412	mg/L	0.002014	0.00412	mg/L	0.002014	48.94%
Sb 206.836†	-3.6	-0.00269	mg/L	0.002099	-0.00269	mg/L	0.002099	77.90%
Se 196.026†	1.1	-0.00804	mg/L	0.005895	-0.00804	mg/L	0.005895	73.35%
Si 251.611†	293113.6	13.7	mg/L	0.08	13.7	mg/L	0.08	0.57%
Sn 189.927†	-154.8	-0.0415	mg/L	0.00291	-0.0415	mg/L	0.00291	7.02%
Ti 334.940†	-3086.4	0.00311	mg/L	0.000196	0.00311	mg/L	0.000196	6.31%
Tl 190.801†	-9.5	-0.00915	mg/L	0.005300	-0.00915	mg/L	0.005300	57.92%
V 290.880†	1194.7	0.00845	mg/L	0.004140	0.00845	mg/L	0.004140	49.02%
Zn 206.200†	68.4	0.00335	mg/L	0.000309	0.00335	mg/L	0.000309	9.22%
K 766.490†	1994.3	2.03	mg/L	0.072	2.03	mg/L	0.072	3.53%
Na 589.592†	125649.6	19.4	mg/L	0.10	19.4	mg/L	0.10	0.51%
Sr 407.771†	228959.9	0.330	mg/L	0.0133	0.330	mg/L	0.0133	4.03%
Li 670.784†	312.2	0.0106	mg/L	0.00142	0.0106	mg/L	0.00142	13.39%
P 214.914†	32.8	0.0591	mg/L	0.01784	0.0591	mg/L	0.01784	30.17%

Sequence No.: 15 **Autosampler Location: 26**
Sample ID: L1310186802 **Date Collected: 11/6/2013 11:06:15 AM**

Approved: November 07, 2013

Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186802

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: L1310186802

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3896957.3						30571.18	0.78%
YRADIAL	242162.8						4062.40	1.68%
Ga 417.206	699581.4						7639.98	1.09%
GaRADIAL	36917.5						782.93	2.12%
Ag 328.068†	14.8	0.00020	mg/L	0.000022	0.00020	mg/L	0.000022	10.84%
Al 396.153†	66.1	0.0489	mg/L	0.00315	0.0489	mg/L	0.00315	6.44%
As 188.979†	-7.2	-0.00665	mg/L	0.000559	-0.00665	mg/L	0.000559	8.40%
Ba 233.527†	4146.5	0.0774	mg/L	0.00045	0.0774	mg/L	0.00045	0.58%
Be 234.861†	137.2	0.00029	mg/L	0.000040	0.00029	mg/L	0.000040	13.83%
B 249.677†	742.7	0.0227	mg/L	0.00040	0.0227	mg/L	0.00040	1.77%
Ca 227.546†	4247.5	35.2	mg/L	0.28	35.2	mg/L	0.28	0.80%
Cd 228.802†	-5.2	0.00001	mg/L	0.000117	0.00001	mg/L	0.000117	789.25%
Co 228.616†	-11.3	-0.00050	mg/L	0.000060	-0.00050	mg/L	0.000060	11.95%
Cr 267.716†	156.1	0.00260	mg/L	0.000161	0.00260	mg/L	0.000161	6.20%
Cu 327.393†	6.0	0.00010	mg/L	0.000684	0.00010	mg/L	0.000684	701.35%
Fe 239.562†	159.7	0.0714	mg/L	0.00295	0.0714	mg/L	0.00295	4.13%
Mg 279.077†	4045.5	5.59	mg/L	0.099	5.59	mg/L	0.099	1.77%
Mn 257.610†	308.3	0.00349	mg/L	0.000015	0.00349	mg/L	0.000015	0.43%
Mo 202.031†	48.7	0.00426	mg/L	0.000418	0.00426	mg/L	0.000418	9.83%
Ni 231.604†	-2.7	-0.00078	mg/L	0.000358	-0.00078	mg/L	0.000358	45.97%
Pb 220.353†	12.4	0.00352	mg/L	0.000534	0.00352	mg/L	0.000534	15.16%
Sb 206.836†	0.3	0.00048	mg/L	0.002275	0.00048	mg/L	0.002275	477.04%
Se 196.026†	1.9	-0.00637	mg/L	0.007887	-0.00637	mg/L	0.007887	123.72%
Si 251.611†	282248.7	13.2	mg/L	0.06	13.2	mg/L	0.06	0.43%
Sn 189.927†	-141.0	-0.0379	mg/L	0.00216	-0.0379	mg/L	0.00216	5.70%
Ti 334.940†	-2723.2	0.00328	mg/L	0.000235	0.00328	mg/L	0.000235	7.16%
Tl 190.801†	-12.6	-0.0119	mg/L	0.00896	-0.0119	mg/L	0.00896	75.45%
V 290.880†	929.6	0.00634	mg/L	0.000422	0.00634	mg/L	0.000422	6.66%
Zn 206.200†	121.5	0.00627	mg/L	0.000200	0.00627	mg/L	0.000200	3.19%
K 766.490†	1900.9	1.93	mg/L	0.071	1.93	mg/L	0.071	3.70%
Na 589.592†	121376.5	18.7	mg/L	0.06	18.7	mg/L	0.06	0.34%
Sr 407.771†	220210.2	0.317	mg/L	0.0106	0.317	mg/L	0.0106	3.33%
Li 670.784†	292.6	0.0102	mg/L	0.00042	0.0102	mg/L	0.00042	4.09%
P 214.914†	29.9	0.0544	mg/L	0.00551	0.0544	mg/L	0.00551	10.14%

Sequence No.: 16 **Autosampler Location: 27**
Sample ID: L1310186803 **Date Collected: 11/6/2013 11:09:15 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186803

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: L1310186803

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3926269.4						46988.99	1.20%
YRADIAL	259568.4						4573.33	1.76%
Ga 417.206	709726.3						6131.29	0.86%
GaRADIAL	38695.0						503.78	1.30%
Ag 328.068†	-304.3	0.00070	mg/L	0.000499	0.00070	mg/L	0.000499	71.78%
Al 396.153†	11699.3	5.92	mg/L	0.011	5.92	mg/L	0.011	0.18%
As 188.979†	-6.0	-0.00481	mg/L	0.004384	-0.00481	mg/L	0.004384	91.10%
Ba 233.527†	6397.9	0.119	mg/L	0.0015	0.119	mg/L	0.0015	1.24%

Approved: November 07, 2013

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Be 234.861†	770.1	0.00050	mg/L	0.000069	0.00050	mg/L	0.000069	13.96%
B 249.677†	773.2	0.0213	mg/L	0.00121	0.0213	mg/L	0.00121	5.67%
Ca 227.546†	4514.7	37.5	mg/L	0.44	37.5	mg/L	0.44	1.18%
Cd 228.802†	-2.4	0.00019	mg/L	0.000188	0.00019	mg/L	0.000188	97.05%
Co 228.616†	17.4	0.00116	mg/L	0.000176	0.00116	mg/L	0.000176	15.22%
Cr 267.716†	780.3	0.0116	mg/L	0.00020	0.0116	mg/L	0.00020	1.68%
Cu 327.393†	725.0	0.00632	mg/L	0.001192	0.00632	mg/L	0.001192	18.86%
Fe 239.562†	9837.7	5.22	mg/L	0.150	5.22	mg/L	0.150	2.87%
Mg 279.077†	5940.5	8.22	mg/L	0.240	8.22	mg/L	0.240	2.92%
Mn 257.610†	28469.8	0.0747	mg/L	0.00055	0.0747	mg/L	0.00055	0.74%
Mo 202.031†	42.7	0.00383	mg/L	0.000207	0.00383	mg/L	0.000207	5.41%
Ni 231.604†	113.0	0.00406	mg/L	0.000333	0.00406	mg/L	0.000333	8.18%
Pb 220.353†	32.1	0.00892	mg/L	0.001049	0.00892	mg/L	0.001049	11.76%
Sb 206.836†	-1.9	-0.00120	mg/L	0.003608	-0.00120	mg/L	0.003608	299.60%
Se 196.026†	-0.4	-0.00974	mg/L	0.003770	-0.00974	mg/L	0.003770	38.72%
Si 251.611†	575811.1	27.0	mg/L	0.27	27.0	mg/L	0.27	0.98%
Sn 189.927†	-147.4	-0.0395	mg/L	0.00032	-0.0395	mg/L	0.00032	0.81%
Ti 334.940†	46611.1	0.0943	mg/L	0.00046	0.0943	mg/L	0.00046	0.49%
Tl 190.801†	-10.0	-0.00838	mg/L	0.000589	-0.00838	mg/L	0.000589	7.02%
V 290.880†	1788.6	0.0122	mg/L	0.00115	0.0122	mg/L	0.00115	9.44%
Zn 206.200†	1240.6	0.0679	mg/L	0.00078	0.0679	mg/L	0.00078	1.15%
K 766.490†	3266.7	3.40	mg/L	0.012	3.40	mg/L	0.012	0.34%
Na 589.592†	131823.9	20.3	mg/L	0.51	20.3	mg/L	0.51	2.54%
Sr 407.771†	222943.5	0.321	mg/L	0.0025	0.321	mg/L	0.0025	0.76%
Li 670.784†	510.9	0.0151	mg/L	0.00097	0.0151	mg/L	0.00097	6.47%
P 214.914†	285.3	0.473	mg/L	0.0312	0.473	mg/L	0.0312	6.59%

Sequence No.: 17 **Autosampler Location: 28**
Sample ID: L1310186804 **Date Collected: 11/6/2013 11:11:18 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186804

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: L1310186804

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3871946.9						37276.50	0.96%
YRADIAL	241068.0						7823.95	3.25%
Ga 417.206	692945.2						8616.86	1.24%
GaRADIAL	36620.5						577.69	1.58%
Ag 328.068†	68.0	0.00055	mg/L	0.000523	0.00055	mg/L	0.000523	95.59%
Al 396.153†	56.1	0.0438	mg/L	0.00339	0.0438	mg/L	0.00339	7.74%
As 188.979†	-4.8	-0.00450	mg/L	0.002206	-0.00450	mg/L	0.002206	49.08%
Ba 233.527†	6161.9	0.115	mg/L	0.0012	0.115	mg/L	0.0012	1.01%
Be 234.861†	123.6	0.00025	mg/L	0.000037	0.00025	mg/L	0.000037	14.95%
B 249.677†	948.7	0.0283	mg/L	0.00161	0.0283	mg/L	0.00161	5.67%
Ca 227.546†	3402.9	28.2	mg/L	0.41	28.2	mg/L	0.41	1.46%
Cd 228.802†	-10.6	-0.00031	mg/L	0.000074	-0.00031	mg/L	0.000074	23.72%
Co 228.616†	-13.1	-0.00064	mg/L	0.000304	-0.00064	mg/L	0.000304	47.23%
Cr 267.716†	253.4	0.00405	mg/L	0.000089	0.00405	mg/L	0.000089	2.21%
Cu 327.393†	100.6	0.00087	mg/L	0.000178	0.00087	mg/L	0.000178	20.54%
Fe 239.562†	220.0	0.103	mg/L	0.0033	0.103	mg/L	0.0033	3.17%
Mg 279.077†	3675.6	5.07	mg/L	0.166	5.07	mg/L	0.166	3.27%
Mn 257.610†	894.9	0.00497	mg/L	0.000017	0.00497	mg/L	0.000017	0.34%
Mo 202.031†	53.3	0.00467	mg/L	0.000336	0.00467	mg/L	0.000336	7.20%
Ni 231.604†	0.3	-0.00066	mg/L	0.000097	-0.00066	mg/L	0.000097	14.82%
Pb 220.353†	13.6	0.00382	mg/L	0.001245	0.00382	mg/L	0.001245	32.55%
Sb 206.836†	-2.7	-0.00203	mg/L	0.000107	-0.00203	mg/L	0.000107	5.25%
Se 196.026†	3.3	-0.00368	mg/L	0.006865	-0.00368	mg/L	0.006865	186.69%
Si 251.611†	288990.2	13.5	mg/L	0.04	13.5	mg/L	0.04	0.33%
Sn 189.927†	-128.2	-0.0345	mg/L	0.00041	-0.0345	mg/L	0.00041	1.18%
Ti 334.940†	-1876.5	0.00379	mg/L	0.000281	0.00379	mg/L	0.000281	7.41%
Tl 190.801†	-4.3	-0.00464	mg/L	0.006253	-0.00464	mg/L	0.006253	134.67%
V 290.880†	1263.9	0.00901	mg/L	0.000274	0.00901	mg/L	0.000274	3.04%
Zn 206.200†	116.5	0.00600	mg/L	0.000424	0.00600	mg/L	0.000424	7.07%

Approved: November 07, 2013

K 766.490†	1884.3	1.91	mg/L	0.092	1.91	mg/L	0.092	4.81%
Na 589.592†	111866.5	17.3	mg/L	0.12	17.3	mg/L	0.12	0.68%
Sr 407.771†	193996.2	0.280	mg/L	0.0093	0.280	mg/L	0.0093	3.31%
Li 670.784†	401.2	0.0126	mg/L	0.00229	0.0126	mg/L	0.00229	18.12%
P 214.914†	33.0	0.0595	mg/L	0.02403	0.0595	mg/L	0.02403	40.41%

Sequence No.: 18 **Autosampler Location: 29**
Sample ID: L1310186805 **Date Collected: 11/6/2013 11:14:19 AM**
Analyst: KHR **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: L1310186805

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: L1310186805

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3860500.1						77758.02	2.01%
YRADIAL	251216.9						10065.73	4.01%
Ga 417.206	688864.7						15182.29	2.20%
GaRADIAL	38003.1						506.20	1.33%
Ag 328.068†	80.9	0.00059	mg/L	0.000266	0.00059	mg/L	0.000266	45.42%
Al 396.153†	33.8	0.0326	mg/L	0.00192	0.0326	mg/L	0.00192	5.89%
As 188.979†	-8.0	-0.00765	mg/L	0.007507	-0.00765	mg/L	0.007507	98.14%
Ba 233.527†	5131.8	0.0957	mg/L	0.00218	0.0957	mg/L	0.00218	2.28%
Be 234.861†	114.2	0.00025	mg/L	0.000059	0.00025	mg/L	0.000059	23.76%
B 249.677†	800.1	0.0243	mg/L	0.00083	0.0243	mg/L	0.00083	3.43%
Ca 227.546†	3371.7	27.9	mg/L	0.73	27.9	mg/L	0.73	2.62%
Cd 228.802†	-11.6	-0.00035	mg/L	0.000081	-0.00035	mg/L	0.000081	22.94%
Co 228.616†	-17.9	-0.00097	mg/L	0.000520	-0.00097	mg/L	0.000520	53.73%
Cr 267.716†	234.9	0.00378	mg/L	0.000060	0.00378	mg/L	0.000060	1.59%
Cu 327.393†	90.5	0.00078	mg/L	0.000633	0.00078	mg/L	0.000633	81.18%
Fe 239.562†	57.0	0.0168	mg/L	0.00150	0.0168	mg/L	0.00150	8.90%
Mg 279.077†	3750.5	5.18	mg/L	0.248	5.18	mg/L	0.248	4.79%
Mn 257.610†	1502.6	0.00649	mg/L	0.000343	0.00649	mg/L	0.000343	5.28%
Mo 202.031†	47.4	0.00414	mg/L	0.000470	0.00414	mg/L	0.000470	11.35%
Ni 231.604†	4.4	-0.00048	mg/L	0.000162	-0.00048	mg/L	0.000162	33.56%
Pb 220.353†	1.1	0.00070	mg/L	0.000841	0.00070	mg/L	0.000841	120.91%
Sb 206.836†	-1.7	-0.00115	mg/L	0.002945	-0.00115	mg/L	0.002945	256.87%
Se 196.026†	2.3	-0.00567	mg/L	0.008022	-0.00567	mg/L	0.008022	141.39%
Si 251.611†	282439.1	13.2	mg/L	0.08	13.2	mg/L	0.08	0.57%
Sn 189.927†	-126.1	-0.0340	mg/L	0.00238	-0.0340	mg/L	0.00238	7.01%
Ti 334.940†	-2316.8	0.00294	mg/L	0.000183	0.00294	mg/L	0.000183	6.24%
Tl 190.801†	-7.9	-0.00772	mg/L	0.004677	-0.00772	mg/L	0.004677	60.56%
V 290.880†	1129.8	0.00796	mg/L	0.000783	0.00796	mg/L	0.000783	9.84%
Zn 206.200†	96.5	0.00490	mg/L	0.000252	0.00490	mg/L	0.000252	5.14%
K 766.490†	1636.7	1.65	mg/L	0.076	1.65	mg/L	0.076	4.61%
Na 589.592†	109413.1	16.9	mg/L	0.05	16.9	mg/L	0.05	0.29%
Sr 407.771†	180505.1	0.260	mg/L	0.0084	0.260	mg/L	0.0084	3.24%
Li 670.784†	305.5	0.0105	mg/L	0.00157	0.0105	mg/L	0.00157	15.02%
P 214.914†	35.9	0.0643	mg/L	0.01087	0.0643	mg/L	0.01087	16.89%

Sequence No.: 19 **Autosampler Location: 6**
Sample ID: CCV **Date Collected: 11/6/2013 11:17:20 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD

Approved: November 07, 2013

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Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	3898373.7				52575.07	1.35%
YRADIAL	247772.6				2559.68	1.03%
Ga 417.206	681648.2				18005.44	2.64%
GaRADIAL	37207.0				1018.93	2.74%
Ag 328.068†	65344.7	0.397 mg/L	0.0101	0.397 mg/L	0.0101	2.54%
QC value within limits for Ag 328.068 Recovery = 99.30%						
Al 396.153†	20494.5	10.3 mg/L	0.06	10.3 mg/L	0.06	0.59%
QC value within limits for Al 396.153 Recovery = 102.94%						
As 188.979†	406.8	0.393 mg/L	0.0154	0.393 mg/L	0.0154	3.91%
QC value within limits for As 188.979 Recovery = 98.26%						
Ba 233.527†	54066.9	1.00 mg/L	0.009	1.00 mg/L	0.009	0.88%
QC value within limits for Ba 233.527 Recovery = 100.24%						
Be 234.861†	21732.5	0.0494 mg/L	0.00120	0.0494 mg/L	0.00120	2.42%
QC value within limits for Be 234.861 Recovery = 98.84%						
B 249.677†	18277.1	0.494 mg/L	0.0088	0.494 mg/L	0.0088	1.78%
QC value within limits for B 249.677 Recovery = 98.81%						
Ca 227.546†	1181.9	10.3 mg/L	0.30	10.3 mg/L	0.30	2.90%
QC value within limits for Ca 227.546 Recovery = 102.74%						
Cd 228.802†	830.0	0.0473 mg/L	0.00209	0.0473 mg/L	0.00209	4.43%
QC value within limits for Cd 228.802 Recovery = 94.61%						
Co 228.616†	2873.3	0.200 mg/L	0.0028	0.200 mg/L	0.0028	1.39%
QC value within limits for Co 228.616 Recovery = 100.00%						
Cr 267.716†	33582.1	0.501 mg/L	0.0062	0.501 mg/L	0.0062	1.23%
QC value within limits for Cr 267.716 Recovery = 100.29%						
Cu 327.393†	61108.4	0.497 mg/L	0.0125	0.497 mg/L	0.0125	2.51%
QC value within limits for Cu 327.393 Recovery = 99.30%						
Fe 239.562†	8046.5	4.26 mg/L	0.159	4.26 mg/L	0.159	3.72%
QC value within limits for Fe 239.562 Recovery = 106.60%						
Mg 279.077†	7642.4	10.6 mg/L	0.36	10.6 mg/L	0.36	3.35%
QC value within limits for Mg 279.077 Recovery = 106.07%						
Mn 257.610†	199028.7	0.504 mg/L	0.0047	0.504 mg/L	0.0047	0.92%
QC value within limits for Mn 257.610 Recovery = 100.89%						
Mo 202.031†	11490.2	1.02 mg/L	0.019	1.02 mg/L	0.019	1.84%
QC value within limits for Mo 202.031 Recovery = 101.56%						
Ni 231.604†	12177.1	0.509 mg/L	0.0022	0.509 mg/L	0.0022	0.42%
QC value within limits for Ni 231.604 Recovery = 101.78%						
Pb 220.353†	2022.1	0.505 mg/L	0.0068	0.505 mg/L	0.0068	1.35%
QC value within limits for Pb 220.353 Recovery = 101.10%						
Sb 206.836†	1446.2	1.19 mg/L	0.037	1.19 mg/L	0.037	3.10%
QC value within limits for Sb 206.836 Recovery = 98.78%						
Se 196.026†	208.1	0.402 mg/L	0.0145	0.402 mg/L	0.0145	3.62%
QC value within limits for Se 196.026 Recovery = 100.44%						
Si 251.611†	106624.2	4.98 mg/L	0.099	4.98 mg/L	0.099	1.99%
QC value within limits for Si 251.611 Recovery = 99.69%						
Sn 189.927†	3907.4	1.02 mg/L	0.016	1.02 mg/L	0.016	1.58%
QC value within limits for Sn 189.927 Recovery = 101.86%						
Ti 334.940†	545745.3	1.01 mg/L	0.007	1.01 mg/L	0.007	0.74%
QC value within limits for Ti 334.940 Recovery = 100.76%						
Tl 190.801†	585.2	0.524 mg/L	0.0084	0.524 mg/L	0.0084	1.61%
QC value within limits for Tl 190.801 Recovery = 104.82%						
V 290.880†	126418.8	1.00 mg/L	0.010	1.00 mg/L	0.010	1.04%
QC value within limits for V 290.880 Recovery = 100.27%						
Zn 206.200†	18436.4	1.02 mg/L	0.014	1.02 mg/L	0.014	1.35%
QC value within limits for Zn 206.200 Recovery = 101.68%						
K 766.490†	51201.0	53.3 mg/L	1.02	53.3 mg/L	1.02	1.91%
QC value within limits for K 766.490 Recovery = 106.58%						
Na 589.592†	353667.8	52.5 mg/L	1.34	52.5 mg/L	1.34	2.56%
QC value within limits for Na 589.592 Recovery = 104.96%						
Sr 407.771†	735216.5	1.06 mg/L	0.004	1.06 mg/L	0.004	0.39%
QC value within limits for Sr 407.771 Recovery = 106.08%						
Li 670.784†	45996.9	1.04 mg/L	0.023	1.04 mg/L	0.023	2.26%
QC value within limits for Li 670.784 Recovery = 103.58%						
P 214.914†	6052.1	9.92 mg/L	0.113	9.92 mg/L	0.113	1.14%
QC value within limits for P 214.914 Recovery = 99.16%						

All analyte(s) passed QC.

==========

Sequence No.: 20 **Autosampler Location: 1**
Sample ID: CCB **Date Collected: 11/6/2013 11:19:26 AM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**

Approved: November 07, 2013

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	172.0 kPa	0.45 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	3771886.9						28315.43	0.75%
YRADIAL	240560.0						8597.33	3.57%
Ga 417.206	638723.1						4795.55	0.75%
GaRADIAL	35033.7						607.27	1.73%
Ag 328.068†	-122.2	-0.00061	mg/L	0.000263	-0.00061	mg/L	0.000263	43.38%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 396.153†	-0.6	0.0154	mg/L	0.00156	0.0154	mg/L	0.00156	10.11%
QC value within limits for Al 396.153 Recovery = Not calculated								
As 188.979†	1.0	0.00063	mg/L	0.003194	0.00063	mg/L	0.003194	509.41%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	-27.5	0.00012	mg/L	0.000071	0.00012	mg/L	0.000071	57.19%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 234.861†	32.8	0.00007	mg/L	0.000033	0.00007	mg/L	0.000033	49.10%
QC value within limits for Be 234.861 Recovery = Not calculated								
B 249.677†	200.2	0.00808	mg/L	0.001203	0.00808	mg/L	0.001203	14.88%
QC value within limits for B 249.677 Recovery = Not calculated								
Ca 227.546†	11.9	0.114	mg/L	0.0255	0.114	mg/L	0.0255	22.29%
QC value within limits for Ca 227.546 Recovery = Not calculated								
Cd 228.802†	-8.1	-0.00020	mg/L	0.000124	-0.00020	mg/L	0.000124	63.54%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	-14.9	-0.00074	mg/L	0.000238	-0.00074	mg/L	0.000238	32.14%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	12.8	0.00046	mg/L	0.000108	0.00046	mg/L	0.000108	23.33%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	75.9	0.00066	mg/L	0.001720	0.00066	mg/L	0.001720	259.68%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 239.562†	6.5	-0.00997	mg/L	0.002282	-0.00997	mg/L	0.002282	22.89%
QC value within limits for Fe 239.562 Recovery = Not calculated								
Mg 279.077†	0.4	-0.0437	mg/L	0.00376	-0.0437	mg/L	0.00376	8.60%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	-42.0	0.00260	mg/L	0.000046	0.00260	mg/L	0.000046	1.77%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	9.2	0.00077	mg/L	0.000463	0.00077	mg/L	0.000463	60.39%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Ni 231.604†	-8.8	-0.00104	mg/L	0.000216	-0.00104	mg/L	0.000216	20.84%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	5.7	0.00186	mg/L	0.003275	0.00186	mg/L	0.003275	176.49%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.9	-0.00053	mg/L	0.002527	-0.00053	mg/L	0.002527	479.01%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	2.4	-0.00555	mg/L	0.010514	-0.00555	mg/L	0.010514	189.29%
QC value within limits for Se 196.026 Recovery = Not calculated								
Si 251.611†	100.0	-0.00013	mg/L	0.001121	-0.00013	mg/L	0.001121	884.85%
QC value within limits for Si 251.611 Recovery = Not calculated								
Sn 189.927†	11.0	0.00181	mg/L	0.000856	0.00181	mg/L	0.000856	47.39%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	14.6	0.00306	mg/L	0.000202	0.00306	mg/L	0.000202	6.60%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-5.9	-0.00600	mg/L	0.002724	-0.00600	mg/L	0.002724	45.37%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	566.1	0.00362	mg/L	0.001757	0.00362	mg/L	0.001757	48.57%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	0.4	-0.00040	mg/L	0.000292	-0.00040	mg/L	0.000292	72.55%
QC value within limits for Zn 206.200 Recovery = Not calculated								
K 766.490†	78.6	-0.0225	mg/L	0.01435	-0.0225	mg/L	0.01435	63.87%
QC value within limits for K 766.490 Recovery = Not calculated								
Na 589.592†	16.2	-0.0461	mg/L	0.00683	-0.0461	mg/L	0.00683	14.80%
QC value within limits for Na 589.592 Recovery = Not calculated								
Sr 407.771†	-40.7	0.00091	mg/L	0.000138	0.00091	mg/L	0.000138	15.13%
QC value within limits for Sr 407.771 Recovery = Not calculated								
Li 670.784†	43.3	0.00459	mg/L	0.000947	0.00459	mg/L	0.000947	20.65%

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```
   QC value within limits for Li 670.784  Recovery = Not calculated
P 214.914†                 32.4      0.0585 mg/L       0.00912      0.0585 mg/L       0.00912  15.58%
   QC value within limits for P 214.914  Recovery = Not calculated
All analyte(s) passed QC.
```

Approved: November 07, 2013

2.1.2 Metals ICP-MS Data

2.1.2.1 Summary Data

Login Number: L13101868
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG451378 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 74015
Approved By: Sheri Pfalzgraf

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 13-1013-1	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:20
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	NI.110513.172010
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00117		0.00100	0.000500
Barium, Total	7440-39-3	0.0904		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00207		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00130	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00220	J	0.00400	0.00200
Selenium, Total	7782-49-2	0.00337		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 13-1013-2	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:29
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	NI.110513.172927
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00141		0.00100	0.000500
Barium, Total	7440-39-3	0.0935		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00219		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00127	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00452		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 1-1013-1	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:32
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	NI.110513.173231
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00256		0.00100	0.000500
Barium, Total	7440-39-3	0.138		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00821		0.00200	0.00100
Cobalt, Total	7440-48-4	0.00173		0.00100	0.000500
Copper, Total	7440-50-8	0.00602		0.00200	0.00100
Lead, Total	7439-92-1	0.00473		0.00100	0.000500
Manganese, Total	7439-96-5	0.0737		0.00200	0.00100
Nickel, Total	7440-02-0	0.00497		0.00400	0.00200
Selenium, Total	7782-49-2	0.00751		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0	0.000112	J	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 18-1013-1	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:35
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	NI.110513.173536
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00203		0.00100	0.000500
Barium, Total	7440-39-3	0.132		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00350		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00288		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00198		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	MPL 6-1013-1	**Prep Method:**	3015	**Prep Date:**	11/01/2013 11:33
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	11/05/2013 10:02
Workgroup #:	WG451378	**Analyst:**	JYH	**Run Date:**	11/05/2013 17:38
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	NI.110513.173840
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00174		0.00100	0.000500
Barium, Total	7440-39-3	0.118		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00376		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00463		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00224		0.00100	0.000500
Silver, Total	7440-22-4	0.000712	J	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

2.1.2.2 QC Summary Data

Example 6020 Calculations
Perkin Elmer NexION 300X

1.0 Initial Calibration (ICAL) Parameters
The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (ug/L)	0.1
Vf = Final volume	100
Vi = Initial volume	40
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in (ug/L)	0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (ug/L)	0.1
Vf = Final volume	200
Vi = Initial volume	0.5
D = Dilution factor as a multiplier (10X = 10)	1
Cx = Concentration of element in (ug/kg)	40

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:	**Example:**
Cx = Concentration calculated as received (wet basis)	40
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (ug/kg)	50

50 ug/kg = 0.050 mg/kg

Perkin Elmer NexION ICP/MS

STANDARDS KEY

QC Std 1 - ICV
QC Std 2 - ICB
QC Std 3 - LLICV
QC Std 4 - ICSA
QC Std 5 - ICSAB
QC Std 6 - CCV
QC Std 7 - CCB
QC Std 8 - LLCCV

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.00005	0.05	0.1
Sb	10	0	0.00005	0.05	0.1
As	10	0	0.00005	0.05	0.1
Ba	10	0	0.00005	0.05	0.1
Be	10	0	0.00005	0.05	0.1
Ca	1000	0	0.005	5	10
Cd	10	0	0.0005	0.05	0.1
Cr	10	0	0.0005	0.05	0.1
Co	10	0	0.0005	0.05	0.1
Cu	10	0	0.0005	0.05	0.1
Fe	1000	0	0.005	5	10
Pb	10	0	0.00005	0.05	0.1
Mg	1000	0	0.005	5	10
Mn	10	0	0.00005	0.05	0.1
Ni	10	0	0.00005	0.05	0.1
K	1000	0	0.005	5	10
Se	10	0	0.00005	0.05	0.1
Ag	10	0	0.00005	0.05	0.1
Na	1000	0	0.005	5	10
Tl	10	0	0.00005	0.05	0.1
V	10	0	0.00005	0.05	0.1
U	1000	0	0.00005	0.05	0.1
Zn	10	0	0.00005	0.05	0.1

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG451123
Analyst: VC
Spike Analyst: VC
Run Date: 11/01/2013 11:33
Method: 3015
Balance: BAL016
Instrument: MW-2
Instrument Start: 11/01/2013 12:28

SOP: ME407 Revison 14
Spike Solution: STD60087
Spike Witness: ERP
HNO3 Lot #: COA16631
Digestion Tubes Lot #: COA16971
MS Filters- fisher-Lot#R RGT26840

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG451123-02	BLANK	1	40 mL	100 mL	205.115 g	205.106 g		
2	WG451123-03	LCS	1	40 mL	100 mL	204.172 g	204.171 g	.25 mL	
3	L13101769-13	SAMP	1	40 mL	100 mL	204.443 g	204.429 g		11/08/13
4	L13101769-14	SAMP	1	40 mL	100 mL	203.893 g	203.878 g		11/08/13
5	L13101819-01	SAMP	1	40 mL	100 mL	203.762 g	203.748 g		11/08/13
6	L13101819-02	SAMP	1	40 mL	100 mL	206.945 g	206.928 g		11/08/13
7	L13101819-03	SAMP	1	40 mL	100 mL	204.028 g	204.013 g		11/08/13
8	L13101819-04	SAMP	1	40 mL	100 mL	205.825 g	205.773 g		11/08/13
9	L13101819-05	SAMP	1	40 mL	100 mL	206.119 g	206.109 g		11/08/13
10	WG451123-01	REF	1	40 mL	100 mL	204.068 g	204.055 g		
11	L13101819-06	RS01	1	40 mL	100 mL	204.068 g	204.055 g		11/08/13
12	WG451123-04	MS	1	40 mL	100 mL	204.81 g	204.799 g	.25 mL	
13	L13101819-07	MS01	1	40 mL	100 mL	204.81 g	204.799 g	.25 mL	11/08/13
14	WG451123-05	MSD	1	40 mL	100 mL	205.969 g	205.955 g	.25 mL	
15	L13101819-08	SD01	1	40 mL	100 mL	205.969 g	205.955 g	.25 mL	11/08/13
16	L13101819-09	SAMP	1	40 mL	100 mL	204.011 g	204.002 g		11/08/13
17	L13101819-10	SAMP	1	40 mL	100 mL	204.302 g	204.29 g		11/08/13
18	L13101844-21	SAMP	1	40 mL	100 mL	205.195 g	205.167 g		11/08/13
19	L13101866-01	SAMP	1	40 mL	100 mL	205.2 g	205.185 g		11/11/13
20	L13101868-01	SAMP	1	40 mL	100 mL	207.782 g	207.769 g		11/11/13
21	L13101868-02	SAMP	1	40 mL	100 mL	207.094 g	207.078 g		11/11/13
22	L13101868-03	SAMP	1	40 mL	100 mL	204.487 g	204.464 g		11/11/13
23	L13101868-04	SAMP	1	40 mL	100 mL	206.034 g	206.019 g		11/11/13
24	L13101868-05	SAMP	1	40 mL	100 mL	206.284 g	206.271 g		11/11/13

L13101868-03	filtered digestate

Analyst: Vicki Collins

Reviewer: Erin Potter

MW_DIG - Modified 09/30/2009
PDF ID: 3179687
Report generated: 11/01/2013 13:36

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 110513A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 48050

Calibration Std: STD60729 ICV Std: STD60725 Post Spike: STD60309
ICSA: STD60726 ICSAB: STD60727 Int. Std: RGT28155
CCV: STD60963 LLCCV: STD60408 Tuning Sol : STD60728
Stannous : Hydroxylamine :

Workgroups: 451377,451504,451494,451378,451582

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.110513.094943	Blank	Blank		1		11/05/13 09:49
2	NI.110513.095249	WG451556-01	Calibration Point		1		11/05/13 09:52
3	NI.110513.095555	WG451556-02	Calibration Point		1		11/05/13 09:55
4	NI.110513.095900	WG451556-03	Calibration Point		1		11/05/13 09:59
5	NI.110513.100205	WG451556-04	Calibration Point		1		11/05/13 10:02
6	NI.110513.100511	WG451556-05	Initial Calibration Verification		1		11/05/13 10:05
7	NI.110513.100818	WG451556-06	Initial Calib Blank		1		11/05/13 10:08
8	NI.110513.101124	WG451556-07	Low Level Initial Calibration V		1		11/05/13 10:11
9	NI.110513.101428	WG451556-08	Interference Check		1		11/05/13 10:14
10	NI.110513.101733	WG451556-09	Interference Check		1		11/05/13 10:17
11	NI.110513.102039	WG451556-10	CCV		1		11/05/13 10:20
12	NI.110513.102344	WG451556-11	CCB		1		11/05/13 10:23
13	NI.110513.102649	WG451289-03	Method/Prep Blank	40/100	1		11/05/13 10:26
14	NI.110513.102954	WG451289-04	Laboratory Control S	40/100	1		11/05/13 10:29
15	NI.110513.103826	WG451289-04	Laboratory Control S		1		11/05/13 10:38
16	NI.110513.104131	WG451289-01	Reference Sample		1	L13110054-11	11/05/13 10:41
17	NI.110513.104435	WG451289-05	Matrix Spike	40/100	1	L13110054-11	11/05/13 10:44
18	NI.110513.104740	WG451289-06	Matrix Spike Duplica	40/100	1	L13110054-11	11/05/13 10:47
19	NI.110513.105923	L13110092-10	PL08CSP-01-01EB	40/100	1		11/05/13 10:59
20	NI.110513.110227	L13110108-12	PL08CSP-31-01EB	40/100	1		11/05/13 11:02
21	NI.110513.110532	WG451377-01	Post Digestion Spike		1	L13110108-12	11/05/13 11:05
22	NI.110513.110836	WG451377-02	Serial Dilution		5	L13110108-12	11/05/13 11:08
23	NI.110513.111143	WG451556-12	CCV		1		11/05/13 11:11
24	NI.110513.111447	WG451556-13	CCB		1		11/05/13 11:14
25	NI.110513.111812	L13110054-01	8001MW06-131031	40/100	1		11/05/13 11:18
26	NI.110513.112159	L13110054-02	8001MW07-131031	40/100	1		11/05/13 11:21
27	NI.110513.112504	L13110054-03	8001MW08-131031	40/100	1		11/05/13 11:25
28	NI.110513.112808	L13110054-04	8001MW50-131031	40/100	1		11/05/13 11:28
29	NI.110513.113113	L13110054-05	FCMW15-131031	40/100	1		11/05/13 11:31
30	NI.110513.113417	L13110054-06	EQBMW01A-131031	40/100	1		11/05/13 11:34
31	NI.110513.113721	L13110054-07	EQBMW07-131031	40/100	1		11/05/13 11:37
32	NI.110513.114428	WG451289-01	Reference Sample		100	L13110054-11	11/05/13 11:44
33	NI.110513.114732	WG451289-05	Matrix Spike	40/100	100	L13110054-11	11/05/13 11:47
34	NI.110513.115036	WG451289-06	Matrix Spike Duplica	40/100	100	L13110054-11	11/05/13 11:50

Page: 1 Approved: November 06, 2013

Maren Berry

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 110513A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 48050

Calibration Std: STD60729 ICV Std: STD60725 Post Spike: STD60309
ICSA: STD60726 ICSAB: STD60727 Int. Std: RGT28155
CCV: STD60963 LLCCV: STD60408 Tuning Sol : STD60728
Stannous : Hydroxylamine :

Workgroups: 451377,451504,451494,451378,451582

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.110513.115343	WG451556-14	CCV		1		11/05/13 11:53
36	NI.110513.115647	WG451556-15	CCB		1		11/05/13 11:56
37	NI.110513.120437	L13110054-08	8001MW01-131031	40/100	1		11/05/13 12:04
38	NI.110513.120748	L13110054-09	8001MW02-131031	40/100	1		11/05/13 12:07
39	NI.110513.121052	L13110054-10	FCMW07-131031	40/100	1		11/05/13 12:10
40	NI.110513.121356	L13110054-14	DUP-01-131031	40/100	1		11/05/13 12:13
41	NI.110513.121700	L13110054-15	DUP-02-131031	40/100	1		11/05/13 12:17
42	NI.110513.122005	L13110084-01	3102127-01	40/100	1		11/05/13 12:20
43	NI.110513.122309	L13110084-02	3102127-02	40/100	1		11/05/13 12:23
44	NI.110513.122614	L13110084-03	3102127-03	40/100	1		11/05/13 12:26
45	NI.110513.122919	WG451289-02	Reference Sample		1	L13110084-04	11/05/13 12:29
46	NI.110513.123223	WG451289-07	Duplicate	40/100	1	L13110084-04	11/05/13 12:32
47	NI.110513.123529	WG451556-16	CCV		1		11/05/13 12:35
48	NI.110513.123834	WG451556-17	CCB		1		11/05/13 12:38
49	NI.110513.124624	L13110054-01	8001MW06-131031	40/100	5		11/05/13 12:46
50	NI.110513.124928	L13110054-07	EQBMW07-131031	40/100	5		11/05/13 12:49
51	NI.110513.125232	L13110054-14	DUP-01-131031	40/100	5		11/05/13 12:52
52	NI.110513.125536	L13110054-01	8001MW06-131031	40/100	500		11/05/13 12:55
53	NI.110513.125841	L13110054-02	8001MW07-131031	40/100	500		11/05/13 12:58
54	NI.110513.130145	L13110054-03	8001MW08-131031	40/100	200		11/05/13 13:01
55	NI.110513.130449	L13110054-06	EQBMW01A-131031	40/100	100		11/05/13 13:04
56	NI.110513.130753	L13110054-14	DUP-01-131031	40/100	500		11/05/13 13:07
57	NI.110513.131058	WG451424-04	Method/Prep Blank		1		11/05/13 13:10
58	NI.110513.131404	WG451556-18	CCV		1		11/05/13 13:14
59	NI.110513.131709	WG451556-19	CCB		1		11/05/13 13:17
60	NI.110513.132015	WG451556-20	Low Level Continuing Calibra		1		11/05/13 13:20
61	NI.110513.133105	WG451424-05	Laboratory Control S	40/100	1		11/05/13 13:31
62	NI.110513.133719	WG451424-04	Method/Prep Blank	40/100	1		11/05/13 13:37
63	NI.110513.134038	WG451424-01	Reference Sample		1	L13101431-01	11/05/13 13:40
64	NI.110513.134343	WG451424-06	Duplicate	40/100	1	L13101431-01	11/05/13 13:43
65	NI.110513.134647	WG451424-02	Reference Sample		1	L13101748-04	11/05/13 13:46
66	NI.110513.134953	WG451556-21	CCV		1		11/05/13 13:49
67	NI.110513.135257	WG451556-22	CCB		1		11/05/13 13:52
68	NI.110513.135625	WG451424-07	Matrix Spike	40/100	1	L13101748-04	11/05/13 13:56

Page: 2 Approved: November 06, 2013

Marcia Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 110513A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 48050

Calibration Std: STD60729 ICV Std: STD60725 Post Spike: STD60309
ICSA: STD60726 ICSAB: STD60727 Int. Std: RGT28155
CCV: STD60963 LLCCV: STD60408 Tuning Sol : STD60728
Stannous : Hydroxylamine :

Workgroups: 451377,451504,451494,451378,451582

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.110513.135930	WG451424-08	Matrix Spike Duplica	40/100	1	L13101748-04	11/05/13 13:59
70	NI.110513.140234	L13101748-11	SW2A.290.14	40/100	1		11/05/13 14:02
71	NI.110513.140539	WG451504-01	Post Digestion Spike		1	L13101748-11	11/05/13 14:05
72	NI.110513.140843	WG451504-02	Serial Dilution		5	L13101748-11	11/05/13 14:08
73	NI.110513.141150	WG451556-23	CCV		1		11/05/13 14:11
74	NI.110513.141454	WG451556-24	CCB		1		11/05/13 14:14
75	NI.110513.141819	L13101867-01	18-018007-G-1	40/100	1		11/05/13 14:18
76	NI.110513.142123	WG451424-03	Reference Sample		1	L13101867-02	11/05/13 14:21
77	NI.110513.142428	WG451424-09	Matrix Spike	40/100	1	L13101867-02	11/05/13 14:24
78	NI.110513.142733	WG451424-10	Matrix Spike Duplica	40/100	1	L13101867-02	11/05/13 14:27
79	NI.110513.143037	L13101867-05	18-01801A-G-1	40/100	1		11/05/13 14:30
80	NI.110513.143342	L13101867-06	18-01801A-G-D-1	40/100	1		11/05/13 14:33
81	NI.110513.143646	L13101748-14	SW2B.290.14	40/100	1		11/05/13 14:36
82	NI.110513.143951	L13101748-17	SW3A.290.14	40/100	1		11/05/13 14:39
83	NI.110513.144255	L13101748-20	SW4A.290.14	40/100	1		11/05/13 14:42
84	NI.110513.144600	L13101748-23	SW5A.290.14	40/100	1		11/05/13 14:46
85	NI.110513.144906	WG451556-25	CCV		1		11/05/13 14:49
86	NI.110513.145211	WG451556-26	CCB		1		11/05/13 14:52
87	NI.110513.145517	L13101877-05	MW-2	40/100	1		11/05/13 14:55
88	NI.110513.145822	L13101877-07	MW-1	40/100	1		11/05/13 14:58
89	NI.110513.150126	L13101877-10	MW-9	40/100	1		11/05/13 15:01
90	NI.110513.150431	L13101877-11	MW-4		1		11/05/13 15:04
91	NI.110513.150735	L13101877-13	MW-27	40/100	1		11/05/13 15:07
92	NI.110513.151039	L13101877-14	MW-3		1		11/05/13 15:10
93	NI.110513.151346	WG451556-27	CCV		1		11/05/13 15:13
94	NI.110513.151650	WG451556-28	CCB		1		11/05/13 15:16
95	NI.110513.152752	WG451326-01	Method/Prep Blank	10/200	1		11/05/13 15:27
96	NI.110513.153056	WG451326-02	Laboratory Control S	10/200	1		11/05/13 15:30
97	NI.110513.153401	WG451326-03	Laboratory Control S	10/200	1		11/05/13 15:34
98	NI.110513.153705	L13101854-01	9391	10.144/200	1		11/05/13 15:37
99	NI.110513.154010	L13101854-02	9392	10.254/200	1		11/05/13 15:40
100	NI.110513.154314	L13101854-03	9393	10.451/200	1		11/05/13 15:43
101	NI.110513.154618	L13101854-04	9394	10.123/200	1		11/05/13 15:46
102	NI.110513.154923	L13101854-05	9395	10.29/200	1		11/05/13 15:49

Page: 3 Approved: November 06, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 110513A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 48050

Calibration Std: STD60729 ICV Std: STD60725 Post Spike: STD60309
ICSA: STD60726 ICSAB: STD60727 Int. Std: RGT28155
CCV: STD60963 LLCCV: STD60408 Tuning Sol : STD60728
Stannous : Hydroxylamine :

Workgroups: 451377,451504,451494,451378,451582

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	NI.110513.155227	WG451494-01	Post Digestion Spike		1	L13101854-05	11/05/13 15:52
104	NI.110513.155532	WG451494-02	Serial Dilution		5	L13101854-05	11/05/13 15:55
105	NI.110513.155839	WG451556-29	CCV		1		11/05/13 15:58
106	NI.110513.160143	WG451556-30	CCB		1		11/05/13 16:01
107	NI.110513.160450	L13101854-06	9396	10.332/200	1		11/05/13 16:04
108	NI.110513.160757	WG451556-31	CCV		1		11/05/13 16:07
109	NI.110513.161101	WG451556-32	CCB		1		11/05/13 16:11
110	NI.110513.161830	WG451123-02	Method/Prep Blank	40/100	1		11/05/13 16:18
111	NI.110513.162135	WG451123-03	Laboratory Control S	40/100	1		11/05/13 16:21
112	NI.110513.162439	WG451123-01	Reference Sample		1	L13101819-06	11/05/13 16:24
113	NI.110513.162744	WG451123-04	Matrix Spike	40/100	1	L13101819-06	11/05/13 16:27
114	NI.110513.163048	WG451123-05	Matrix Spike Duplica	40/100	1	L13101819-06	11/05/13 16:30
115	NI.110513.163359	L13101769-13	W1A-S	40/100	1		11/05/13 16:33
116	NI.110513.163703	L13101769-14	FB-02	40/100	1		11/05/13 16:37
117	NI.110513.164008	WG451378-01	Post Digestion Spike		1	L13101769-14	11/05/13 16:40
118	NI.110513.164312	WG451378-02	Serial Dilution		5	L13101769-14	11/05/13 16:43
119	NI.110513.164619	WG451556-33	CCV		1		11/05/13 16:46
120	NI.110513.164923	WG451556-34	CCB		1		11/05/13 16:49
121	NI.110513.165230	L13101819-01	14-NWS-58-5-G-2	40/100	1		11/05/13 16:52
122	NI.110513.165534	L13101819-02	14-NWS-58-3A-G-2	40/100	1		11/05/13 16:55
123	NI.110513.165839	L13101819-03	14-NWS-58-8D-G-2	40/100	1		11/05/13 16:58
124	NI.110513.170143	L13101819-04	14-NWS-58-8D-G-2-D	40/100	1		11/05/13 17:01
125	NI.110513.170448	L13101819-05	14-NWS-58-8S-G-2	40/100	1		11/05/13 17:04
126	NI.110513.170752	L13101819-09	14-NWS-58-7-G-2	40/100	1		11/05/13 17:07
127	NI.110513.171057	L13101819-10	14-NWS-58-4-G-2	40/100	1		11/05/13 17:10
128	NI.110513.171401	L13101844-21	MW-1(KH)	40/100	1		11/05/13 17:14
129	NI.110513.171705	L13101866-01	14-NWS-58-9-G-2	40/100	1		11/05/13 17:17
130	NI.110513.172010	L13101868-01	MPL 13-1013-1	40/100	1		11/05/13 17:20
131	NI.110513.172316	WG451556-35	CCV		1		11/05/13 17:23
132	NI.110513.172621	WG451556-36	CCB		1		11/05/13 17:26
133	NI.110513.172927	L13101868-02	MPL 13-1013-2	40/100	1		11/05/13 17:29
134	NI.110513.173231	L13101868-03	MPL 1-1013-1	40/100	1		11/05/13 17:32
135	NI.110513.173536	L13101868-04	MPL 18-1013-1	40/100	1		11/05/13 17:35
136	NI.110513.173840	L13101868-05	MPL 6-1013-1	40/100	1		11/05/13 17:38

Page: 4 Approved: November 06, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 110513A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 48050

Calibration Std: STD60729 ICV Std: STD60725 Post Spike: STD60309
ICSA: STD60726 ICSAB: STD60727 Int. Std: RGT28155
CCV: STD60963 LLCCV: STD60408 Tuning Sol : STD60728
Stannous : Hydroxylamine :

Workgroups: 451377,451504,451494,451378,451582

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	NI.110513.174145	WG451556-37	CCV		1		11/05/13 17:41
138	NI.110513.174450	WG451556-38	CCB		1		11/05/13 17:44
139	NI.110513.174755	WG451507-02	Method/Prep Blank	40/100	1		11/05/13 17:47
140	NI.110513.175100	WG451507-03	Laboratory Control S	40/100	1		11/05/13 17:51
141	NI.110513.175404	WG451507-01	Reference Sample		1	L13110051-04	11/05/13 17:54
142	NI.110513.175708	WG451507-04	Matrix Spike	40/100	1	L13110051-04	11/05/13 17:57
143	NI.110513.180013	WG451507-05	Matrix Spike Duplica	40/100	1	L13110051-04	11/05/13 18:00
144	NI.110513.180317	L13101886-01	ERT003:HMW-1:G103013	40/100	1		11/05/13 18:03
145	NI.110513.180622	L13101886-02	ERT003:HMW-2:G103113	40/100	1		11/05/13 18:06
146	NI.110513.180927	WG451582-01	Post Digestion Spike		1	L13101886-02	11/05/13 18:09
147	NI.110513.181231	WG451582-02	Serial Dilution		5	L13101886-02	11/05/13 18:12
148	NI.110513.181535	WG451582-02	Serial Dilution		25	L13101886-02	11/05/13 18:15
149	NI.110513.181842	WG451556-39	CCV		1		11/05/13 18:18
150	NI.110513.182146	WG451556-40	CCB		1		11/05/13 18:21
151	NI.110513.182453	L13101886-03	ERT003:HMW-4:G103113	40/100	1		11/05/13 18:24
152	NI.110513.182757	L13101886-04	ERT003:HMW-5:G103113	40/100	1		11/05/13 18:27
153	NI.110513.183102	L13101886-05	ERT003:HMW-6:G103013	40/100	1		11/05/13 18:31
154	NI.110513.183406	L13101886-06	ERT003:HMW-7:G103013	40/100	1		11/05/13 18:34
155	NI.110513.183710	L13101886-07	ERT003:HMW-11:G103013	40/100	1		11/05/13 18:37
156	NI.110513.184014	L13101886-08	ERT003:HMW-12:G103013A	40/100	1		11/05/13 18:40
157	NI.110513.184319	L13101886-09	ERT003:HMW-12:G103013	40/100	1		11/05/13 18:43
158	NI.110513.184623	L13101886-10	ERT003:HMW-12BR:G10301	40/100	1		11/05/13 18:46
159	NI.110513.184927	L13101886-11	ERT003:HMW-13:G103113	40/100	1		11/05/13 18:49
160	NI.110513.185231	L13101886-12	ERT003:HMW-13BR:G10311	40/100	1		11/05/13 18:52
161	NI.110513.185538	WG451556-41	CCV		1		11/05/13 18:55
162	NI.110513.185842	WG451556-42	CCB		1		11/05/13 18:58
163	NI.110513.190148	L13101886-13	ERT003:EB-6:W103013	40/100	1		11/05/13 19:01
164	NI.110513.190453	L13101886-14	ERT003:EB-7:W103113	40/100	1		11/05/13 19:04
165	NI.110513.190757	L13110049-36	ORG-SO1-290-14	40/100	1		11/05/13 19:07
166	NI.110513.191101	L13110049-38	ORG-SO2-290-14	40/100	1		11/05/13 19:11
167	NI.110513.191405	L13110051-01	MPL 28-1013-1	40/100	1		11/05/13 19:14
168	NI.110513.191710	L13110051-02	T40-1013-1	40/100	1		11/05/13 19:17
169	NI.110513.192014	L13110051-03	MPL 17-1013-1	40/100	1		11/05/13 19:20
170	NI.110513.192318	L13101877-11	MW-4	40/100	50		11/05/13 19:23

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Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 110513A.REP
Analyst1: JYH Analyst2: N/A
Method: 6020/6020A/200.8 SOP: ME700A Rev: 0
Maintenance Log ID: 48050

Calibration Std: STD60729 ICV Std: STD60725 Post Spike: STD60309
ICSA: STD60726 ICSAB: STD60727 Int. Std: RGT28155
CCV: STD60963 LLCCV: STD60408 Tuning Sol : STD60728
Stannous : Hydroxylamine :

Workgroups: 451377,451504,451494,451378,451582

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
171	NI.110513.192623	L13101877-14	MW-3	40/100	50		11/05/13 19:26
172	NI.110513.192928	WG451556-43	CCV		1		11/05/13 19:29
173	NI.110513.193233	WG451556-44	CCB		1		11/05/13 19:32
174	NI.110513.193539	WG451556-45	Low Level Continuing Calibra		1		11/05/13 19:35

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Maren Berry

Microbac Laboratories Inc.

Data Checklist

Date: 05-NOV-2013
Analyst: JYH
Analyst: NA
Method: 6020/6020A/200.8
Instrument: ICP-MS2
Curve Workgroup: 451556
Runlog ID: 56884
Analytical Workgroups: 451377,451504,451494,451378,451582

Additional Workgroup: 447599	X
Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	054,092,108,1867,1877,1854,1769
	1819,1844,1866,1868,1886,051
Client Forms	
Level X	
Level 3	092,108,1854
Level 4	054,1867,1877,1769,1819,1844
	1866,1868,051
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	MMB
Comments	

Primary Reviewer: Secondary Reviewer:
06-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-06-2013 14:17:17

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020 AAB#: WG451378

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/01/2013	2.1	180		11/05/13	6.3	180	
MPL 13-1013-2	02	10/30/13					11/01/2013	2.1	180		11/05/13	6.3	180	
MPL 1-1013-1	03	10/30/13					11/01/2013	1.9	180		11/05/13	6.2	180	
MPL 18-1013-1	04	10/30/13					11/01/2013	1.9	180		11/05/13	6.1	180	
MPL 6-1013-1	05	10/30/13					11/01/2013	1.8	180		11/05/13	6.1	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3185556
Report generated 11/06/2013 07:52

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: NI.110513.161830
Prep Date: 11/01/13 11:33
Analyzed Date: 11/05/13 16:18
Analyst: JYH

Work Group: WG451378
Blank Sample ID: WG451123-02
Instrument ID: ICP-MS2
Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451123-03	NI.110513.162135	11/05/13 16:21	01
MPL 13-1013-1	L13101868-01	NI.110513.172010	11/05/13 17:20	01
MPL 13-1013-2	L13101868-02	NI.110513.172927	11/05/13 17:29	01
MPL 1-1013-1	L13101868-03	NI.110513.173231	11/05/13 17:32	01
MPL 18-1013-1	L13101868-04	NI.110513.173536	11/05/13 17:35	01
MPL 6-1013-1	L13101868-05	NI.110513.173840	11/05/13 17:38	01

Report Name: BLANK_SUMMARY
PDF File ID: 3185557
Report generated 11/06/2013 07:53

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/01/13 11:33 Sample ID: WG451123-02
Instrument ID: ICP-MS2 Run Date: 11/05/13 16:18 Prep Method: 3015
File ID: NI.110513.161830 Analyst: JYH Method: 6020
Workgroup (AAB#): WG451378 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-MS-05-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Barium, Total	0.00150	0.00300	0.00150	1	U
Cadmium, Total	0.000300	0.000600	0.000300	1	U
Chromium, Total	0.00100	0.00200	0.00100	1	U
Cobalt, Total	0.000500	0.00100	0.000500	1	U
Copper, Total	0.00100	0.00200	0.00100	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Manganese, Total	0.00100	0.00200	0.00100	1	U
Nickel, Total	0.00200	0.00400	0.00200	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Silver, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3185558
06-NOV-2013 07:53

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451123-03
Instrument ID: ICP-MS2 Run Time: 16:21 Prep Method: 3015
File ID: NI.110513.162135 Analyst: JYH Method: 6020
Workgroup (AAB#): WG451378 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD60087 Cal ID: ICP-MS-05-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0627	100	80 - 120	
Arsenic, Total	0.0625	0.0655	105	80 - 120	
Barium, Total	0.0625	0.0645	103	80 - 120	
Cadmium, Total	0.0625	0.0659	105	80 - 120	
Chromium, Total	0.0625	0.0636	102	80 - 120	
Cobalt, Total	0.0625	0.0659	106	80 - 120	
Copper, Total	0.0625	0.0672	108	80 - 120	
Lead, Total	0.0625	0.0666	107	80 - 120	
Manganese, Total	0.0625	0.0678	108	80 - 120	
Nickel, Total	0.0625	0.0650	104	80 - 120	
Selenium, Total	0.0625	0.0631	101	80 - 120	
Silver, Total	0.0625	0.0698	112	80 - 120	
Thallium, Total	0.0625	0.0646	103	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 3185559
Report generated: 11/06/2013 07:53

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L13101868 Cal ID: ICP-MS2- Worknum: WG451378
Instrument ID: ICP-MS2 Contract #: Method: 6020
Parent ID: WG451123-01 File ID: NI.110513.162439 Dil: 1 Matrix: WATER
Sample ID: WG451123-04 MS File ID: NI.110513.162744 Dil: 1 Units: mg/L
Sample ID: WG451123-05 MSD File ID: NI.110513.163048 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	ND	0.0625	0.0619	99.1	0.0625	0.0618	98.9	0.175	80 - 120	20	
Arsenic, Total	0.0124	0.0625	0.0753	101	0.0625	0.0755	101	0.223	80 - 120	20	
Barium, Total	0.0574	0.0625	0.120	99.8	0.0625	0.120	100	0.123	80 - 120	20	
Cadmium, Total	ND	0.0625	0.0653	105	0.0625	0.0654	105	0.116	80 - 120	20	
Chromium, Total	ND	0.0625	0.0621	99.3	0.0625	0.0615	98.5	0.840	80 - 120	20	
Cobalt, Total	0.00133	0.0625	0.0655	103	0.0625	0.0655	103	0.0874	80 - 120	20	
Copper, Total	ND	0.0625	0.0651	104	0.0625	0.0649	104	0.304	80 - 120	20	
Lead, Total	ND	0.0625	0.0656	105	0.0625	0.0658	105	0.228	80 - 120	20	
Manganese, Total	0.0969	0.0625	0.157	96.6	0.0625	0.158	97.1	0.178	80 - 120	20	
Nickel, Total	ND	0.0625	0.0637	102	0.0625	0.0631	101	0.981	80 - 120	20	
Selenium, Total	ND	0.0625	0.0592	94.7	0.0625	0.0597	95.5	0.874	80 - 120	20	
Silver, Total	ND	0.0625	0.0682	109	0.0625	0.0680	109	0.313	80 - 120	20	
Thallium, Total	ND	0.0625	0.0640	102	0.0625	0.0645	103	0.782	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_MS_MSD_DRYWT - Modified 05/26/2011
PDF File ID: 3191770
Report generated 11/08/2013 12:41

Microbac Laboratories Inc.
Serial Dilution Report

Login: L13101868 **Worknum:** WG451378
Instrument: ICP-MS2 **Method:** 6020
Serial Dil: WG451378-02 **File ID:** NI.110513.164312 **Dil:** 5 **Units:** ug/L
Sample: L13101769-14 **File ID:** NI.110513.163703 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	ND	U	ND	U		
Barium	ND	U	ND	U		
Cadmium	ND	U	ND	U		
Chromium	ND	U	ND	U		
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Lead	ND	U	ND	U		
Manganese	ND	U	ND	U		
Nickel	ND	U	ND	U		
Selenium	ND	U	ND	U		
Silver	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 100 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 3185554
11/06/2013 07:52

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L13101868 **Worknum:** WG451378
Instrument ID: ICP-MS2 **Method:** 6020
Post Spike ID: WG451378-01 **File ID:** NI.110513.164008 **Dil:** 1 **Units:** ug/L
Sample ID: L13101769-14 **File ID:** NI.110513.163703 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	48.0		0	U	50	96.0	75 - 125	
ARSENIC	49.5		0	U	50	99.1	75 - 125	
BARIUM	51.6		0	U	50	103.2	75 - 125	
CADMIUM	52.7		0	U	50	105.4	75 - 125	
CHROMIUM	51.9		0	U	50	103.7	75 - 125	
COBALT	52.9		0	U	50	105.9	75 - 125	
COPPER	52.6		0	U	50	105.3	75 - 125	
LEAD	52.9		0	U	50	105.9	75 - 125	
MANGANESE	53.8		0	U	50	107.7	75 - 125	
NICKEL	51.4		0	U	50	102.8	75 - 125	
SELENIUM	46.7		0	U	50	93.3	75 - 125	
SILVER	61.1		0	U	50	122.2	75 - 125	
THALLIUM	51.5		0	U	50	103.0	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 3185555
Report generated: 11/06/2013 07:52

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L13101868**	Workgroup (AAB#):	**WG451378**
Analytical Method:	**6020**	Instrument ID:	**ICP-MS2**
ICAL Worknum:	**WG451556**	Initial Calibration Date:	**05-NOV-2013 10:02**

	WG451556-01		WG451556-02		WG451556-03		WG451556-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ANTIMONY	0	21.1	.4	206	50	182000	100	364000	.999992	
ARSENIC	0	-298	.4	-195	50	73000	100	147000	.999997	
BARIUM	0	11.3	.4	134	50	103000	100	206000	.999977	
CADMIUM	0	1.70	.4	119	50	113000	100	223000	.999927	
CHROMIUM	0	3400	.4	3770	50	268000	100	532000	.999999	
COBALT	0	109	.4	419	50	311000	100	610000	.999945	
COPPER	0	94.7	.4	228	50	119000	100	234000	.999947	
LEAD	0	255	.4	599	50	325000	100	641000	.999998	
MANGANESE	0	974	.4	1560	50	505000	100	992000	.999959	
NICKEL	0	197	.4	316	50	121000	100	240000	.999982	
SELENIUM	0	-54.5	.4	-38.6	50	7760	100	15500	.999994	
SILVER	0	58.0	.4	380	50	325000	100	642000	.999937	
THALLIUM	0	1.70	.4	350	50	338000	100	664000	.999993	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
*** = Out of Compliance; R < 0.995**

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 3185562
Report generated: 06-NOV-2013 07:53

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451556-06
Instrument ID: ICP-MS2
Run Time: 10:08
Method: 6020
File ID: NI.110513.100818
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG451378
Cal ID: ICP-MS2 - 05-NOV-13
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
SILVER	.2	.4	.2	U
ARSENIC	.2	.4	.2	U
BARIUM	.6	1.2	.6	U
CADMIUM	.12	.24	.12	U
COBALT	.2	.4	.2	U
CHROMIUM	.4	.8	.4	U
COPPER	.4	.8	.4	U
MANGANESE	.4	.8	.4	U
NICKEL	.8	1.6	.8	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 3185564
Report generated 11/06/2013 07:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451556-11
Instrument ID: ICP-MS2
Run Time: 10:23
Method: 6020
File ID: NI.110513.102344
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG451378
Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3185567
Report generated 11/06/2013 07:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451556-32
Instrument ID: ICP-MS2
Run Time: 16:11
Method: 6020
File ID: NI.110513.161101
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG451378
Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451556-34
Instrument ID: ICP-MS2 Run Time: 16:49 Method: 6020
File ID: NI.110513.164923 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG451378 Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Report generated 11/06/2013 07:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451556-36
Instrument ID: ICP-MS2
Run Time: 17:26
Method: 6020
File ID: NI.110513.172621
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG451378
Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451556-38
Instrument ID: ICP-MS2
Run Time: 17:44
Method: 6020
File ID: NI.110513.174450
Analyst: JYH
Units: ug/L
Workgroup (AAB#): WG451378
Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Barium	0.600	1.20	0.600	U
Cadmium	0.120	0.240	0.120	U
Chromium	0.400	0.800	0.400	U
Cobalt	0.200	0.400	0.200	U
Copper	0.400	0.800	0.400	U
Lead	0.200	0.400	0.200	U
Manganese	0.400	0.800	0.400	U
Nickel	0.800	1.60	0.800	U
Selenium	0.200	0.400	0.200	U
Silver	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451556-05
Instrument ID: ICP-MS2 Run Time: 10:05 Method: 6020
File ID: NI.110513.100511 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG451378 Cal ID: ICP-MS - 05-NOV-13
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Antimony		50	50.3	101	90 - 110	
Arsenic		50	49.5	99.0	90 - 110	
Barium		50	49.9	99.8	90 - 110	
Cadmium		50	49.5	99.1	90 - 110	
Chromium		50	48.9	97.8	90 - 110	
Cobalt		50	49.0	98.0	90 - 110	
Copper		50	49.6	99.1	90 - 110	
Lead		50	49.4	98.7	90 - 110	
Manganese		50	49.3	98.6	90 - 110	
Nickel		50	49.3	98.7	90 - 110	
Selenium		50	50.0	99.9	90 - 110	
Silver		50	49.6	99.1	90 - 110	
Thallium		50	49.2	98.4	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 3185563
Report generated 11/06/2013 07:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451556-10
Instrument ID: ICP-MS2 Run Time: 10:20 Method: 6020
File ID: NI.110513.102039 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG451378 Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		0.0500	0.0503	mg/L	101	90 - 110		
Arsenic		0.0500	0.0499	mg/L	99.7	90 - 110		
Barium		0.0500	0.0502	mg/L	100	90 - 110		
Cadmium		0.0500	0.0502	mg/L	100	90 - 110		
Chromium		0.0500	0.0496	mg/L	99.2	90 - 110		
Cobalt		0.0500	0.0502	mg/L	100	90 - 110		
Copper		0.0500	0.0502	mg/L	100	90 - 110		
Lead		0.0500	0.0495	mg/L	98.9	90 - 110		
Manganese		0.0500	0.0501	mg/L	100	90 - 110		
Nickel		0.0500	0.0495	mg/L	99.1	90 - 110		
Selenium		0.0500	0.0501	mg/L	100	90 - 110		
Silver		0.0500	0.0508	mg/L	102	90 - 110		
Thallium		0.0500	0.0499	mg/L	99.8	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3185566
Report generated 11/06/2013 07:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451556-31
Instrument ID: ICP-MS2 Run Time: 16:07 Method: 6020
File ID: NI.110513.160757 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG451378 Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		0.0500	0.0486	mg/L	97.2	90 - 110		
Arsenic		0.0500	0.0512	mg/L	102	90 - 110		
Barium		0.0500	0.0504	mg/L	101	90 - 110		
Cadmium		0.0500	0.0525	mg/L	105	90 - 110		
Chromium		0.0500	0.0495	mg/L	99.0	90 - 110		
Cobalt		0.0500	0.0506	mg/L	101	90 - 110		
Copper		0.0500	0.0508	mg/L	102	90 - 110		
Lead		0.0500	0.0516	mg/L	103	90 - 110		
Manganese		0.0500	0.0517	mg/L	103	90 - 110		
Nickel		0.0500	0.0503	mg/L	101	90 - 110		
Selenium		0.0500	0.0488	mg/L	97.5	90 - 110		
Silver		0.0500	0.0542	mg/L	108	90 - 110		
Thallium		0.0500	0.0504	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451556-33
Instrument ID: ICP-MS2 Run Time: 16:46 Method: 6020
File ID: NI.110513.164619 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG451378 Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		0.0500	0.0488	mg/L	97.7	90 - 110		
Arsenic		0.0500	0.0517	mg/L	103	90 - 110		
Barium		0.0500	0.0513	mg/L	103	90 - 110		
Cadmium		0.0500	0.0532	mg/L	106	90 - 110		
Chromium		0.0500	0.0509	mg/L	102	90 - 110		
Cobalt		0.0500	0.0518	mg/L	104	90 - 110		
Copper		0.0500	0.0520	mg/L	104	90 - 110		
Lead		0.0500	0.0524	mg/L	105	90 - 110		
Manganese		0.0500	0.0523	mg/L	105	90 - 110		
Nickel		0.0500	0.0513	mg/L	103	90 - 110		
Selenium		0.0500	0.0497	mg/L	99.4	90 - 110		
Silver		0.0500	0.0545	mg/L	109	90 - 110		
Thallium		0.0500	0.0513	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451556-35
Instrument ID: ICP-MS2 Run Time: 17:23 Method: 6020
File ID: NI.110513.172316 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG451378 Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		0.0500	0.0482	mg/L	96.4	90 - 110		
Arsenic		0.0500	0.0500	mg/L	99.9	90 - 110		
Barium		0.0500	0.0502	mg/L	100	90 - 110		
Cadmium		0.0500	0.0520	mg/L	104	90 - 110		
Chromium		0.0500	0.0479	mg/L	95.9	90 - 110		
Cobalt		0.0500	0.0500	mg/L	99.9	90 - 110		
Copper		0.0500	0.0501	mg/L	100	90 - 110		
Lead		0.0500	0.0514	mg/L	103	90 - 110		
Manganese		0.0500	0.0502	mg/L	100	90 - 110		
Nickel		0.0500	0.0498	mg/L	99.7	90 - 110		
Selenium		0.0500	0.0475	mg/L	95.1	90 - 110		
Silver		0.0500	0.0538	mg/L	108	90 - 110		
Thallium		0.0500	0.0500	mg/L	99.9	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/05/2013
Sample ID: WG451556-37
Instrument ID: ICP-MS2
Run Time: 17:41
Method: 6020
File ID: NI.110513.174145
Analyst: JYH
QC Key: DOD4
Workgroup (AAB#): WG451378
Cal ID: ICP-MS - 05-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Antimony		0.0500	0.0486	mg/L	97.2	90 - 110		
Arsenic		0.0500	0.0508	mg/L	102	90 - 110		
Barium		0.0500	0.0513	mg/L	103	90 - 110		
Cadmium		0.0500	0.0528	mg/L	106	90 - 110		
Chromium		0.0500	0.0504	mg/L	101	90 - 110		
Cobalt		0.0500	0.0525	mg/L	105	90 - 110		
Copper		0.0500	0.0510	mg/L	102	90 - 110		
Lead		0.0500	0.0529	mg/L	106	90 - 110		
Manganese		0.0500	0.0519	mg/L	104	90 - 110		
Nickel		0.0500	0.0502	mg/L	100	90 - 110		
Selenium		0.0500	0.0481	mg/L	96.2	90 - 110		
Silver		0.0500	0.0550	mg/L	110	90 - 110		
Thallium		0.0500	0.0517	mg/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L13101868
Instrument ID: ICP-MS2
Sol. A : WG451556-08 **File ID:** NI.110513.101428
Sol. AB : WG451556-09 **File ID:** NI.110513.101733

Workgroup (AAB#): WG451378
Method: 6020
Units: ug/L
Matrix: Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Antimony	NS	0.0475	NS	100	102	102	
Arsenic	NS	-0.0159	NS	100	102	102	
Barium	NS	0.0419	NS	100	101	101	
Cadmium	NS	-0.0228	NS	100	101	101	
Chromium	NS	0.0526	NS	100	97.7	97.7	
Cobalt	NS	0.0329	NS	100	98.7	98.7	
Copper	NS	0.240	NS	100	98.3	98.3	
Lead	NS	0.0282	NS	100	98.6	98.6	
Manganese	NS	0.0540	NS	100	97.5	97.5	
Nickel	NS	0.353	NS	100	98.3	98.3	
Selenium	NS	-0.0961	NS	100	102	102	
Silver	NS	0.0178	NS	100	99.3	99.3	
Thallium	NS	0.0310	NS	100	98.8	98.8	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).
+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
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Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L13101868 **Analytical Method:** 6020
Analytical Workgroup: WG451378 **Matrix:** 1
Instrument: ICP-MS2 **Analyst:** JYH
ICAL Date: 05-NOV-2013 09:52

			BISMUTH	GERMANIUM	INDIUM	LITHIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec	% Rec
L13101769-14	SAMP	05-NOV-2013 16:37	89.785	101.21	94.063	112.736
L13101868-01	SAMP	05-NOV-2013 17:20	88.556	100.207	92.583	112.386
L13101868-02	SAMP	05-NOV-2013 17:29	88.356	101.576	92.814	113.725
L13101868-03	SAMP	05-NOV-2013 17:32	87.731	100.426	91.998	112.856
L13101868-04	SAMP	05-NOV-2013 17:35	87.729	101.417	92.668	111.301
L13101868-05	SAMP	05-NOV-2013 17:38	88.76	101.805	93.409	113.543
WG451123-01	REF	05-NOV-2013 16:24	88.424	99.335	92.376	107.119
WG451123-02	BLANK	05-NOV-2013 16:18	77.484	80.185	76.947	87.181
WG451123-03	LCS	05-NOV-2013 16:21	86.252	94.973	89.519	104.523
WG451123-04	MS	05-NOV-2013 16:27	89.089	98.34	91.898	106.424
WG451123-05	MSD	05-NOV-2013 16:30	90.327	101.313	94.311	108.97
WG451378-01	PSPK	05-NOV-2013 16:40	93.638	107.238	98.434	119.128
WG451378-02	SERIAL	05-NOV-2013 16:43	83.611	89.433	83.736	98.99
WG451556-05	ICV	05-NOV-2013 10:05	101.394	105.186	104.277	104.631
WG451556-06	ICB	05-NOV-2013 10:08	98.59	99.356	98.691	99.665
WG451556-07	LLICV	05-NOV-2013 10:11	99.403	101.055	99.985	103.726
WG451556-08	ICS	05-NOV-2013 10:14	91.622	91.512	90.378	89.337
WG451556-09	ICS	05-NOV-2013 10:17	98.892	102.134	101.329	102.259
WG451556-10	CCV	05-NOV-2013 10:20	100.872	104.843	103.557	104.621
WG451556-11	CCB	05-NOV-2013 10:23	97.908	99.61	98.801	102.15
WG451556-20	LLCCV	05-NOV-2013 13:20	96.781	105.944	100.998	112.202
WG451556-31	CCV	05-NOV-2013 16:07	87.234	95.974	90.801	103.48
WG451556-32	CCB	05-NOV-2013 16:11	84.275	91.84	86.785	101.727
WG451556-33	CCV	05-NOV-2013 16:46	90.466	101.038	95.225	110.661
WG451556-34	CCB	05-NOV-2013 16:49	88.085	96.053	90.463	105.23
WG451556-35	CCV	05-NOV-2013 17:23	88.85	100.718	93.029	110.615
WG451556-36	CCB	05-NOV-2013 17:26	85.805	95.913	90.679	107.191
WG451556-37	CCV	05-NOV-2013 17:41	88.408	101.643	93.814	111.978
WG451556-38	CCB	05-NOV-2013 17:44	85.248	94.457	88.782	107.831
WG451556-45	LLCCV	05-NOV-2013 19:35	84.14	98.006	89.413	107.835

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
PDF File ID: 3185561
Report generated: 11/06/2013 07:53

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L13101868 **Date:** 07/25/2013
Insturment ID: ICP-MS2 **Method:** 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:
All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 3185560
Report generated: 11/06/2013 07:53

2.1.2.3 Raw Data

MassCal File Name

Mass Calibration File Name Default.tun
MassCal File Path C:\NexIONData\MassCal\Default.tun
Peak Search Window: 1.00

Sample Information

Sample Date/Time: Tuesday, November 05, 2013 09:32:21

Mass Calibration and Resolution

Analyte	E Mass	Meas Mass	Mass C DAC Val	Res DAC Value	Meas Peak WCustom Res
Li	7.016	7.025	1345	2025	0.693
Mg	23.985	24.025	4509	2021	0.684
Co	58.933	58.925	11689	2020	0.710
In	114.904	114.925	22861	2026	0.701
U	238.050	238.025	47454	2039	0.711

Relative Std. Dev.

Mass	Meas. Intens. RSD
5.525	3.313
5.575	2.911
5.625	2.658
5.675	2.817
5.725	2.572
5.775	2.363
5.825	1.425
5.875	2.091
5.925	2.472
5.975	1.175
6.025	1.466
6.075	2.088
6.125	1.758
6.175	15.215
6.225	94.786
6.275	34.233
6.325	108.327
6.375	20.000
6.425	17.588
6.475	3.821
6.525	7.653
6.575	4.879
6.625	5.461
6.675	4.232
6.725	1.846
6.775	1.620
6.825	2.999

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Approved: November 06, 2013

6.875	3.072
6.925	3.021
6.975	1.915
7.025	0.702
7.075	1.956
7.125	1.763
7.175	1.907
7.225	4.438
7.275	43.241
7.325	81.441
7.375	39.123
7.425	104.583
7.475	69.722
7.525	108.327
7.575	91.287
7.625	136.931
7.675	141.421
7.725	104.583
7.775	108.653
7.825	46.481
7.875	136.931
7.925	81.441
7.975	136.931
8.025	104.583
8.075	122.475
8.125	81.441
8.175	81.441
8.225	91.287
8.275	122.475
8.325	70.711
8.375	37.268
8.425	91.287
8.475	104.583
22.525	69.722
22.575	46.481
22.625	15.972
22.675	34.401
22.725	28.085
22.775	25.913
22.825	42.310
22.875	32.165
22.925	34.494
22.975	21.126
23.025	35.315
23.075	19.357
23.125	12.783
23.175	21.102

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23.225	45.291
23.275	12.783
23.325	33.840
23.375	22.822
23.425	30.277
23.475	26.059
23.525	3.470
23.575	0.891
23.625	2.948
23.675	2.216
23.725	1.965
23.775	2.349
23.825	2.399
23.875	2.160
23.925	2.049
23.975	1.793
24.025	1.130
24.075	1.721
24.125	1.653
24.175	1.980
24.225	1.407
24.275	2.003
24.325	19.475
24.375	55.902
24.425	9.317
24.475	12.917
24.525	6.612
24.575	4.528
24.625	1.591
24.675	2.840
24.725	1.625
24.775	2.258
24.825	1.547
24.875	1.758
24.925	2.644
24.975	2.402
25.025	2.234
25.075	1.674
25.125	1.809
25.175	1.679
25.225	1.011
25.275	9.419
25.325	72.436
25.375	56.845
25.425	63.474
25.475	19.417
57.525	9.043

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57.575	3.831
57.625	4.024
57.675	3.766
57.725	2.799
57.775	2.361
57.825	1.908
57.875	2.058
57.925	2.291
57.975	2.135
58.025	3.011
58.075	1.416
58.125	0.964
58.175	3.580
58.225	4.954
58.275	5.168
58.325	35.972
58.375	42.127
58.425	22.017
58.475	8.655
58.525	6.867
58.575	1.680
58.625	1.258
58.675	0.635
58.725	1.575
58.775	1.090
58.825	1.458
58.875	0.953
58.925	2.543
58.975	2.819
59.025	2.788
59.075	1.816
59.125	1.111
59.175	2.028
59.225	3.475
59.275	20.966
59.325	46.351
59.375	60.858
59.425	52.524
59.475	17.661
59.525	3.943
59.575	5.118
59.625	2.924
59.675	5.365
59.725	5.912
59.775	5.513
59.825	4.490
59.875	6.374

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59.925	5.512
59.975	4.523
60.025	4.287
60.075	4.547
60.125	2.828
60.175	2.423
60.225	11.625
60.275	31.455
60.325	51.602
60.375	30.619
60.425	106.863
60.475	58.685
113.525	26.280
113.575	11.301
113.625	6.411
113.675	4.093
113.725	2.637
113.775	3.836
113.825	1.396
113.875	1.803
113.925	2.079
113.975	1.040
114.025	3.090
114.075	3.001
114.125	1.065
114.175	3.794
114.225	6.572
114.275	19.046
114.325	9.301
114.375	62.906
114.425	12.599
114.475	8.061
114.525	10.975
114.575	3.605
114.625	1.945
114.675	1.855
114.725	1.183
114.775	2.165
114.825	0.558
114.875	1.562
114.925	0.971
114.975	1.165
115.025	1.167
115.075	0.838
115.125	1.966
115.175	2.501
115.225	1.584

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115.275	2.748
115.325	10.710
115.375	53.138
115.425	46.481
115.475	54.128
115.525	29.715
115.575	6.401
115.625	5.074
115.675	6.449
115.725	7.224
115.775	11.525
115.825	4.807
115.875	5.120
115.925	5.380
115.975	4.663
116.025	3.728
116.075	3.254
116.125	4.212
116.175	6.396
116.225	10.148
116.275	11.807
116.325	41.714
116.375	31.672
116.425	46.566
116.475	54.294
236.525	
236.575	47.128
236.625	22.978
236.675	42.127
236.725	32.443
236.775	19.764
236.825	19.955
236.875	24.549
236.925	36.422
236.975	56.689
237.025	19.245
237.075	21.812
237.125	24.495
237.175	42.492
237.225	52.524
237.275	45.199
237.325	21.066
237.375	44.947
237.425	24.845
237.475	19.285
237.525	12.174
237.575	19.981

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237.625	6.361
237.675	7.604
237.725	3.846
237.775	1.296
237.825	2.264
237.875	2.707
237.925	1.915
237.975	2.058
238.025	1.788
238.075	1.428
238.125	1.555
238.175	1.594
238.225	1.267
238.275	1.750
238.325	1.457
238.375	2.448
238.425	5.493
238.475	5.872
238.525	22.315
238.575	49.454
238.625	41.110
238.675	52.736
238.725	52.489
238.775	11.620
238.825	15.135
238.875	33.919
238.925	33.912
238.975	20.039
239.025	28.384
239.075	31.417
239.125	43.279
239.175	41.211
239.225	26.146
239.275	48.247
239.325	33.503
239.375	33.185
239.425	21.858
239.475	24.661

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Daily Performance Report

Sample ID: Daily Performance Check
Sample Date/Time: Tuesday, November 05, 2013 09:36:41
Sample Description:
Method File: C:\NexION Data\Method\ESI Daily Performance.mth
Dataset File: C:\NexION Data\DataSet\102813\Daily Performance Check.603
MassCal File: C:\NexION Data\MassCal\Default.tun
Conditions File: C:\NexION Data\Conditions\Default.dac
Dual Detector Mode: Pulse

Acq. Dead Time (ns): 33
Current Dead Time (ns): 33

Torch Z position (mm): 0.50

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	5346.1	5346.143	57.194	1.1	Standard
	Mg	24.0	544790.1	544790.141	5041.454	0.9	Standard
	In	114.9	75064.6	75064.576	964.878	1.3	Standard
	U	238.1	50097.9	50097.898	657.865	1.3	Standard
⌈	CeO	155.9	1713.3	0.018	0.000	1.5	Standard
| >	Ce	139.9	95198.3	95198.295	1048.173	1.1	Standard
⌊	Ce++	70.0	826.1	0.009	0.000	3.5	Standard
	Bkgd	220.0	0.0	0.000	0.000		Standard

Current Conditions File Data

Current Value	Description
0.92	Nebulizer Gas Flow STD/KED [NEB]
1.40	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-8.25	Deflector Voltage
1600.00	ICP RF Power
-1712.00	Analog Stage Voltage
900.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-15.00	Cell Rod Offset STD [CRO]
5.00	Discriminator Threshold
-2.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
1.01	DRC Mode NEB
-7.00	DRC Mode QRO
-1.50	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.70	Cell Gas A
200.00	Axial Field Voltage
-17.00	KED Mode CRO
-12.00	KED Mode QRO
-5.00	KED Mode Cell Entrance Voltage
-23.00	KED Mode Cell Exit Voltage
3.00	KED Cell Gas A
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Sample ID: Daily Performance Check
Report Date/Time: Tuesday, November 05, 2013 09:38:44
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SmartTune Wizard - Summary

```
Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 11/5/2013 9:36:40 AM
End Time: 11/5/2013 9:38:45 AM

Daily Performance Check - [Passed]  Optimum value(s): N/A
        Obtained Intensity (Be 9.0122): 5346.14
        Obtained Intensity (Mg 23.985): 544790.14
        Obtained Intensity (In 114.904): 75064.58
        Obtained Intensity (U 238.05): 50097.90
        Obtained Intensity (Bkgd 220): 0.00
        Obtained Formula (CeO 155.9 / Ce 139.905): 0.018 (=1713.30 / 95198.30)
        Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.009 (=826.09 / 95198.30)
```

Report Date/Time: Tuesday, November 05, 2013 09:38:45
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SmartTune Wizard - Details

```
Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 11/5/2013 9:36:40 AM

Daily Performance Check
        Optimization Settings:
                Method: C:\NexIONData\Method\ESI Daily Performance.mth.
                Intensity Criterion: Be 9.0122 > 2000
                Intensity Criterion: Mg 23.985 > 15000
                Intensity Criterion: In 114.904 > 40000
                Intensity Criterion: U 238.05 > 30000
                Intensity Criterion: Bkgd 220 <= 5
                Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.025
                Formula Criterion: Ce++ 69.9527 / Ce 139.905 <= 0.03

        Optimization Results:
        Initial Try
                Obtained Intensity (Be 9.0122): 5346.14
                Obtained Intensity (Mg 23.985): 544790.14
                Obtained Intensity (In 114.904): 75064.58
                Obtained Intensity (U 238.05): 50097.90
                Obtained Intensity (Bkgd 220): 0.00
                Obtained Formula (CeO 155.9 / Ce 139.905): 0.018 (=1713.30 / 95198.30)
                Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.009 (=826.09 / 95198.30)
[Passed]  Optimum value(s): N/A

End Time: 11/5/2013 9:38:45 AM
```


Approved: November 06, 2013

Method 6020 - Summary Report

Sample ID: Blank
Sample Date/Time: Tuesday, November 05, 2013 09:49:43
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	199689.0	0.4				ug/L		Standard
	Be	9	21.7	13.3				ug/L		Standard
	Al	27	615.0	10.8				ug/L		Standard
	Sc	45	46335.8	2.8				ug/L		Standard
	Ti	47	20.3	11.4				ug/L		Standard
	V	51	893.1	1.8				ug/L		Standard
	Cr	52	3436.1	2.2				ug/L		Standard
	Cr	53	325.0	13.8				ug/L		Standard
	Mn	55	948.7	0.9				ug/L		Standard
	Co	59	108.7	4.6				ug/L		Standard
	Ni	60	187.3	8.1				ug/L		Standard
	Cu	65	94.7	5.8				ug/L		Standard
	Zn	66	319.7	9.3				ug/L		Standard
>	Ge	72	478028.3	3.0				ug/L		Standard
	As	75	-247.4	5.2				ug/L		Standard
	Se	82	-44.8	11.0				ug/L		Standard
	Se-1	77	101.0	9.5				ug/L		Standard
>	Ga	71	38.3	7.5				mg/L		Standard
	Rb	85	26.7	21.7				ug/L		Standard
	Y	89	457712.1	1.8				ug/L		Standard
>	Rh	103	6.7	43.3				ug/L		Standard
	Mo	98	7.4	42.0				ug/L		Standard
	Ag	107	60.0	13.0				ug/L		Standard
	Cd	111	2.0	50.6				mg/L		Standard
	Cd	114	28.3	9.8				ug/L		Standard
>	In	115	514606.9	4.3				ug/L		Standard
	Sn	118	124.7	3.8				ug/L		Standard
	Sb	123	13.6	18.4				ug/L		Standard
	Ba	135	9.7	39.2				ug/L		Standard
	Ce	140	25.0	0.0				ug/L		Standard
>	Tb	159	648945.9	1.4				ug/L		Standard
	Ho	165	1.7	173.2				ug/L		Standard
	Tl	203	4.0	50.0				ug/L		Standard
	Tl	205	0.0					ug/L		Standard
	Pb	206	113.0	8.5				ug/L		Standard
	Pb	207	88.0	7.1				ug/L		Standard
	Pb	208	233.0	9.9				ug/L		Standard
	U	238	0.7	86.6				ug/L		Standard
>	Bi	209	321163.0	3.7				ug/L		Standard

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	Na	23	1.7	173.2	mg/L	Standard
	Mg	24	48.3	15.8	mg/L	Standard
	K	39	1.7	173.2	mg/L	Standard
	Ca	43	38.3	65.7	mg/L	Standard
	Fe	54	217.9	9.4	mg/L	Standard
	Fe	57	283.3	21.1	mg/L	Standard
>	**Sc-1**	45	46335.8	2.8	mg/L	Standard
	Cl	35	7415.1	0.7	ug/L	Standard
	Kr	83	106.3	3.9	ug/L	Standard
	Br	81	2366.9	7.2	ug/L	Standard
	P	31	257842.5	3.8	ug/L	Standard
	S	34	25965.6	3.2	ug/L	Standard
	Sr	88	91.7	44.1	ug/L	Standard
	C	12	10.0		mg/L	Standard
	N	14	0.0		mg/L	Standard
	Hg	202	0.0		mg/L	Standard
	Dy	164	9.5	186.4	mg/L	Standard
	Ho-1	165	1.7	173.2	mg/L	Standard
	Er	166	10.0	173.2	mg/L	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72			
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89
⌊>	Rh	103
⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Tuesday, November 05, 2013 09:52:49
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	203613.0	2.7				ug/L	199689	Standard
	Be	9	23.3	53.9				ug/L	22	Standard
	Al	27	556.7	3.4				ug/L	615	Standard
	Sc	45	46681.9	4.6				ug/L	46336	Standard
	Ti	47	18.7	20.3				ug/L	20	Standard
	V	51	871.1	3.7				ug/L	893	Standard
	Cr	52	3404.0	1.2				ug/L	3436	Standard
	Cr	53	300.0	3.3				ug/L	325	Standard
	Mn	55	974.4	4.7				ug/L	949	Standard
	Co	59	108.7	11.7				ug/L	109	Standard
	Ni	60	197.0	2.7				ug/L	187	Standard
	Cu	65	94.7	7.8				ug/L	95	Standard
	Zn	66	329.0	6.5				ug/L	320	Standard
>	**Ge**	72	478333.8	3.5				ug/L	478028	Standard
	As	75	-297.8	15.3				ug/L	-247	Standard
	Se	82	-54.5	31.0				ug/L	-45	Standard
	Se-1	77	103.0	5.4				ug/L	101	Standard
>	**Ga**	71	41.7	18.3				mg/L	38	Standard
	Rb	85	15.0	33.3				ug/L	27	Standard
	Y	89	457784.6	4.8				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	5.8	32.5				ug/L	7	Standard
	Ag	107	58.0	19.2				ug/L	60	Standard
	Cd	111	1.7	34.8				mg/L	2	Standard
	Cd	114	14.8	47.1				ug/L	28	Standard
>	**In**	115	513519.4	2.8				ug/L	514607	Standard
	Sn	118	131.7	19.0				ug/L	125	Standard
	Sb	123	21.1	51.6				ug/L	14	Standard
	Ba	135	11.3	10.2				ug/L	10	Standard
	Ce	140	6.7	43.3				ug/L	25	Standard
>	**Tb**	159	655415.0	2.9				ug/L	648946	Standard
	Ho	165	6.7	43.3				ug/L	2	Standard
	Tl	203	1.7	69.3				ug/L	4	Standard
	Tl	205	3.3	86.6				ug/L	0	Standard
	Pb	206	109.7	1.9				ug/L	113	Standard
	Pb	207	91.7	8.8				ug/L	88	Standard
	Pb	208	255.3	9.1				ug/L	233	Standard
	U	238	1.0	173.2				ug/L	1	Standard
>	**Bi**	209	321062.3	3.2				ug/L	321163	Standard

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	Na	23	0.0		mg/L	2	Standard
	Mg	24	30.0	16.7	mg/L	48	Standard
	K	39	8.3	91.7	mg/L	2	Standard
	Ca	43	40.0	45.1	mg/L	38	Standard
	Fe	54	212.5	15.3	mg/L	218	Standard
	Fe	57	243.3	16.5	mg/L	283	Standard
>	**Sc-1**	45	46681.9	4.6	mg/L	46336	Standard
	Cl	35	7496.5	1.6	ug/L	7415	Standard
	Kr	83	103.7	13.3	ug/L	106	Standard
	Br	81	2266.8	5.1	ug/L	2367	Standard
	P	31	253386.7	4.0	ug/L	257843	Standard
	S	34	26010.6	0.9	ug/L	25966	Standard
	Sr	88	95.0	10.5	ug/L	92	Standard
	C	12	0.0		mg/L	10	Standard
	N	14	0.0		mg/L	0	Standard
	Hg	202	3.3	173.2	mg/L	0	Standard
	Dy	164	9.5	181.9	mg/L	10	Standard
	Ho-1	165	6.7	43.3	mg/L	2	Standard
	Er	166	10.0		mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72			
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: Standard 1
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⌈	Y	89
⌊>	Rh	103
⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 1
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Method 6020 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Tuesday, November 05, 2013 09:55:55
Number of Replicates: 3
Autosampler Position: 2
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	204653.5	2.6				ug/L	199689	Standard
	Be	9	126.7	22.8				ug/L	22	Standard
	Al	27	10008.3	2.2				ug/L	615	Standard
	Sc	45	46213.8	3.4				ug/L	46336	Standard
	Ti	47	58.7	20.5				ug/L	20	Standard
	V	51	1168.5	6.0				ug/L	893	Standard
	Cr	52	3771.1	1.1				ug/L	3436	Standard
	Cr	53	363.3	14.7				ug/L	325	Standard
	Mn	55	1560.1	1.4				ug/L	949	Standard
	Co	59	419.0	10.9				ug/L	109	Standard
	Ni	60	316.3	7.4				ug/L	187	Standard
	Cu	65	228.3	2.4				ug/L	95	Standard
	Zn	66	486.7	4.7				ug/L	320	Standard
>	**Ge**	72	481080.3	1.1				ug/L	478028	Standard
	As	75	-195.4	20.9				ug/L	-247	Standard
	Se	82	-38.6	39.2				ug/L	-45	Standard
	Se-1	77	97.7	11.9				ug/L	101	Standard
>	**Ga**	71	41.7	30.2				mg/L	38	Standard
	Rb	85	28.3	27.0				ug/L	27	Standard
	Y	89	463556.0	3.3				ug/L	457712	Standard
>	**Rh**	103	41.7	111.5				ug/L	7	Standard
	Mo	98	342.7	9.6				ug/L	7	Standard
	Ag	107	380.0	3.7				ug/L	60	Standard
	Cd	111	118.8	4.2				mg/L	2	Standard
	Cd	114	353.1	25.1				ug/L	28	Standard
>	**In**	115	519591.7	2.7				ug/L	514607	Standard
	Sn	118	194.7	6.1				ug/L	125	Standard
	Sb	123	206.4	0.7				ug/L	14	Standard
	Ba	135	134.3	8.2				ug/L	10	Standard
	Ce	140	55.0	92.3				ug/L	25	Standard
>	**Tb**	159	661144.3	2.6				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	350.3	3.2				ug/L	4	Standard
	Tl	205	346.7	7.9				ug/L	0	Standard
	Pb	206	251.7	2.8				ug/L	113	Standard
	Pb	207	242.7	5.6				ug/L	88	Standard
	Pb	208	599.0	6.2				ug/L	233	Standard
	U	238	225.7	8.6				ug/L	1	Standard
>	**Bi**	209	325523.3	3.2				ug/L	321163	Standard

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	Na	23	0.0		mg/L	2	Standard
	Mg	24	38.3	65.7	mg/L	48	Standard
	K	39	5.0	0.0	mg/L	2	Standard
	Ca	43	33.3	43.3	mg/L	38	Standard
	Fe	54	199.0	2.4	mg/L	218	Standard
	Fe	57	280.0	14.2	mg/L	283	Standard
>	**Sc-1**	45	46213.8	3.4	mg/L	46336	Standard
	Cl	35	7409.8	1.0	ug/L	7415	Standard
	Kr	83	100.7	13.0	ug/L	106	Standard
	Br	81	2293.5	8.7	ug/L	2367	Standard
	P	31	251470.2	2.0	ug/L	257843	Standard
	S	34	25324.5	1.1	ug/L	25966	Standard
	Sr	88	63.3	16.4	ug/L	92	Standard
	C	12	0.0		mg/L	10	Standard
	N	14	0.0		mg/L	0	Standard
	Hg	202	0.0		mg/L	0	Standard
	Dy	164	3.3	173.2	mg/L	10	Standard
	Ho-1	165	1.7	173.2	mg/L	2	Standard
	Er	166	0.0		mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72			
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89
⌊>	Rh	103
⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: Standard 3
Sample Date/Time: Tuesday, November 05, 2013 09:59:00
Number of Replicates: 3
Autosampler Position: 3
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	213055.7	3.9				ug/L	199689	Standard
	Be	9	112183.8	1.4	**50.0000**	1.661	3.3	ug/L	22	Standard
	Al	27	9751534.2	1.2	**50.0000**	2.509	5.0	ug/L	615	Standard
	Sc	45	50880.3	0.6				ug/L	46336	Standard
	Ti	47	38320.1	0.9	**100.0000**	1.157	1.2	ug/L	20	Standard
	V	51	274974.9	0.2	**50.0000**	0.822	1.6	ug/L	893	Standard
	Cr	52	268103.8	1.9	**50.0000**	0.517	1.0	ug/L	3436	Standard
	Cr	53	57813.4	1.7	**50.0000**	0.935	1.9	ug/L	325	Standard
	Mn	55	504979.6	0.8	**50.0000**	0.850	1.7	ug/L	949	Standard
	Co	59	310877.3	1.4	**50.0000**	1.049	2.1	ug/L	109	Standard
	Ni	60	121287.9	0.6	**50.0000**	0.651	1.3	ug/L	187	Standard
	Cu	65	119280.0	0.8	**50.0000**	0.528	1.1	ug/L	95	Standard
	Zn	66	66288.7	1.0	**50.0000**	0.417	0.8	ug/L	320	Standard
>	**Ge**	72	509907.0	1.8				ug/L	478028	Standard
	As	75	72999.3	0.6	**50.0000**	0.649	1.3	ug/L	-247	Standard
	Se	82	7762.2	1.0	**50.0000**	0.467	0.9	ug/L	-45	Standard
	Se-1	77	4926.1	1.7	**50.0000**	0.987	2.0	ug/L	101	Standard
>	**Ga**	71	76.7	13.6				mg/L	38	Standard
	Rb	85	1245.1	1.8				ug/L	27	Standard
	Y	89	479789.3	3.0				ug/L	457712	Standard
>	**Rh**	103	25.0	69.3				ug/L	7	Standard
	Mo	98	304206.1	0.7	**100.0000**	1.179	1.2	ug/L	7	Standard
	Ag	107	325101.7	1.1	**50.0000**	0.537	1.1	ug/L	60	Standard
	Cd	111	113131.5	1.1	**50.0000**	0.166	0.3	mg/L	2	Standard
	Cd	114	297385.3	1.7	**50.0000**	0.292	0.6	ug/L	28	Standard
>	**In**	115	544246.2	1.4				ug/L	514607	Standard
	Sn	118	67742.1	1.8	**50.0000**	0.219	0.4	ug/L	125	Standard
	Sb	123	181766.5	0.8	**50.0000**	0.465	0.9	ug/L	14	Standard
	Ba	135	103418.1	0.5	**50.0000**	0.465	0.9	ug/L	10	Standard
	Ce	140	53.3	14.3				ug/L	25	Standard
>	**Tb**	159	691114.7	0.9				ug/L	648946	Standard
	Ho	165	6.7	86.6				ug/L	2	Standard
	Tl	203	338389.3	1.6	**50.0000**	0.333	0.7	ug/L	4	Standard
	Tl	205	342390.0	2.3	**50.0000**	0.781	1.6	ug/L	0	Standard
	Pb	206	137836.2	1.3	**50.0000**	0.125	0.2	ug/L	113	Standard
	Pb	207	124152.9	0.6	**50.0000**	0.348	0.7	ug/L	88	Standard
	Pb	208	325285.2	0.9	**50.0000**	0.245	0.5	ug/L	233	Standard
	U	238	213846.9	0.4	**50.0000**	0.449	0.9	ug/L	1	Standard
>	**Bi**	209	331671.8	1.1				ug/L	321163	Standard

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	Na	23	11.7	49.5	**5.0000**	2.480	49.6	mg/L	2	Standard
	Mg	24	5504.3	0.5	**5.0000**	0.047	0.9	mg/L	48	Standard
	K	39	425.0	7.3	**5.0000**	0.380	7.6	mg/L	2	Standard
	Ca	43	96.7	6.0	**5.0000**	0.505	10.1	mg/L	38	Standard
	Fe	54	10041.8	1.3	**5.0000**	0.044	0.9	mg/L	218	Standard
	Fe	57	2980.3	3.0	**5.0000**	0.178	3.6	mg/L	283	Standard
>	**Sc-1**	45	50880.3	0.6				mg/L	46336	Standard
	Cl	35	7657.9	1.6				ug/L	7415	Standard
	Kr	83	103.0	5.4				ug/L	106	Standard
	Br	81	2663.6	2.5				ug/L	2367	Standard
	P	31	319800.5	4.4				ug/L	257843	Standard
	S	34	27738.7	2.4				ug/L	25966	Standard
	Sr	88	58.3	30.1				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	9.7	103.5				mg/L	10	Standard
	Ho-1	165	6.7	86.6				mg/L	2	Standard
	Er	166	6.7	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72			
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89
⌊>	Rh	103
⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: Standard 4
Sample Date/Time: Tuesday, November 05, 2013 10:02:05
Number of Replicates: 3
Autosampler Position: 4
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	215080.7	3.9				ug/L	199689	Standard
	Be	9	230085.9	1.7	**100.7821**	2.759	2.7	ug/L	22	Standard
	Al	27	19577467.8	1.4	**99.6865**	2.502	2.5	ug/L	615	Standard
	Sc	45	51223.1	1.0				ug/L	46336	Standard
	Ti	47	77064.5	1.6	**200.4282**	1.538	0.8	ug/L	20	Standard
	V	51	549624.8	1.5	**99.9777**	0.853	0.9	ug/L	893	Standard
	Cr	52	531933.5	2.3	**99.8723**	1.117	1.1	ug/L	3436	Standard
	Cr	53	115179.6	1.8	**99.8711**	1.409	1.4	ug/L	325	Standard
	Mn	55	992449.6	3.0	**99.0908**	0.698	0.7	ug/L	949	Standard
	Co	59	609824.8	2.5	**98.9552**	0.664	0.7	ug/L	109	Standard
	Ni	60	239858.3	2.3	**99.3966**	0.367	0.4	ug/L	187	Standard
	Cu	65	233988.2	2.8	**98.9731**	1.069	1.1	ug/L	95	Standard
	Zn	66	131794.9	2.1	**99.7937**	0.443	0.4	ug/L	320	Standard
>	**Ge**	72	510691.9	2.3				ug/L	478028	Standard
	As	75	147300.0	2.7	**100.2599**	0.407	0.4	ug/L	-247	Standard
	Se	82	15488.7	1.9	**99.6507**	0.595	0.6	ug/L	-45	Standard
	Se-1	77	9784.5	4.2	**100.0626**	2.236	2.2	ug/L	101	Standard
>	**Ga**	71	85.0	5.9				mg/L	38	Standard
	Rb	85	2308.5	6.6				ug/L	27	Standard
	Y	89	486898.9	1.4				ug/L	457712	Standard
>	**Rh**	103	61.7	18.7				ug/L	7	Standard
	Mo	98	609053.2	2.0	**199.1142**	3.133	1.6	ug/L	7	Standard
	Ag	107	642088.9	2.1	**98.8770**	0.963	1.0	ug/L	60	Standard
	Cd	111	223084.6	1.8	**98.7966**	0.588	0.6	mg/L	2	Standard
	Cd	114	586771.7	1.6	**98.8346**	0.729	0.7	ug/L	28	Standard
>	**In**	115	549676.2	1.5				ug/L	514607	Standard
	Sn	118	132729.9	3.1	**98.5203**	1.648	1.7	ug/L	125	Standard
	Sb	123	364167.2	1.5	**99.5945**	1.208	1.2	ug/L	14	Standard
	Ba	135	206054.3	1.9	**99.3174**	0.353	0.4	ug/L	10	Standard
	Ce	140	90.0	20.0				ug/L	25	Standard
>	**Tb**	159	683038.1	2.3				ug/L	648946	Standard
	Ho	165	15.0	57.7				ug/L	2	Standard
	Tl	203	664299.5	1.7	**99.6382**	0.475	0.5	ug/L	4	Standard
	Tl	205	662353.8	2.2	**98.9144**	2.793	2.8	ug/L	0	Standard
	Pb	206	272180.0	2.2	**99.9475**	0.381	0.4	ug/L	113	Standard
	Pb	207	244406.2	2.4	**99.7923**	0.501	0.5	ug/L	88	Standard
	Pb	208	640688.5	1.6	**99.8220**	0.692	0.7	ug/L	233	Standard
	U	238	426341.5	1.7	**100.4072**	0.940	0.9	ug/L	1	Standard
>	**Bi**	209	327961.1	2.1				ug/L	321163	Standard

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	Na	23	38.3	27.2	**12.3846**	3.245	26.2	mg/L	2	Standard
	Mg	24	11179.1	2.7	**10.0609**	0.368	3.7	mg/L	48	Standard
	K	39	813.4	2.6	**9.7754**	0.345	3.5	mg/L	2	Standard
	Ca	43	175.0	7.6	**10.6745**	1.148	10.8	mg/L	38	Standard
	Fe	54	19245.1	3.1	**9.8047**	0.381	3.9	mg/L	218	Standard
	Fe	57	5594.4	1.3	**9.9071**	0.118	1.2	mg/L	283	Standard
>	**Sc-1**	45	51223.1	1.0				mg/L	46336	Standard
	Cl	35	7806.0	2.8				ug/L	7415	Standard
	Kr	83	103.3	7.3				ug/L	106	Standard
	Br	81	2673.6	9.7				ug/L	2367	Standard
	P	31	335287.5	2.6				ug/L	257843	Standard
	S	34	28610.3	1.8				ug/L	25966	Standard
	Sr	88	75.0	33.3				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.5	93.0				mg/L	10	Standard
	Ho-1	165	15.0	57.7				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72			
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: Standard 4
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⌈	Y	89
⌊>	Rh	103
⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
|>	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Corr. Coef.	Na	23	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998

Sample ID: Standard 4
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Method 6020 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Tuesday, November 05, 2013 10:05:11
Number of Replicates: 3
Autosampler Position: 201
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	208936.7	3.2				ug/L	199689	Standard
	Be	9	111067.4	2.6	**50.0507**	0.561	1.1	ug/L	22	Standard
	Al	27	9463942.4	2.7	**49.5815**	0.832	1.7	ug/L	615	Standard
	Sc	45	50171.3	1.3				ug/L	46336	Standard
	Ti	47	37812.1	2.7	**99.8308**	1.009	1.0	ug/L	20	Standard
	V	51	266510.6	3.6	**49.1315**	0.848	1.7	ug/L	893	Standard
	Cr	52	258339.5	2.7	**48.8985**	0.398	0.8	ug/L	3436	Standard
	Cr	53	56343.0	3.6	**49.4587**	0.780	1.6	ug/L	325	Standard
	Mn	55	486519.1	3.1	**49.2769**	0.557	1.1	ug/L	949	Standard
	Co	59	297329.8	2.5	**48.9897**	0.322	0.7	ug/L	109	Standard
	Ni	60	117362.5	3.4	**49.3416**	0.684	1.4	ug/L	187	Standard
	Cu	65	115449.1	2.8	**49.5691**	0.608	1.2	ug/L	95	Standard
	Zn	66	64147.9	3.2	**49.1490**	0.629	1.3	ug/L	320	Standard
>	**Ge**	72	502820.3	2.0				ug/L	478028	Standard
	As	75	71442.1	2.4	**49.4850**	0.217	0.4	ug/L	-247	Standard
	Se	82	7621.1	2.3	**49.9513**	0.148	0.3	ug/L	-45	Standard
	Se-1	77	4827.8	3.4	**49.6384**	0.728	1.5	ug/L	101	Standard
>	**Ga**	71	76.7	21.0				mg/L	38	Standard
	Rb	85	1101.7	1.1				ug/L	27	Standard
	Y	89	481778.8	2.9				ug/L	457712	Standard
>	**Rh**	103	26.7	43.3				ug/L	7	Standard
	Mo	98	295053.5	1.9	**98.8242**	1.476	1.5	ug/L	7	Standard
	Ag	107	314164.1	2.9	**49.5543**	0.121	0.2	ug/L	60	Standard
	Cd	111	109195.0	2.8	**49.5380**	0.404	0.8	mg/L	2	Standard
	Cd	114	289000.7	3.2	**49.8563**	0.150	0.3	ug/L	28	Standard
>	**In**	115	536614.9	3.1				ug/L	514607	Standard
	Sn	118	64447.6	4.3	**48.9478**	0.777	1.6	ug/L	125	Standard
	Sb	123	179689.4	2.9	**50.3379**	0.859	1.7	ug/L	14	Standard
	Ba	135	101032.9	3.0	**49.8768**	0.212	0.4	ug/L	10	Standard
	Ce	140	41.7	50.0				ug/L	25	Standard
>	**Tb**	159	681204.9	3.2				ug/L	648946	Standard
	Ho	165	11.7	24.7				ug/L	2	Standard
	Tl	203	325903.6	3.1	**49.2198**	0.450	0.9	ug/L	4	Standard
	Tl	205	330973.6	2.1	**49.7668**	0.094	0.2	ug/L	0	Standard
	Pb	206	132692.2	2.9	**49.0471**	0.299	0.6	ug/L	113	Standard
	Pb	207	119923.6	2.6	**49.2888**	0.260	0.5	ug/L	88	Standard
	Pb	208	314810.4	3.2	**49.3681**	0.735	1.5	ug/L	233	Standard
	U	238	208443.1	2.8	**49.4317**	0.522	1.1	ug/L	1	Standard
>	**Bi**	209	325638.6	2.3				ug/L	321163	Standard

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	Na	23	21.7	53.3	**7.1390**	3.736	52.3	mg/L	2	Standard
	Mg	24	5476.0	1.0	**5.0148**	0.107	2.1	mg/L	48	Standard
	K	39	335.0	6.8	**4.0728**	0.254	6.2	mg/L	2	Standard
	Ca	43	115.0	22.6	**6.2102**	2.010	32.4	mg/L	38	Standard
	Fe	54	9442.5	6.2	**4.8547**	0.257	5.3	mg/L	218	Standard
	Fe	57	2773.6	5.5	**4.7294**	0.262	5.5	mg/L	283	Standard
>	**Sc-1**	45	50171.3	1.3				mg/L	46336	Standard
	Cl	35	7756.0	1.9				ug/L	7415	Standard
	Kr	83	105.0	7.4				ug/L	106	Standard
	Br	81	2426.9	2.3				ug/L	2367	Standard
	P	31	320896.0	0.9				ug/L	257843	Standard
	S	34	28289.7	1.6				ug/L	25966	Standard
	Sr	88	78.3	46.2				ug/L	92	Standard
	C	12	10.0					mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	2.9	202.3				mg/L	10	Standard
	Ho-1	165	11.7	24.7				mg/L	2	Standard
	Er	166	10.0					mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.631	
	Be	9	100.101		
	Al	27	99.163		
	Sc	45			
	Ti	47	99.831		
	V	51	98.263		
	Cr	52	97.797		
	Cr	53			
	Mn	55	98.554		
	Co	59	97.979		
	Ni	60	98.683		
	Cu	65	99.138		
	Zn	66	98.298		
>	Ge	72		105.186	
	As	75	98.970		
	Se	82	99.903		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	98.824	
|	Ag	107	99.109	
|	Cd	111	99.076	
|	Cd	114		
|>	In	115		104.277
|	Sn	118	97.896	
|	Sb	123	100.676	
⌊	Ba	135	99.754	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	98.440	
|	Tl	205		
|	Pb	206	98.094	
|	Pb	207	98.578	
|	Pb	208	98.736	
|	U	238	98.863	
⌊>	Bi	209		101.394
⌈	Na	23	142.780	
|	Mg	24	100.296	
|	K	39	81.455	
|	Ca	43	124.205	
|	Fe	54	97.094	
|	Fe	57	94.587	
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	K	39	
QC Std 1	Ca	43	

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Method 6020 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Tuesday, November 05, 2013 10:08:18
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	199020.6	4.9				ug/L	199689	Standard
	Be	9	60.0	8.3	**0.0202**	0.003	17.2	ug/L	22	Standard
	Al	27	1111.7	57.3	**0.0025**	0.003	136.0	ug/L	615	Standard
	Sc	45	48372.1	2.3				ug/L	46336	Standard
	Ti	47	25.7	45.2	**0.0105**	0.034	326.6	ug/L	20	Standard
	V	51	843.0	7.0	**-0.0107**	0.015	136.8	ug/L	893	Standard
	Cr	52	3282.7	2.8	**-0.0391**	0.027	69.2	ug/L	3436	Standard
	Cr	53	240.0	11.6	**-0.0611**	0.020	32.0	ug/L	325	Standard
	Mn	55	1023.7	4.4	**-0.0055**	0.002	43.4	ug/L	949	Standard
	Co	59	153.7	29.2	**0.0048**	0.008	176.1	ug/L	109	Standard
	Ni	60	185.7	6.2	**-0.0065**	0.003	48.8	ug/L	187	Standard
	Cu	65	96.7	11.4	**-0.0087**	0.004	41.5	ug/L	95	Standard
	Zn	66	277.0	0.0	**-0.1160**	0.009	7.7	ug/L	320	Standard
>	**Ge**	72	474950.8	4.0				ug/L	478028	Standard
	As	75	-258.8	17.8	**0.0024**	0.026	1101.2	ug/L	-247	Standard
	Se	82	-50.5	23.2	**-0.0338**	0.066	194.7	ug/L	-45	Standard
	Se-1	77	98.0	16.3	**0.0737**	0.215	292.2	ug/L	101	Standard
>	**Ga**	71	41.7	25.0				mg/L	38	Standard
	Rb	85	25.0	60.0				ug/L	27	Standard
	Y	89	451339.4	3.1				ug/L	457712	Standard
>	**Rh**	103	18.3	41.7				ug/L	7	Standard
	Mo	98	80.9	46.9	**0.0103**	0.014	136.4	ug/L	7	Standard
	Ag	107	115.7	56.6	**0.0075**	0.011	152.3	ug/L	60	Standard
	Cd	111	32.8	155.4	**0.0104**	0.025	241.4	mg/L	2	Standard
	Cd	114	82.4	108.2	**0.0026**	0.017	643.9	ug/L	28	Standard
>	**In**	115	507870.0	3.8				ug/L	514607	Standard
	Sn	118	160.0	20.9	**0.0263**	0.030	115.6	ug/L	125	Standard
	Sb	123	435.5	33.8	**0.1182**	0.038	32.2	ug/L	14	Standard
	Ba	135	31.3	98.6	**-0.0019**	0.017	862.3	ug/L	10	Standard
	Ce	140	15.0	33.3				ug/L	25	Standard
>	**Tb**	159	647655.7	2.4				ug/L	648946	Standard
	Ho	165	6.7	43.3				ug/L	2	Standard
	Tl	203	65.0	132.2	**0.0073**	0.014	187.3	ug/L	4	Standard
	Tl	205	33.3	31.2	**0.0031**	0.002	55.8	ug/L	0	Standard
	Pb	206	134.0	33.4	**0.0081**	0.018	228.8	ug/L	113	Standard
	Pb	207	102.3	25.1	**-0.0064**	0.012	186.9	ug/L	88	Standard
	Pb	208	269.0	12.6	**-0.0005**	0.006	1235.3	ug/L	233	Standard
	U	238	15.3	122.8	**0.0002**	0.005	2426.1	ug/L	1	Standard
>	**Bi**	209	316634.7	3.8				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	51.7	29.6	**0.0167**	0.016	93.7	mg/L	48	Standard
K	39	6.7	43.3	**0.0238**	0.039	163.8	mg/L	2	Standard
Ca	43	35.0	71.4	**0.0355**	2.110	5949.7	mg/L	38	Standard
Fe	54	190.7	13.3	**-0.0045**	0.015	329.5	mg/L	218	Standard
Fe	57	253.3	11.2	**-0.0740**	0.045	60.2	mg/L	283	Standard
> **Sc-1**	45	48372.1	2.3				mg/L	46336	Standard
Cl	35	7669.9	2.0				ug/L	7415	Standard
Kr	83	107.3	10.9				ug/L	106	Standard
Br	81	2373.5	11.7				ug/L	2367	Standard
P	31	279935.0	2.4				ug/L	257843	Standard
S	34	28420.0	1.4				ug/L	25966	Standard
Sr	88	96.7	25.5				ug/L	92	Standard
C	12	3.3	173.2				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	0	Standard
Dy	164	5.9	100.8				mg/L	10	Standard
Ho-1	165	6.7	43.3				mg/L	2	Standard
Er	166	16.7	34.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		99.665	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		99.356	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.691
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.590
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Tuesday, November 05, 2013 10:11:24
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	207129.0	3.5				ug/L	199689	Standard
	Be	9	485.0	13.4	**0.2119**	0.025	11.7	ug/L	22	Standard
	Al	27	731.7	7.5	**0.0003**	0.000	129.2	ug/L	615	Standard
	Sc	45	47327.2	3.7				ug/L	46336	Standard
	Ti	47	20.0	26.5	**-0.0069**	0.014	205.8	ug/L	20	Standard
	V	51	2899.2	5.0	**0.3822**	0.005	1.4	ug/L	893	Standard
	Cr	52	7289.1	3.6	**0.7501**	0.006	0.8	ug/L	3436	Standard
	Cr	53	1176.7	3.9	**0.7966**	0.016	2.0	ug/L	325	Standard
	Mn	55	5601.4	5.3	**0.4762**	0.008	1.6	ug/L	949	Standard
	Co	59	2438.9	4.5	**0.3963**	0.004	1.0	ug/L	109	Standard
	Ni	60	3768.1	2.2	**1.5639**	0.037	2.4	ug/L	187	Standard
	Cu	65	1843.8	7.1	**0.7717**	0.025	3.2	ug/L	95	Standard
	Zn	66	8572.8	6.4	**6.5392**	0.176	2.7	ug/L	320	Standard
>	**Ge**	72	483069.7	4.1				ug/L	478028	Standard
	As	75	237.3	23.5	**0.3620**	0.045	12.3	ug/L	-247	Standard
	Se	82	8.8	176.0	**0.3742**	0.108	28.9	ug/L	-45	Standard
	Se-1	77	130.3	16.6	**0.3992**	0.184	46.1	ug/L	101	Standard
>	**Ga**	71	43.3	29.0				mg/L	38	Standard
	Rb	85	16.7	45.8				ug/L	27	Standard
	Y	89	456488.7	7.2				ug/L	457712	Standard
>	**Rh**	103	3.3	173.2				ug/L	7	Standard
	Mo	98	31.4	25.1	**-0.0075**	0.003	39.6	ug/L	7	Standard
	Ag	107	2463.9	4.5	**0.3935**	0.004	1.1	ug/L	60	Standard
	Cd	111	480.9	4.6	**0.2220**	0.008	3.6	mg/L	2	Standard
	Cd	114	1261.4	11.5	**0.2139**	0.016	7.3	ug/L	28	Standard
>	**In**	115	514530.1	4.7				ug/L	514607	Standard
	Sn	118	136.3	6.4	**0.0052**	0.002	38.2	ug/L	125	Standard
	Sb	123	1532.2	5.7	**0.4378**	0.006	1.3	ug/L	14	Standard
	Ba	135	1411.7	2.9	**0.7091**	0.018	2.5	ug/L	10	Standard
	Ce	140	8.3	91.7				ug/L	25	Standard
>	**Tb**	159	651876.4	4.8				ug/L	648946	Standard
	Ho	165	5.0	0.0				ug/L	2	Standard
	Tl	203	524.7	4.2	**0.0781**	0.007	9.3	ug/L	4	Standard
	Tl	205	518.3	14.1	**0.0772**	0.008	10.9	ug/L	0	Standard
	Pb	206	636.7	4.0	**0.1971**	0.006	3.2	ug/L	113	Standard
	Pb	207	545.7	6.1	**0.1790**	0.005	2.7	ug/L	88	Standard
	Pb	208	1416.7	6.0	**0.1828**	0.009	4.9	ug/L	233	Standard
	U	238	1602.1	3.0	**0.3843**	0.012	3.0	ug/L	1	Standard
>	**Bi**	209	319245.6	5.0				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	36.7	34.3	**0.0031**	0.013	417.5	mg/L	48	Standard
K	39	6.7	43.3	**0.0259**	0.040	156.4	mg/L	2	Standard
Ca	43	40.0	37.5	**0.4937**	1.311	265.6	mg/L	38	Standard
Fe	54	240.4	10.7	**0.0255**	0.015	60.7	mg/L	218	Standard
Fe	57	275.0	14.2	**-0.0160**	0.097	609.8	mg/L	283	Standard
> **Sc-1**	45	47327.2	3.7				mg/L	46336	Standard
Cl	35	7723.3	2.6				ug/L	7415	Standard
Kr	83	106.7	12.1				ug/L	106	Standard
Br	81	2613.6	6.6				ug/L	2367	Standard
P	31	310330.0	2.0				ug/L	257843	Standard
S	34	27326.3	2.0				ug/L	25966	Standard
Sr	88	60.0	14.4				ug/L	92	Standard
C	12	6.7	86.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	13.0	119.4				mg/L	10	Standard
Ho-1	165	5.0	0.0				mg/L	2	Standard
Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		103.726	
Be	9	105.938		
Al	27	0.032		
Sc	45			
Ti	47			
V	51	95.559		
Cr	52	93.766		
Cr	53			
Mn	55	95.248		
Co	59	99.075		
Ni	60	97.746		
Cu	65	96.463		
Zn	66	104.627		
> Ge	72		101.055	
As	75	90.512		
Se	82	93.541		
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98		
	Ag	107	98.375	
	Cd	111	92.489	
	Cd	114		
>	In	115		99.985
	Sn	118		
	Sb	123	109.449	
	Ba	135	94.540	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	97.678	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	91.418	
	U	238	96.071	
>	Bi	209		99.403
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Al	27	

Sample ID: QC Std 3
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Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Tuesday, November 05, 2013 10:14:28
Number of Replicates: 3
Autosampler Position: 203
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	178395.9	1.3				ug/L	199689	Standard
	Be	9	26.7	28.6	**0.0058**	0.004	69.7	ug/L	22	Standard
	Al	27	7888414.9	1.5	**48.3931**	0.231	0.5	ug/L	615	Standard
	Sc	45	43544.2	2.3				ug/L	46336	Standard
	Ti	47	33684.1	1.7	**102.2461**	1.023	1.0	ug/L	20	Standard
	V	51	805.2	10.5	**-0.0047**	0.020	424.3	ug/L	893	Standard
	Cr	52	3439.7	0.7	**0.0526**	0.020	38.2	ug/L	3436	Standard
	Cr	53	1491.7	9.6	**1.2314**	0.175	14.2	ug/L	325	Standard
	Mn	55	1450.7	8.1	**0.0540**	0.017	31.2	ug/L	949	Standard
	Co	59	289.7	30.3	**0.0329**	0.018	53.3	ug/L	109	Standard
	Ni	60	912.7	0.7	**0.3529**	0.012	3.4	ug/L	187	Standard
	Cu	65	592.3	1.0	**0.2402**	0.008	3.2	ug/L	95	Standard
	Zn	66	988.0	3.3	**0.5344**	0.042	7.8	ug/L	320	Standard
>	**Ge**	72	437452.8	2.6				ug/L	478028	Standard
	As	75	-260.1	13.5	**-0.0159**	0.032	198.9	ug/L	-247	Standard
	Se	82	-54.5	5.0	**-0.0961**	0.031	31.8	ug/L	-45	Standard
	Se-1	77	252.0	6.1	**2.0231**	0.248	12.2	ug/L	101	Standard
>	**Ga**	71	111.7	20.7				mg/L	38	Standard
	Rb	85	3053.6	5.3				ug/L	27	Standard
	Y	89	422057.0	3.4				ug/L	457712	Standard
>	**Rh**	103	8.3	124.9				ug/L	7	Standard
	Mo	98	235083.8	1.5	**90.8253**	0.416	0.5	ug/L	7	Standard
	Ag	107	162.7	89.7	**0.0178**	0.027	151.3	ug/L	60	Standard
	Cd	111	-33.4	207.6	**-0.0228**	0.036	157.4	mg/L	2	Standard
	Cd	114	788.0	26.1	**0.1445**	0.043	29.5	ug/L	28	Standard
>	**In**	115	465091.1	1.9				ug/L	514607	Standard
	Sn	118	137.0	30.8	**0.0175**	0.038	218.0	ug/L	125	Standard
	Sb	123	177.4	18.4	**0.0475**	0.010	21.3	ug/L	14	Standard
	Ba	135	105.7	57.6	**0.0419**	0.035	84.6	ug/L	10	Standard
	Ce	140	1070.0	1.6				ug/L	25	Standard
>	**Tb**	159	602403.7	2.6				ug/L	648946	Standard
	Ho	165	8.3	91.7				ug/L	2	Standard
	Tl	203	201.3	105.7	**0.0310**	0.036	117.0	ug/L	4	Standard
	Tl	205	88.3	58.1	**0.0127**	0.009	69.4	ug/L	0	Standard
	Pb	206	218.3	41.2	**0.0464**	0.038	82.1	ug/L	113	Standard
	Pb	207	191.3	38.8	**0.0375**	0.035	93.9	ug/L	88	Standard
	Pb	208	415.0	11.7	**0.0282**	0.010	34.1	ug/L	233	Standard
	U	238	18.3	163.8	**0.0013**	0.008	635.4	ug/L	1	Standard
>	**Bi**	209	294255.7	2.5				ug/L	321163	Standard

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	Na	23	35.0	51.5	**13.4081**	7.016	52.3	mg/L	2	Standard
	Mg	24	11762.9	0.8	**12.4614**	0.232	1.9	mg/L	48	Standard
	K	39	358.3	10.6	**5.0313**	0.474	9.4	mg/L	2	Standard
	Ca	43	235.0	12.8	**18.4911**	2.429	13.1	mg/L	38	Standard
	Fe	54	19673.1	1.8	**11.8118**	0.211	1.8	mg/L	218	Standard
	Fe	57	5531.0	5.5	**11.6267**	0.884	7.6	mg/L	283	Standard
>	**Sc-1**	45	43544.2	2.3				mg/L	46336	Standard
	Cl	35	6682.1	1.1				ug/L	7415	Standard
	Kr	83	111.7	1.0				ug/L	106	Standard
	Br	81	2073.5	12.7				ug/L	2367	Standard
	P	31	134968.9	3.1				ug/L	257843	Standard
	S	34	24336.2	0.7				ug/L	25966	Standard
	Sr	88	85.0	15.6				ug/L	92	Standard
	C	12	20.0	0.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	6.5	93.0				mg/L	10	Standard
	Ho-1	165	8.3	91.7				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		89.337	
	Be	9			
	Al	27	0.968		
	Sc	45			
	Ti	47	102.246		
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		91.512	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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Y	89			
> Rh	103			
Mo	98	90.825		
Ag	107			
Cd	111			
Cd	114			
> In	115			90.378
Sn	118			
Sb	123			
Ba	135			
Ce	140			
> Tb	159			
Ho	165			
Tl	203			
Tl	205			
Pb	206			
Pb	207			
Pb	208			
U	238			
> Bi	209			91.622
Na	23	107.265		
Mg	24	249.228		
K	39	100.627		
Ca	43	123.274		
Fe	54	94.494		
Fe	57	93.014		
> Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			
Dy	164			
Ho-1	165			
Er	166			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Al	27	
QC Std 4	Mg	24	
QC Std 4	Ca	43	

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Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Tuesday, November 05, 2013 10:17:33
Number of Replicates: 3
Autosampler Position: 204
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	204199.2	2.8				ug/L	199689	Standard
	Be	9	220571.3	2.7	**101.7017**	1.181	1.2	ug/L	22	Standard
	Al	27	7468153.3	1.7	**40.0363**	0.739	1.8	ug/L	615	Standard
	Sc	45	48114.6	1.4				ug/L	46336	Standard
	Ti	47	32228.6	1.7	**87.6432**	1.010	1.2	ug/L	20	Standard
	V	51	513177.2	2.8	**97.6264**	1.516	1.6	ug/L	893	Standard
	Cr	52	497399.9	2.8	**97.6668**	1.575	1.6	ug/L	3436	Standard
	Cr	53	109613.5	1.6	**99.4198**	1.515	1.5	ug/L	325	Standard
	Mn	55	933631.0	3.1	**97.5078**	1.248	1.3	ug/L	949	Standard
	Co	59	581487.6	2.8	**98.7012**	1.581	1.6	ug/L	109	Standard
	Ni	60	226680.1	2.4	**98.2542**	0.097	0.1	ug/L	187	Standard
	Cu	65	222185.2	2.4	**98.3070**	0.451	0.5	ug/L	95	Standard
	Zn	66	129049.3	3.3	**102.2041**	1.516	1.5	ug/L	320	Standard
>	**Ge**	72	488230.9	2.4				ug/L	478028	Standard
	As	75	143088.6	2.5	**101.8798**	1.333	1.3	ug/L	-247	Standard
	Se	82	15202.3	3.3	**102.2766**	0.992	1.0	ug/L	-45	Standard
	Se-1	77	9571.4	5.9	**102.3779**	3.720	3.6	ug/L	101	Standard
>	**Ga**	71	198.3	5.2				mg/L	38	Standard
	Rb	85	3102.0	1.8				ug/L	27	Standard
	Y	89	464162.2	3.2				ug/L	457712	Standard
>	**Rh**	103	65.0	53.8				ug/L	7	Standard
	Mo	98	236815.6	2.8	**81.5961**	1.482	1.8	ug/L	7	Standard
	Ag	107	611815.1	2.4	**99.3120**	0.680	0.7	ug/L	60	Standard
	Cd	111	215471.1	2.9	**100.5802**	1.239	1.2	mg/L	2	Standard
	Cd	114	552247.6	3.1	**98.0402**	1.469	1.5	ug/L	28	Standard
>	**In**	115	521443.9	1.7				ug/L	514607	Standard
	Sn	118	230.3	0.5	**0.0775**	0.003	4.2	ug/L	125	Standard
	Sb	123	355321.3	1.4	**102.4347**	0.295	0.3	ug/L	14	Standard
	Ba	135	198122.1	1.4	**100.6717**	0.449	0.4	ug/L	10	Standard
	Ce	140	933.4	12.3				ug/L	25	Standard
>	**Tb**	159	662779.5	0.5				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	638280.5	2.6	**98.8404**	0.949	1.0	ug/L	4	Standard
	Tl	205	632767.8	2.0	**97.5525**	1.256	1.3	ug/L	0	Standard
	Pb	206	261132.0	2.1	**99.0120**	0.568	0.6	ug/L	113	Standard
	Pb	207	235592.9	1.8	**99.3313**	0.287	0.3	ug/L	88	Standard
	Pb	208	612683.3	1.8	**98.5626**	0.667	0.7	ug/L	233	Standard
	U	238	407070.3	2.0	**98.9828**	0.774	0.8	ug/L	1	Standard
>	**Bi**	209	317605.5	1.6				ug/L	321163	Standard

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	Na	23	43.3	29.0	**14.8894**	4.161	27.9	mg/L	2	Standard
	Mg	24	10693.8	3.7	**10.2421**	0.246	2.4	mg/L	48	Standard
	K	39	275.0	14.4	**3.4757**	0.482	13.9	mg/L	2	Standard
	Ca	43	243.3	15.4	**17.1811**	3.216	18.7	mg/L	38	Standard
	Fe	54	19097.3	1.2	**10.3637**	0.218	2.1	mg/L	218	Standard
	Fe	57	5422.6	1.9	**10.2427**	0.244	2.4	mg/L	283	Standard
>	**Sc-1**	45	48114.6	1.4				mg/L	46336	Standard
	Cl	35	7163.7	1.9				ug/L	7415	Standard
	Kr	83	103.0	15.3				ug/L	106	Standard
	Br	81	2416.9	1.7				ug/L	2367	Standard
	P	31	236796.0	3.7				ug/L	257843	Standard
	S	34	24221.0	1.4				ug/L	25966	Standard
	Sr	88	65.0	15.4				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	8.6	119.7				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	30.0	33.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		102.259	
	Be	9	101.702		
	Al	27	0.801		
	Sc	45			
	Ti	47	87.643		
	V	51	97.626		
	Cr	52	97.667		
	Cr	53			
	Mn	55	97.508		
	Co	59	98.701		
	Ni	60	98.254		
	Cu	65	98.307		
	Zn	66	102.204		
>	Ge	72		102.134	
	As	75	101.880		
	Se	82	102.277		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	81.596	
|	Ag	107	99.312	
|	Cd	111	100.580	
|	Cd	114		
|>	In	115		101.329
|	Sn	118		
|	Sb	123	102.435	
⌊	Ba	135	100.672	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	98.840	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	98.563	
|	U	238	98.983	
⌊>	Bi	209		98.892
⌈	Na	23	119.115	
|	Mg	24	204.842	
|	K	39	69.514	
|	Ca	43	114.540	
|	Fe	54	82.909	
|	Fe	57	81.942	
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Mg	24	
QC Std 5	K	39	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 10:20:39
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	208917.3	1.4				ug/L	199689	Standard
	Be	9	109027.9	3.5	**49.1196**	1.068	2.2	ug/L	22	Standard
	Al	27	9452405.9	1.5	**49.5159**	0.079	0.2	ug/L	615	Standard
	Sc	45	49646.2	1.9				ug/L	46336	Standard
	Ti	47	37583.6	2.5	**99.5618**	0.951	1.0	ug/L	20	Standard
	V	51	266531.0	3.1	**49.3076**	0.915	1.9	ug/L	893	Standard
	Cr	52	261027.3	3.4	**49.5773**	0.664	1.3	ug/L	3436	Standard
	Cr	53	56021.8	3.6	**49.3448**	1.075	2.2	ug/L	325	Standard
	Mn	55	492892.8	4.8	**50.0769**	1.216	2.4	ug/L	949	Standard
	Co	59	303756.5	3.8	**50.2065**	0.841	1.7	ug/L	109	Standard
	Ni	60	117417.9	3.2	**49.5339**	0.841	1.7	ug/L	187	Standard
	Cu	65	116600.1	2.2	**50.2363**	0.564	1.1	ug/L	95	Standard
	Zn	66	63649.2	3.2	**48.9328**	0.922	1.9	ug/L	320	Standard
>	**Ge**	72	501180.8	2.5				ug/L	478028	Standard
	As	75	71732.4	1.9	**49.8552**	0.318	0.6	ug/L	-247	Standard
	Se	82	7610.9	1.8	**50.0552**	0.384	0.8	ug/L	-45	Standard
	Se-1	77	4770.1	2.3	**49.2109**	0.644	1.3	ug/L	101	Standard
>	**Ga**	71	55.0	9.1				mg/L	38	Standard
	Rb	85	1121.7	5.7				ug/L	27	Standard
	Y	89	477449.2	4.2				ug/L	457712	Standard
>	**Rh**	103	25.0	40.0				ug/L	7	Standard
	Mo	98	299110.9	2.7	**100.8428**	0.687	0.7	ug/L	7	Standard
	Ag	107	320174.0	3.4	**50.8437**	0.752	1.5	ug/L	60	Standard
	Cd	111	109855.4	2.0	**50.1815**	0.168	0.3	mg/L	2	Standard
	Cd	114	290325.0	1.6	**50.4373**	0.295	0.6	ug/L	28	Standard
>	**In**	115	532910.6	2.1				ug/L	514607	Standard
	Sn	118	65566.7	3.4	**50.1500**	0.914	1.8	ug/L	125	Standard
	Sb	123	178386.5	2.4	**50.3130**	0.554	1.1	ug/L	14	Standard
	Ba	135	100967.1	2.3	**50.1877**	0.166	0.3	ug/L	10	Standard
	Ce	140	53.3	32.9				ug/L	25	Standard
>	**Tb**	159	670693.7	1.6				ug/L	648946	Standard
	Ho	165	8.3	34.6				ug/L	2	Standard
	Tl	203	328522.7	2.7	**49.8848**	0.310	0.6	ug/L	4	Standard
	Tl	205	331778.3	2.8	**50.1507**	0.372	0.7	ug/L	0	Standard
	Pb	206	134424.0	3.0	**49.9527**	0.155	0.3	ug/L	113	Standard
	Pb	207	120461.1	2.0	**49.7820**	0.657	1.3	ug/L	88	Standard
	Pb	208	313753.5	2.1	**49.4744**	0.587	1.2	ug/L	233	Standard
	U	238	208709.0	2.7	**49.7597**	0.288	0.6	ug/L	1	Standard
>	**Bi**	209	323962.2	3.3				ug/L	321163	Standard

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	Na	23	15.0	57.7	**5.0350**	2.933	58.2	mg/L	2	Standard
	Mg	24	5547.7	4.8	**5.1322**	0.156	3.0	mg/L	48	Standard
	K	39	368.3	5.1	**4.5339**	0.232	5.1	mg/L	2	Standard
	Ca	43	108.3	25.4	**5.7777**	2.160	37.4	mg/L	38	Standard
	Fe	54	9491.8	1.2	**4.9360**	0.099	2.0	mg/L	218	Standard
	Fe	57	2830.3	3.7	**4.8955**	0.154	3.1	mg/L	283	Standard
>	**Sc-1**	45	49646.2	1.9				mg/L	46336	Standard
	Cl	35	7431.8	2.3				ug/L	7415	Standard
	Kr	83	109.3	10.7				ug/L	106	Standard
	Br	81	2420.2	6.8				ug/L	2367	Standard
	P	31	292089.1	1.7				ug/L	257843	Standard
	S	34	26494.8	0.4				ug/L	25966	Standard
	Sr	88	76.7	30.1				ug/L	92	Standard
	C	12	13.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	2.9	217.0				mg/L	10	Standard
	Ho-1	165	8.3	34.6				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.621	
	Be	9	98.239		
	Al	27	99.032		
	Sc	45			
	Ti	47	99.562		
	V	51	98.615		
	Cr	52	99.155		
	Cr	53			
	Mn	55	100.154		
	Co	59	100.413		
	Ni	60	99.068		
	Cu	65	100.473		
	Zn	66	97.866		
>	Ge	72		104.843	
	As	75	99.710		
	Se	82	100.110		
	Se-1	77			
>	Ga	71			
	Rb	85			

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Y	89			
> Rh	103			
Mo	98	100.843		
Ag	107	101.687		
Cd	111	100.363		
Cd	114			
> In	115			103.557
Sn	118	100.300		
Sb	123	100.626		
Ba	135	100.375		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	99.770		
Tl	205			
Pb	206			
Pb	207			
Pb	208	98.949		
U	238	99.519		
> Bi	209			100.872
Na	23			
Mg	24			
K	39			
Ca	43			
Fe	54			
Fe	57			
> Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			
Dy	164			
Ho-1	165			
Er	166			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 10:23:44
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	203982.2	4.3				ug/L	199689	Standard
	Be	9	106.7	92.0	**0.0402**	0.043	107.6	ug/L	22	Standard
	Al	27	4965.2	139.8	**0.0224**	0.036	160.0	ug/L	615	Standard
	Sc	45	47752.0	6.2				ug/L	46336	Standard
	Ti	47	46.3	82.0	**0.0650**	0.099	152.3	ug/L	20	Standard
	V	51	878.1	7.2	**-0.0046**	0.006	129.7	ug/L	893	Standard
	Cr	52	3316.4	3.7	**-0.0343**	0.016	46.2	ug/L	3436	Standard
	Cr	53	331.7	20.4	**0.0228**	0.051	221.9	ug/L	325	Standard
	Mn	55	1075.4	12.7	**-0.0005**	0.010	2007.6	ug/L	949	Standard
	Co	59	195.0	47.2	**0.0115**	0.015	127.2	ug/L	109	Standard
	Ni	60	268.7	69.9	**0.0284**	0.077	272.6	ug/L	187	Standard
	Cu	65	215.7	96.9	**0.0430**	0.089	207.4	ug/L	95	Standard
	Zn	66	339.3	45.0	**-0.0689**	0.111	161.6	ug/L	320	Standard
>	**Ge**	72	476164.2	4.0				ug/L	478028	Standard
	As	75	-169.6	35.4	**0.0660**	0.047	71.8	ug/L	-247	Standard
	Se	82	-37.4	7.6	**0.0555**	0.009	16.7	ug/L	-45	Standard
	Se-1	77	110.7	6.2	**0.2055**	0.041	20.0	ug/L	101	Standard
>	**Ga**	71	50.0	26.5				mg/L	38	Standard
	Rb	85	23.3	32.7				ug/L	27	Standard
	Y	89	449337.9	5.8				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	116.0	67.0	**0.0217**	0.025	113.6	ug/L	7	Standard
	Ag	107	155.0	69.8	**0.0133**	0.016	121.9	ug/L	60	Standard
	Cd	111	60.0	128.7	**0.0219**	0.035	157.6	mg/L	2	Standard
	Cd	114	134.4	104.1	**0.0110**	0.024	214.0	ug/L	28	Standard
>	**In**	115	508434.7	5.3				ug/L	514607	Standard
	Sn	118	147.7	21.7	**0.0150**	0.019	130.1	ug/L	125	Standard
	Sb	123	473.0	32.4	**0.1288**	0.037	28.7	ug/L	14	Standard
	Ba	135	47.0	88.4	**0.0053**	0.020	373.6	ug/L	10	Standard
	Ce	140	15.0	0.0				ug/L	25	Standard
>	**Tb**	159	646278.7	5.4				ug/L	648946	Standard
	Ho	165	8.3	34.6				ug/L	2	Standard
	Tl	203	131.7	100.5	**0.0170**	0.019	111.7	ug/L	4	Standard
	Tl	205	80.0	72.1	**0.0101**	0.008	81.4	ug/L	0	Standard
	Pb	206	153.7	40.2	**0.0149**	0.020	132.4	ug/L	113	Standard
	Pb	207	120.7	23.2	**0.0012**	0.009	753.6	ug/L	88	Standard
	Pb	208	294.0	23.0	**0.0035**	0.008	230.0	ug/L	233	Standard
	U	238	26.0	107.7	**0.0025**	0.006	249.4	ug/L	1	Standard
>	**Bi**	209	314445.7	5.9				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	40.0	21.7	**0.0060**	0.009	156.5	mg/L	48	Standard
K	39	10.0	86.6	**0.0710**	0.121	169.8	mg/L	2	Standard
Ca	43	33.3	31.2	**-0.1219**	0.692	567.3	mg/L	38	Standard
Fe	54	196.1	15.4	**-0.0003**	0.016	6492.8	mg/L	218	Standard
Fe	57	258.3	9.7	**-0.0548**	0.069	126.6	mg/L	283	Standard
Sc-1	45	47752.0	6.2				mg/L	46336	Standard
Cl	35	7343.8	0.6				ug/L	7415	Standard
Kr	83	97.3	13.4				ug/L	106	Standard
Br	81	2390.2	10.5				ug/L	2367	Standard
P	31	256960.0	2.8				ug/L	257843	Standard
S	34	26179.3	1.8				ug/L	25966	Standard
Sr	88	80.0	6.3				ug/L	92	Standard
C	12	10.0	100.0				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	6.2	93.6				mg/L	10	Standard
Ho-1	165	8.3	34.6				mg/L	2	Standard
Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		102.150	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		99.610	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.801
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.908
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: PBW 62 WG451289-03
Sample Date/Time: Tuesday, November 05, 2013 10:26:49
Number of Replicates: 3
Autosampler Position: 301
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	177863.2	2.1				ug/L	199689	Standard
	Be	9	48.3	96.1	**0.0170**	0.024	141.3	ug/L	22	Standard
	Al	27	1783.5	109.8	**0.0073**	0.012	161.6	ug/L	615	Standard
	Sc	45	40771.5	2.3				ug/L	46336	Standard
	Ti	47	24.0	41.0	**0.0156**	0.032	203.2	ug/L	20	Standard
	V	51	850.7	31.5	**0.0168**	0.062	371.2	ug/L	893	Standard
	Cr	52	2893.6	10.7	**-0.0269**	0.079	295.7	ug/L	3436	Standard
	Cr	53	276.7	12.0	**0.0139**	0.038	276.6	ug/L	325	Standard
	Mn	55	865.7	33.5	**-0.0078**	0.037	472.6	ug/L	949	Standard
	Co	59	242.0	90.3	**0.0269**	0.045	166.2	ug/L	109	Standard
	Ni	60	176.3	17.4	**0.0017**	0.016	971.4	ug/L	187	Standard
	Cu	65	76.3	20.3	**-0.0124**	0.009	69.2	ug/L	95	Standard
	Zn	66	414.3	6.9	**0.0483**	0.020	41.5	ug/L	320	Standard
>	**Ge**	72	411111.0	1.8				ug/L	478028	Standard
	As	75	-231.7	5.2	**-0.0049**	0.014	280.5	ug/L	-247	Standard
	Se	82	-40.4	22.2	**-0.0103**	0.077	743.3	ug/L	-45	Standard
	Se-1	77	88.0	9.0	**0.1096**	0.110	99.9	ug/L	101	Standard
>	**Ga**	71	38.3	27.2				mg/L	38	Standard
	Rb	85	23.3	12.4				ug/L	27	Standard
	Y	89	396642.8	2.1				ug/L	457712	Standard
>	**Rh**	103	6.7	43.3				ug/L	7	Standard
	Mo	98	63.4	85.3	**0.0070**	0.022	316.1	ug/L	7	Standard
	Ag	107	62.7	25.9	**-0.0002**	0.003	1625.0	ug/L	60	Standard
	Cd	111	10.9	81.1	**0.0003**	0.005	1943.6	mg/L	2	Standard
	Cd	114	35.5	64.5	**-0.0054**	0.005	88.8	ug/L	28	Standard
>	**In**	115	452617.0	1.9				ug/L	514607	Standard
	Sn	118	107.3	11.2	**-0.0062**	0.010	160.1	ug/L	125	Standard
	Sb	123	184.2	67.6	**0.0519**	0.043	82.5	ug/L	14	Standard
	Ba	135	13.3	21.7	**-0.0107**	0.002	16.8	ug/L	10	Standard
	Ce	140	10.0	50.0				ug/L	25	Standard
>	**Tb**	159	582038.6	2.1				ug/L	648946	Standard
	Ho	165	6.7	43.3				ug/L	2	Standard
	Tl	203	25.7	25.0	**0.0015**	0.001	80.8	ug/L	4	Standard
	Tl	205	116.7	139.8	**0.0182**	0.029	157.1	ug/L	0	Standard
	Pb	206	99.7	13.6	**-0.0015**	0.005	347.2	ug/L	113	Standard
	Pb	207	83.3	12.1	**-0.0110**	0.005	48.0	ug/L	88	Standard
	Pb	208	299.7	47.0	**0.0097**	0.026	272.5	ug/L	233	Standard
	U	238	49.7	173.2	**0.0101**	0.024	235.6	ug/L	1	Standard
>	**Bi**	209	286960.2	2.6				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	58.3	35.7	**0.0336**	0.025	74.0	mg/L	48	Standard
K	39	1.7	173.2	**-0.0361**	0.045	124.9	mg/L	2	Standard
Ca	43	40.0	50.0	**0.9959**	1.866	187.4	mg/L	38	Standard
Fe	54	103.0	2.9	**-0.0420**	0.000	1.1	mg/L	218	Standard
Fe	57	268.3	12.4	**0.0559**	0.078	140.4	mg/L	283	Standard
> **Sc-1**	45	40771.5	2.3				mg/L	46336	Standard
Cl	35	6898.2	2.2				ug/L	7415	Standard
Kr	83	98.0	9.4				ug/L	106	Standard
Br	81	1940.1	8.2				ug/L	2367	Standard
P	31	108179.9	1.6				ug/L	257843	Standard
S	34	26052.4	2.4				ug/L	25966	Standard
Sr	88	95.0	5.3				ug/L	92	Standard
C	12	6.7	86.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	0	Standard
Dy	164	6.0	100.7				mg/L	10	Standard
Ho-1	165	6.7	43.3				mg/L	2	Standard
Er	166	13.3	86.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		89.070	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		86.001	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.954
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.350
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 62 WG451289-03
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Method 6020 - Summary Report

Sample ID: LCSW 62 WG451289-04
Sample Date/Time: Tuesday, November 05, 2013 10:29:54
Number of Replicates: 3
Autosampler Position: 302
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	212884.9	5.7				ug/L	199689	Standard
	Be	9	54832.6	5.4	**24.2473**	0.363	1.5	ug/L	22	Standard
	Al	27	40985.5	7.1	**0.2070**	0.003	1.5	ug/L	615	Standard
	Sc	45	49330.3	5.5				ug/L	46336	Standard
	Ti	47	177.0	6.9	**0.4154**	0.010	2.5	ug/L	20	Standard
	V	51	134146.4	6.0	**25.1666**	0.385	1.5	ug/L	893	Standard
	Cr	52	132871.4	5.0	**25.3503**	0.280	1.1	ug/L	3436	Standard
	Cr	53	28749.0	6.9	**25.6211**	0.211	0.8	ug/L	325	Standard
	Mn	55	347873.0	5.0	**35.9564**	0.539	1.5	ug/L	949	Standard
	Co	59	149956.0	6.3	**25.2108**	0.368	1.5	ug/L	109	Standard
	Ni	60	58894.3	7.1	**25.2260**	0.351	1.4	ug/L	187	Standard
	Cu	65	58296.5	6.0	**25.5275**	0.016	0.1	ug/L	95	Standard
	Zn	66	32718.4	6.2	**25.4284**	0.026	0.1	ug/L	320	Standard
>	**Ge**	72	492584.9	6.1				ug/L	478028	Standard
	As	75	35221.2	6.3	**24.9978**	0.182	0.7	ug/L	-247	Standard
	Se	82	3680.2	3.9	**24.8036**	0.534	2.2	ug/L	-45	Standard
	Se-1	77	2374.5	4.7	**24.4333**	0.436	1.8	ug/L	101	Standard
>	**Ga**	71	70.0	25.8				mg/L	38	Standard
	Rb	85	86.7	24.0				ug/L	27	Standard
	Y	89	462830.0	5.9				ug/L	457712	Standard
>	**Rh**	103	18.3	56.8				ug/L	7	Standard
	Mo	98	71.4	28.0	**0.0059**	0.006	94.9	ug/L	7	Standard
	Ag	107	158605.9	5.1	**25.6546**	0.393	1.5	ug/L	60	Standard
	Cd	111	53229.8	6.0	**24.7558**	0.198	0.8	mg/L	2	Standard
	Cd	114	137506.3	6.2	**24.3147**	0.179	0.7	ug/L	28	Standard
>	**In**	115	523270.9	5.5				ug/L	514607	Standard
	Sn	118	179.0	3.7	**0.0372**	0.013	34.4	ug/L	125	Standard
	Sb	123	87496.8	4.8	**25.1363**	0.333	1.3	ug/L	14	Standard
	Ba	135	49493.5	5.2	**25.0494**	0.078	0.3	ug/L	10	Standard
	Ce	140	2040.1	9.4				ug/L	25	Standard
>	**Tb**	159	661927.0	6.4				ug/L	648946	Standard
	Ho	165	13.3	86.6				ug/L	2	Standard
	Tl	203	162205.1	6.1	**24.8219**	0.138	0.6	ug/L	4	Standard
	Tl	205	164064.7	4.6	**25.0079**	0.349	1.4	ug/L	0	Standard
	Pb	206	68668.2	5.1	**25.7078**	0.172	0.7	ug/L	113	Standard
	Pb	207	58758.9	4.7	**24.4566**	0.204	0.8	ug/L	88	Standard
	Pb	208	157379.1	5.6	**24.9909**	0.181	0.7	ug/L	233	Standard
	U	238	100461.3	3.8	**24.1586**	0.454	1.9	ug/L	1	Standard
>	**Bi**	209	321334.2	5.6				ug/L	321163	Standard

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	Na	23	3.3	86.6	**1.1462**	0.992	86.5	mg/L	2	Standard
	Mg	24	85.0	32.8	**0.0460**	0.022	48.9	mg/L	48	Standard
	K	39	6.7	43.3	**0.0232**	0.042	182.4	mg/L	2	Standard
	Ca	43	31.7	55.5	**-0.3207**	1.357	423.2	mg/L	38	Standard
	Fe	54	296.4	17.4	**0.0512**	0.037	72.5	mg/L	218	Standard
	Fe	57	225.0	22.6	**-0.1338**	0.125	93.6	mg/L	283	Standard
>	**Sc-1**	45	49330.3	5.5				mg/L	46336	Standard
	Cl	35	7778.0	3.7				ug/L	7415	Standard
	Kr	83	98.3	6.8				ug/L	106	Standard
	Br	81	3750.5	10.2				ug/L	2367	Standard
	P	31	307831.5	4.5				ug/L	257843	Standard
	S	34	26165.9	3.6				ug/L	25966	Standard
	Sr	88	98.3	15.5				ug/L	92	Standard
	C	12	6.7	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	12.4	46.7				mg/L	10	Standard
	Ho-1	165	13.3	86.6				mg/L	2	Standard
	Er	166	20.0	0.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.608	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		103.045	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.684
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.053
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: LCSW 62 WG451289-04
Sample Date/Time: Tuesday, November 05, 2013 10:38:26
Number of Replicates: 3
Autosampler Position: 302
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	209395.9	4.8				ug/L	199689	Standard
	Be	9	54099.8	2.9	**24.3376**	0.727	3.0	ug/L	22	Standard
	Al	27	39436.4	5.3	**0.2026**	0.006	3.0	ug/L	615	Standard
	Sc	45	48019.5	5.8				ug/L	46336	Standard
	Ti	47	163.7	2.9	**0.3849**	0.012	3.0	ug/L	20	Standard
	V	51	129715.1	5.0	**24.6035**	0.136	0.6	ug/L	893	Standard
	Cr	52	129157.7	5.7	**24.8900**	0.231	0.9	ug/L	3436	Standard
	Cr	53	27244.5	3.6	**24.5623**	0.412	1.7	ug/L	325	Standard
	Mn	55	340799.9	5.0	**35.6085**	0.517	1.5	ug/L	949	Standard
	Co	59	145026.4	6.0	**24.6486**	0.198	0.8	ug/L	109	Standard
	Ni	60	57076.4	4.2	**24.7382**	0.273	1.1	ug/L	187	Standard
	Cu	65	56296.2	4.7	**24.9305**	0.194	0.8	ug/L	95	Standard
	Zn	66	31189.8	4.3	**24.5090**	0.327	1.3	ug/L	320	Standard
>	**Ge**	72	487134.7	5.2				ug/L	478028	Standard
	As	75	34076.6	5.1	**24.4629**	0.109	0.4	ug/L	-247	Standard
	Se	82	3593.3	4.6	**24.4785**	0.411	1.7	ug/L	-45	Standard
	Se-1	77	2397.2	2.1	**24.9807**	0.973	3.9	ug/L	101	Standard
>	**Ga**	71	60.0	8.3				mg/L	38	Standard
	Rb	85	96.7	41.8				ug/L	27	Standard
	Y	89	468362.6	3.4				ug/L	457712	Standard
>	**Rh**	103	21.7	48.0				ug/L	7	Standard
	Mo	98	57.4	14.3	**0.0014**	0.002	130.9	ug/L	7	Standard
	Ag	107	154963.7	4.9	**25.3493**	0.207	0.8	ug/L	60	Standard
	Cd	111	52161.3	4.6	**24.5453**	0.088	0.4	mg/L	2	Standard
	Cd	114	132754.9	3.4	**23.7667**	0.681	2.9	ug/L	28	Standard
>	**In**	115	517303.8	4.9				ug/L	514607	Standard
	Sn	118	299.3	7.6	**0.1333**	0.012	9.0	ug/L	125	Standard
	Sb	123	86384.5	3.5	**25.1063**	0.354	1.4	ug/L	14	Standard
	Ba	135	48519.0	4.2	**24.8431**	0.301	1.2	ug/L	10	Standard
	Ce	140	1878.4	5.0				ug/L	25	Standard
>	**Tb**	159	650801.7	3.7				ug/L	648946	Standard
	Ho	165	8.3	69.3				ug/L	2	Standard
	Tl	203	159328.6	4.2	**24.4731**	0.209	0.9	ug/L	4	Standard
	Tl	205	158571.6	4.7	**24.2470**	0.547	2.3	ug/L	0	Standard
	Pb	206	67461.5	5.4	**25.3318**	0.345	1.4	ug/L	113	Standard
	Pb	207	57767.7	4.5	**24.1182**	0.041	0.2	ug/L	88	Standard
	Pb	208	153283.4	4.3	**24.4248**	0.133	0.5	ug/L	233	Standard
	U	238	98678.1	4.5	**23.7957**	0.180	0.8	ug/L	1	Standard
>	**Bi**	209	320247.6	4.6				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.5749**	0.987	171.7	mg/L	2	Standard
	Mg	24	80.0	12.5	**0.0442**	0.009	20.2	mg/L	48	Standard
	K	39	8.3	34.6	**0.0443**	0.033	73.8	mg/L	2	Standard
	Ca	43	20.0	25.0	**-1.1987**	0.493	41.1	mg/L	38	Standard
	Fe	54	237.2	8.9	**0.0215**	0.004	19.3	mg/L	218	Standard
	Fe	57	268.3	7.5	**-0.0369**	0.073	196.8	mg/L	283	Standard
>	**Sc-1**	45	48019.5	5.8				mg/L	46336	Standard
	Cl	35	7589.2	4.2				ug/L	7415	Standard
	Kr	83	109.7	7.3				ug/L	106	Standard
	Br	81	3697.1	2.1				ug/L	2367	Standard
	P	31	302016.1	2.0				ug/L	257843	Standard
	S	34	25897.1	2.4				ug/L	25966	Standard
	Sr	88	95.0	9.1				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	13.0	46.5				mg/L	10	Standard
	Ho-1	165	8.3	69.3				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.861	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.905	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.524
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.715
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005411 WG451289-01
Sample Date/Time: Tuesday, November 05, 2013 10:41:31
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	419812.5	1.6				ug/L	199689	Standard
	Be	9	63.3	16.4	**0.0060**	0.003	43.2	ug/L	22	Standard
	Al	27	456127210.3	1.3	**1189.2378**	11.178	0.9	ug/L	615	Standard
	Sc	45	42469.5	3.3				ug/L	46336	Standard
	Ti	47	1806.4	17.9	**5.5321**	0.930	16.8	ug/L	20	Standard
	V	51	2282.8	7.1	**0.3199**	0.037	11.4	ug/L	893	Standard
	Cr	52	6269.0	0.6	**0.7063**	0.028	4.0	ug/L	3436	Standard
	Cr	53	2205.2	18.2	**2.0044**	0.445	22.2	ug/L	325	Standard
	Mn	55	9754101.6	2.3	**1162.2785**	10.645	0.9	ug/L	949	Standard
	Co	59	8928.3	3.9	**1.7053**	0.054	3.2	ug/L	109	Standard
	Ni	60	20170.1	0.7	**9.8855**	0.171	1.7	ug/L	187	Standard
	Cu	65	21485.6	7.7	**10.7822**	0.705	6.5	ug/L	95	Standard
	Zn	66	16577.4	2.7	**14.6704**	0.197	1.3	ug/L	320	Standard
>	**Ge**	72	428382.5	1.4				ug/L	478028	Standard
	As	75	6515.2	4.3	**5.4666**	0.174	3.2	ug/L	-247	Standard
	Se	82	22196.6	2.2	**170.0028**	1.619	1.0	ug/L	-45	Standard
	Se-1	77	15207.3	1.4	**186.3326**	3.048	1.6	ug/L	101	Standard
>	**Ga**	71	236.7	21.3				mg/L	38	Standard
	Rb	85	50775.0	2.2				ug/L	27	Standard
	Y	89	368664.4	2.3				ug/L	457712	Standard
>	**Rh**	103	1013.4	5.8				ug/L	7	Standard
	Mo	98	1916.3	0.7	**0.8291**	0.009	1.0	ug/L	7	Standard
	Ag	107	89.3	3.6	**0.0067**	0.001	7.8	ug/L	60	Standard
	Cd	111	159.3	7.3	**0.0898**	0.007	8.3	mg/L	2	Standard
	Cd	114	393.9	16.5	**0.0772**	0.016	20.4	ug/L	28	Standard
>	**In**	115	406370.7	1.6				ug/L	514607	Standard
	Sn	118	164.3	4.6	**0.0623**	0.010	15.3	ug/L	125	Standard
	Sb	123	159.4	10.0	**0.0492**	0.006	12.3	ug/L	14	Standard
	Ba	135	8114.2	1.3	**5.2731**	0.035	0.7	ug/L	10	Standard
	Ce	140	4879.1	2.5				ug/L	25	Standard
>	**Tb**	159	533378.0	0.9				ug/L	648946	Standard
	Ho	165	326.7	6.4				ug/L	2	Standard
	Tl	203	556.3	5.5	**0.1163**	0.007	6.1	ug/L	4	Standard
	Tl	205	573.3	18.4	**0.1204**	0.024	20.1	ug/L	0	Standard
	Pb	206	156.0	4.0	**0.0386**	0.004	10.4	ug/L	113	Standard
	Pb	207	124.7	15.6	**0.0228**	0.011	49.7	ug/L	88	Standard
	Pb	208	330.7	9.6	**0.0296**	0.007	25.1	ug/L	233	Standard
	U	238	129208.3	0.7	**43.4717**	0.479	1.1	ug/L	1	Standard
>	**Bi**	209	229560.5	1.5				ug/L	321163	Standard

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	Na	23	280.0	9.3	**109.4585**	12.780	11.7	mg/L	2	Standard
	Mg	24	1111872.1	3.4	**1210.5600**	12.024	1.0	mg/L	48	Standard
	K	39	311.7	7.4	**4.4919**	0.450	10.0	mg/L	2	Standard
	Ca	43	998.4	4.3	**90.2182**	1.842	2.0	mg/L	38	Standard
	Fe	54	175.4	9.1	**0.0003**	0.010	3081.3	mg/L	218	Standard
	Fe	57	1263.4	2.2	**2.2808**	0.090	3.9	mg/L	283	Standard
>	**Sc-1**	45	42469.5	3.3				mg/L	46336	Standard
	Cl	35	34989.7	4.6				ug/L	7415	Standard
	Kr	83	415.0	19.5				ug/L	106	Standard
	Br	81	177517.3	1.2				ug/L	2367	Standard
	P	31	222991.9	7.7				ug/L	257843	Standard
	S	34	17074.6	5.7				ug/L	25966	Standard
	Sr	88	4922.5	3.9				ug/L	92	Standard
	C	12	80.0	45.1				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	221.1	11.6				mg/L	10	Standard
	Ho-1	165	326.7	6.4				mg/L	2	Standard
	Er	166	186.7	13.5				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		210.233	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		89.614	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	78.967
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	71.478
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311005412S WG451289-05
Sample Date/Time: Tuesday, November 05, 2013 10:44:35
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	431226.2	1.4				ug/L	199689	Standard
	Be	9	44381.6	3.2	**9.6824**	0.288	3.0	ug/L	22	Standard
	Al	27	459339058.5	2.9	**1165.9116**	33.613	2.9	ug/L	615	Standard
	Sc	45	41174.3	4.3				ug/L	46336	Standard
	Ti	47	1429.7	8.4	**4.3175**	0.200	4.6	ug/L	20	Standard
	V	51	120601.0	3.2	**25.7324**	0.167	0.6	ug/L	893	Standard
	Cr	52	113851.6	2.3	**24.6799**	0.385	1.6	ug/L	3436	Standard
	Cr	53	26822.1	2.1	**27.2333**	1.169	4.3	ug/L	325	Standard
	Mn	55	12702523.0	3.2	**1497.2047**	10.211	0.7	ug/L	949	Standard
	Co	59	133380.3	3.5	**25.5018**	0.111	0.4	ug/L	109	Standard
	Ni	60	69256.3	2.4	**33.7883**	0.623	1.8	ug/L	187	Standard
	Cu	65	66939.2	2.0	**33.3613**	0.612	1.8	ug/L	95	Standard
	Zn	66	43778.5	2.3	**38.8845**	0.656	1.7	ug/L	320	Standard
>	**Ge**	72	433196.6	3.8				ug/L	478028	Standard
	As	75	39485.4	2.9	**31.8243**	0.449	1.4	ug/L	-247	Standard
	Se	82	24554.2	2.4	**186.0202**	2.879	1.5	ug/L	-45	Standard
	Se-1	77	17096.3	3.5	**207.2632**	1.018	0.5	ug/L	101	Standard
>	**Ga**	71	261.7	10.9				mg/L	38	Standard
	Rb	85	56953.6	3.1				ug/L	27	Standard
	Y	89	354635.6	3.5				ug/L	457712	Standard
>	**Rh**	103	1183.4	5.4				ug/L	7	Standard
	Mo	98	1999.3	4.8	**0.8739**	0.029	3.4	ug/L	7	Standard
	Ag	107	109783.4	2.4	**23.0769**	0.166	0.7	ug/L	60	Standard
	Cd	111	39820.9	2.4	**24.0777**	0.158	0.7	mg/L	2	Standard
	Cd	114	99963.2	2.2	**22.9826**	0.095	0.4	ug/L	28	Standard
>	**In**	115	402510.8	1.8				ug/L	514607	Standard
	Sn	118	146.7	16.1	**0.0456**	0.021	46.7	ug/L	125	Standard
	Sb	123	68452.5	1.8	**25.5568**	0.073	0.3	ug/L	14	Standard
	Ba	135	46272.9	2.2	**30.4450**	0.217	0.7	ug/L	10	Standard
	Ce	140	5169.2	5.3				ug/L	25	Standard
>	**Tb**	159	533381.4	2.5				ug/L	648946	Standard
	Ho	165	305.0	18.9				ug/L	2	Standard
	Tl	203	123177.5	2.1	**26.4880**	0.187	0.7	ug/L	4	Standard
	Tl	205	126862.3	1.2	**27.1600**	0.179	0.7	ug/L	0	Standard
	Pb	206	52160.6	1.8	**27.4345**	0.097	0.4	ug/L	113	Standard
	Pb	207	44827.9	2.1	**26.2094**	0.167	0.6	ug/L	88	Standard
	Pb	208	119035.8	1.9	**26.5597**	0.101	0.4	ug/L	233	Standard
	U	238	222738.2	1.6	**75.2143**	0.143	0.2	ug/L	1	Standard
>	**Bi**	209	228709.2	1.6				ug/L	321163	Standard

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	Na	23	301.7	24.9	**121.2867**	29.724	24.5	mg/L	2	Standard
	Mg	24	1101205.6	4.0	**1237.0963**	36.805	3.0	mg/L	48	Standard
	K	39	301.7	6.9	**4.4853**	0.437	9.7	mg/L	2	Standard
	Ca	43	835.0	5.4	**77.6576**	7.530	9.7	mg/L	38	Standard
	Fe	54	170.7	27.9	**0.0009**	0.032	3566.5	mg/L	218	Standard
	Fe	57	1198.4	7.7	**2.2153**	0.115	5.2	mg/L	283	Standard
>	**Sc-1**	45	41174.3	4.3				mg/L	46336	Standard
	Cl	35	34372.3	4.6				ug/L	7415	Standard
	Kr	83	521.7	5.2				ug/L	106	Standard
	Br	81	252307.3	2.0				ug/L	2367	Standard
	P	31	206867.1	3.5				ug/L	257843	Standard
	S	34	16420.6	2.6				ug/L	25966	Standard
	Sr	88	5849.5	1.0				ug/L	92	Standard
	C	12	46.7	53.9				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	233.0	10.1				mg/L	10	Standard
	Ho-1	165	305.0	18.9				mg/L	2	Standard
	Er	166	216.7	18.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		215.949	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.622	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	78.217
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	71.213
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311005413SD WG451289-06
Sample Date/Time: Tuesday, November 05, 2013 10:47:40
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	395376.3	2.7				ug/L	199689	Standard
	Be	9	46195.4	3.0	**10.9952**	0.320	2.9	ug/L	22	Standard
	Al	27	386071602.9	2.3	**1068.8549**	12.220	1.1	ug/L	615	Standard
	Sc	45	42624.9	2.6				ug/L	46336	Standard
	Ti	47	839.7	8.0	**2.4341**	0.216	8.9	ug/L	20	Standard
	V	51	120865.4	2.4	**24.9759**	0.263	1.1	ug/L	893	Standard
	Cr	52	117027.2	3.2	**24.5617**	0.262	1.1	ug/L	3436	Standard
	Cr	53	27141.0	4.1	**26.6630**	0.732	2.7	ug/L	325	Standard
	Mn	55	5846378.4	1.6	**667.5319**	9.371	1.4	ug/L	949	Standard
	Co	59	132791.4	3.1	**24.5926**	0.375	1.5	ug/L	109	Standard
	Ni	60	64192.1	2.7	**30.3185**	0.276	0.9	ug/L	187	Standard
	Cu	65	64477.7	3.1	**31.1112**	0.337	1.1	ug/L	95	Standard
	Zn	66	42393.3	3.0	**36.4397**	0.232	0.6	ug/L	320	Standard
>	**Ge**	72	447164.9	2.6				ug/L	478028	Standard
	As	75	40599.1	1.7	**31.6976**	0.316	1.0	ug/L	-247	Standard
	Se	82	28354.9	2.4	**208.0045**	1.575	0.8	ug/L	-45	Standard
	Se-1	77	19872.4	1.2	**233.5655**	3.739	1.6	ug/L	101	Standard
>	**Ga**	71	170.0	20.6				mg/L	38	Standard
	Rb	85	38301.7	0.7				ug/L	27	Standard
	Y	89	372307.2	3.5				ug/L	457712	Standard
>	**Rh**	103	1070.0	8.9				ug/L	7	Standard
	Mo	98	1983.2	1.6	**0.8371**	0.012	1.5	ug/L	7	Standard
	Ag	107	115292.4	2.0	**23.4161**	0.029	0.1	ug/L	60	Standard
	Cd	111	41620.4	2.4	**24.3142**	0.133	0.5	mg/L	2	Standard
	Cd	114	103468.4	3.1	**22.9813**	0.331	1.4	ug/L	28	Standard
>	**In**	115	416614.4	1.9				ug/L	514607	Standard
	Sn	118	146.7	4.6	**0.0408**	0.006	15.1	ug/L	125	Standard
	Sb	123	70639.4	1.0	**25.4836**	0.257	1.0	ug/L	14	Standard
	Ba	135	47442.5	1.7	**30.1601**	0.254	0.8	ug/L	10	Standard
	Ce	140	3657.1	6.2				ug/L	25	Standard
>	**Tb**	159	557871.3	2.3				ug/L	648946	Standard
	Ho	165	186.7	19.4				ug/L	2	Standard
	Tl	203	128304.7	1.6	**26.2149**	0.116	0.4	ug/L	4	Standard
	Tl	205	132939.2	2.4	**27.0382**	0.378	1.4	ug/L	0	Standard
	Pb	206	54518.9	0.7	**27.2479**	0.417	1.5	ug/L	113	Standard
	Pb	207	46771.1	1.5	**25.9820**	0.138	0.5	ug/L	88	Standard
	Pb	208	123506.3	1.6	**26.1823**	0.117	0.4	ug/L	233	Standard
	U	238	188766.3	2.1	**60.5569**	0.171	0.3	ug/L	1	Standard
>	**Bi**	209	240731.8	2.0				ug/L	321163	Standard

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	Na	23	306.7	0.9	**119.2573**	3.845	3.2	mg/L	2	Standard
	Mg	24	871339.0	2.5	**945.2074**	2.568	0.3	mg/L	48	Standard
	K	39	258.3	32.2	**3.6799**	1.140	31.0	mg/L	2	Standard
	Ca	43	933.4	8.6	**83.7910**	5.840	7.0	mg/L	38	Standard
	Fe	54	187.7	24.0	**0.0072**	0.026	356.6	mg/L	218	Standard
	Fe	57	1275.1	9.9	**2.2986**	0.325	14.1	mg/L	283	Standard
>	**Sc-1**	45	42624.9	2.6				mg/L	46336	Standard
	Cl	35	30280.2	2.3				ug/L	7415	Standard
	Kr	83	350.3	7.6				ug/L	106	Standard
	Br	81	161789.5	2.3				ug/L	2367	Standard
	P	31	213845.6	2.1				ug/L	257843	Standard
	S	34	17351.6	0.7				ug/L	25966	Standard
	Sr	88	4919.1	2.1				ug/L	92	Standard
	C	12	93.3	22.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	169.5	19.0				mg/L	10	Standard
	Ho-1	165	186.7	19.4				mg/L	2	Standard
	Er	166	150.0	0.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		197.996	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		93.544	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	80.958
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	74.956
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311009210
Sample Date/Time: Tuesday, November 05, 2013 10:59:23
Number of Replicates: 3
Autosampler Position: 307
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	225518.2	6.0				ug/L	199689	Standard
	Be	9	60.0	14.4	**0.0170**	0.005	29.2	ug/L	22	Standard
	Al	27	10038.3	5.2	**0.0452**	0.001	2.6	ug/L	615	Standard
	Sc	45	46528.1	4.9				ug/L	46336	Standard
	Ti	47	50.3	13.2	**0.0683**	0.021	30.7	ug/L	20	Standard
	V	51	1442.4	2.0	**0.0846**	0.013	14.9	ug/L	893	Standard
	Cr	52	5571.4	3.5	**0.3368**	0.009	2.8	ug/L	3436	Standard
	Cr	53	508.3	5.0	**0.1537**	0.037	24.1	ug/L	325	Standard
	Mn	55	3587.1	3.5	**0.2398**	0.001	0.6	ug/L	949	Standard
	Co	59	126.0	7.6	**-0.0019**	0.001	38.8	ug/L	109	Standard
	Ni	60	1567.4	3.9	**0.5549**	0.001	0.2	ug/L	187	Standard
	Cu	65	531.3	5.0	**0.1702**	0.005	2.7	ug/L	95	Standard
	Zn	66	2711.6	0.6	**1.7007**	0.081	4.7	ug/L	320	Standard
>	**Ge**	72	515441.8	3.9				ug/L	478028	Standard
	As	75	-244.8	22.9	**0.0259**	0.039	148.6	ug/L	-247	Standard
	Se	82	-41.3	53.8	**0.0506**	0.143	282.2	ug/L	-45	Standard
	Se-1	77	115.0	9.2	**0.1575**	0.112	70.8	ug/L	101	Standard
>	**Ga**	71	30.0	16.7				mg/L	38	Standard
	Rb	85	110.0	16.4				ug/L	27	Standard
	Y	89	461502.0	5.2				ug/L	457712	Standard
>	**Rh**	103	8.3	34.6				ug/L	7	Standard
	Mo	98	22.6	12.9	**-0.0107**	0.001	12.5	ug/L	7	Standard
	Ag	107	60.0	31.8	**-0.0025**	0.002	100.1	ug/L	60	Standard
	Cd	111	15.3	43.5	**0.0013**	0.003	231.4	mg/L	2	Standard
	Cd	114	53.7	37.6	**-0.0032**	0.004	123.9	ug/L	28	Standard
>	**In**	115	530747.7	5.6				ug/L	514607	Standard
	Sn	118	171.3	8.2	**0.0292**	0.015	49.8	ug/L	125	Standard
	Sb	123	37.5	3.7	**0.0009**	0.001	80.2	ug/L	14	Standard
	Ba	135	137.3	10.0	**0.0500**	0.004	7.4	ug/L	10	Standard
	Ce	140	78.3	38.5				ug/L	25	Standard
>	**Tb**	159	668987.8	5.2				ug/L	648946	Standard
	Ho	165	8.3	34.6				ug/L	2	Standard
	Tl	203	12.0	16.7	**-0.0011**	0.000	21.7	ug/L	4	Standard
	Tl	205	13.3	57.3	**-0.0001**	0.001	807.5	ug/L	0	Standard
	Pb	206	149.7	7.6	**0.0121**	0.004	31.5	ug/L	113	Standard
	Pb	207	121.3	12.1	**0.0001**	0.008	5068.0	ug/L	88	Standard
	Pb	208	316.0	5.2	**0.0056**	0.002	38.6	ug/L	233	Standard
	U	238	5.7	27.0	**-0.0023**	0.000	18.0	ug/L	1	Standard
>	**Bi**	209	325893.1	5.0				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6198**	1.065	171.8	mg/L	2	Standard
	Mg	24	96.7	13.0	**0.0634**	0.015	23.3	mg/L	48	Standard
	K	39	6.7	114.6	**0.0279**	0.106	380.1	mg/L	2	Standard
	Ca	43	23.3	44.6	**-0.8505**	0.968	113.8	mg/L	38	Standard
	Fe	54	267.3	12.0	**0.0436**	0.024	55.1	mg/L	218	Standard
	Fe	57	238.3	15.5	**-0.0817**	0.096	117.2	mg/L	283	Standard
>	**Sc-1**	45	46528.1	4.9				mg/L	46336	Standard
	Cl	35	8544.4	2.7				ug/L	7415	Standard
	Kr	83	108.0	20.8				ug/L	106	Standard
	Br	81	2890.3	1.7				ug/L	2367	Standard
	P	31	272883.1	2.5				ug/L	257843	Standard
	S	34	22434.9	0.5				ug/L	25966	Standard
	Sr	88	76.7	43.4				ug/L	92	Standard
	C	12	16.7	34.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.0	200.9				mg/L	10	Standard
	Ho-1	165	8.3	34.6				mg/L	2	Standard
	Er	166	13.3	114.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.935	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		107.827	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	103.137
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	101.473
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311010812
Sample Date/Time: Tuesday, November 05, 2013 11:02:27
Number of Replicates: 3
Autosampler Position: 308
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	226713.0	6.3				ug/L	199689	Standard
	Be	9	50.0	36.1	**0.0123**	0.006	49.4	ug/L	22	Standard
	Al	27	9249.5	5.9	**0.0411**	0.001	2.4	ug/L	615	Standard
	Sc	45	47484.5	5.7				ug/L	46336	Standard
	Ti	47	60.7	9.1	**0.0945**	0.012	12.8	ug/L	20	Standard
	V	51	1443.3	7.2	**0.0843**	0.010	11.9	ug/L	893	Standard
	Cr	52	5437.6	1.8	**0.3126**	0.036	11.6	ug/L	3436	Standard
	Cr	53	506.7	19.1	**0.1497**	0.070	46.4	ug/L	325	Standard
	Mn	55	3316.0	8.0	**0.2125**	0.009	4.5	ug/L	949	Standard
	Co	59	123.7	4.7	**-0.0022**	0.002	89.7	ug/L	109	Standard
	Ni	60	1598.4	3.7	**0.5682**	0.029	5.1	ug/L	187	Standard
	Cu	65	517.7	7.6	**0.1643**	0.008	5.1	ug/L	95	Standard
	Zn	66	2784.3	9.6	**1.7495**	0.089	5.1	ug/L	320	Standard
>	**Ge**	72	515619.4	5.4				ug/L	478028	Standard
	As	75	-293.0	20.2	**-0.0053**	0.029	549.3	ug/L	-247	Standard
	Se	82	-49.4	32.0	**0.0019**	0.083	4337.4	ug/L	-45	Standard
	Se-1	77	106.0	0.9	**0.0660**	0.048	72.4	ug/L	101	Standard
>	**Ga**	71	40.0	33.1				mg/L	38	Standard
	Rb	85	118.3	20.0				ug/L	27	Standard
	Y	89	474103.3	4.2				ug/L	457712	Standard
>	**Rh**	103	8.3	34.6				ug/L	7	Standard
	Mo	98	16.2	57.1	**-0.0132**	0.003	21.9	ug/L	7	Standard
	Ag	107	65.3	8.4	**-0.0017**	0.001	37.6	ug/L	60	Standard
	Cd	111	7.3	20.8	**-0.0024**	0.001	22.8	mg/L	2	Standard
	Cd	114	36.2	34.6	**-0.0064**	0.002	37.4	ug/L	28	Standard
>	**In**	115	538600.9	5.5				ug/L	514607	Standard
	Sn	118	204.0	3.5	**0.0522**	0.014	26.5	ug/L	125	Standard
	Sb	123	56.1	3.7	**0.0059**	0.000	7.3	ug/L	14	Standard
	Ba	135	230.3	4.4	**0.0949**	0.003	3.3	ug/L	10	Standard
	Ce	140	155.0	11.2				ug/L	25	Standard
>	**Tb**	159	657867.4	5.7				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	11.3	13.5	**-0.0012**	0.000	21.4	ug/L	4	Standard
	Tl	205	16.7	17.3	**0.0004**	0.000	115.8	ug/L	0	Standard
	Pb	206	143.0	9.4	**0.0092**	0.004	40.0	ug/L	113	Standard
	Pb	207	116.7	12.9	**-0.0025**	0.004	160.6	ug/L	88	Standard
	Pb	208	335.0	11.0	**0.0080**	0.003	38.4	ug/L	233	Standard
	U	238	2.0	132.3	**-0.0031**	0.001	21.0	ug/L	1	Standard
>	**Bi**	209	328529.7	5.2				ug/L	321163	Standard

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	Na	23	3.3	86.6	**1.1642**	1.009	86.6	mg/L	2	Standard
	Mg	24	111.7	13.7	**0.0765**	0.020	25.5	mg/L	48	Standard
	K	39	1.7	173.2	**-0.0392**	0.040	101.1	mg/L	2	Standard
	Ca	43	36.7	20.8	**0.1785**	0.456	255.5	mg/L	38	Standard
	Fe	54	274.3	17.7	**0.0449**	0.034	75.3	mg/L	218	Standard
	Fe	57	245.0	2.0	**-0.0800**	0.023	28.8	mg/L	283	Standard
>	**Sc-1**	45	47484.5	5.7				mg/L	46336	Standard
	Cl	35	8989.3	1.8				ug/L	7415	Standard
	Kr	83	111.7	12.0				ug/L	106	Standard
	Br	81	3193.7	3.7				ug/L	2367	Standard
	P	31	282251.0	2.8				ug/L	257843	Standard
	S	34	24261.1	0.8				ug/L	25966	Standard
	Sr	88	73.3	7.9				ug/L	92	Standard
	C	12	13.3	114.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	13.0	86.6				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		113.533	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		107.864	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	104.663
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	102.294
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311010812PS WG451377-01
Sample Date/Time: Tuesday, November 05, 2013 11:05:32
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	228201.6	6.2				ug/L	199689	Standard
	Be	9	121046.6	7.2	**49.9177**	0.842	1.7	ug/L	22	Standard
	Al	27	10078.4	6.6	**0.0448**	0.003	6.9	ug/L	615	Standard
	Sc	45	48899.0	7.1				ug/L	46336	Standard
	Ti	47	76.7	30.3	**0.1330**	0.047	35.2	ug/L	20	Standard
	V	51	298939.2	7.5	**53.4987**	0.857	1.6	ug/L	893	Standard
	Cr	52	293706.9	6.7	**54.0351**	0.436	0.8	ug/L	3436	Standard
	Cr	53	62425.3	5.8	**53.2484**	1.481	2.8	ug/L	325	Standard
	Mn	55	559224.9	7.4	**54.9806**	0.978	1.8	ug/L	949	Standard
	Co	59	342958.1	7.5	**54.8342**	1.022	1.9	ug/L	109	Standard
	Ni	60	131061.5	6.9	**53.4982**	1.167	2.2	ug/L	187	Standard
	Cu	65	130088.7	6.6	**54.2229**	0.363	0.7	ug/L	95	Standard
	Zn	66	72029.9	5.8	**53.6245**	0.670	1.3	ug/L	320	Standard
>	**Ge**	72	517909.6	5.9				ug/L	478028	Standard
	As	75	76927.9	5.9	**51.7259**	0.256	0.5	ug/L	-247	Standard
	Se	82	7678.0	5.7	**48.8704**	0.294	0.6	ug/L	-45	Standard
	Se-1	77	5280.3	4.6	**52.8259**	1.884	3.6	ug/L	101	Standard
>	**Ga**	71	66.7	8.7				mg/L	38	Standard
	Rb	85	118.3	6.5				ug/L	27	Standard
	Y	89	470229.4	6.1				ug/L	457712	Standard
>	**Rh**	103	30.0	50.0				ug/L	7	Standard
	Mo	98	45.7	17.0	**-0.0032**	0.002	61.7	ug/L	7	Standard
	Ag	107	356535.8	5.7	**56.0410**	0.782	1.4	ug/L	60	Standard
	Cd	111	119011.7	5.4	**53.8029**	0.495	0.9	mg/L	2	Standard
	Cd	114	300786.6	6.2	**51.6975**	0.230	0.4	ug/L	28	Standard
>	**In**	115	538568.7	5.9				ug/L	514607	Standard
	Sn	118	264.3	8.4	**0.0973**	0.006	6.2	ug/L	125	Standard
	Sb	123	181439.1	5.5	**50.6447**	0.207	0.4	ug/L	14	Standard
	Ba	135	108222.3	5.9	**53.2334**	0.189	0.4	ug/L	10	Standard
	Ce	140	156.7	26.8				ug/L	25	Standard
>	**Tb**	159	659926.3	5.2				ug/L	648946	Standard
	Ho	165	13.3	21.7				ug/L	2	Standard
	Tl	203	350333.3	5.2	**52.7741**	0.576	1.1	ug/L	4	Standard
	Tl	205	367613.6	6.1	**55.1152**	1.342	2.4	ug/L	0	Standard
	Pb	206	146605.2	4.7	**54.0606**	0.439	0.8	ug/L	113	Standard
	Pb	207	131961.2	4.3	**54.1114**	0.319	0.6	ug/L	88	Standard
	Pb	208	343245.3	5.2	**53.6920**	0.702	1.3	ug/L	233	Standard
	U	238	219557.1	4.5	**51.9400**	0.064	0.1	ug/L	1	Standard
>	**Bi**	209	326457.8	4.5				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.5954**	1.023	171.8	mg/L	2	Standard
	Mg	24	121.7	26.7	**0.0837**	0.037	44.2	mg/L	48	Standard
	K	39	8.3	34.6	**0.0429**	0.034	80.1	mg/L	2	Standard
	Ca	43	30.0	44.1	**-0.4732**	0.872	184.2	mg/L	38	Standard
	Fe	54	321.7	11.3	**0.0646**	0.009	13.8	mg/L	218	Standard
	Fe	57	243.3	16.6	**-0.0949**	0.102	107.5	mg/L	283	Standard
>	**Sc-1**	45	48899.0	7.1				mg/L	46336	Standard
	Cl	35	8843.3	5.5				ug/L	7415	Standard
	Kr	83	113.0	12.5				ug/L	106	Standard
	Br	81	3313.7	4.9				ug/L	2367	Standard
	P	31	345086.9	3.4				ug/L	257843	Standard
	S	34	24653.4	3.3				ug/L	25966	Standard
	Sr	88	73.3	38.8				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	15.9	98.6				mg/L	10	Standard
	Ho-1	165	13.3	21.7				mg/L	2	Standard
	Er	166	16.7	91.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		114.279	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		108.343	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	104.656
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.649
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311010812SDL WG451377-02
Sample Date/Time: Tuesday, November 05, 2013 11:08:36
Number of Replicates: 3
Autosampler Position: 310
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	196483.8	6.0				ug/L	199689	Standard
	Be	9	68.3	11.2	**0.0247**	0.005	21.8	ug/L	22	Standard
	Al	27	3260.4	6.0	**0.0146**	0.001	7.0	ug/L	615	Standard
	Sc	45	40228.5	7.3				ug/L	46336	Standard
	Ti	47	23.7	9.8	**0.0091**	0.006	70.6	ug/L	20	Standard
	V	51	1150.2	7.7	**0.0663**	0.031	46.0	ug/L	893	Standard
	Cr	52	4440.0	1.5	**0.2609**	0.039	14.8	ug/L	3436	Standard
	Cr	53	375.0	3.5	**0.0905**	0.007	7.7	ug/L	325	Standard
	Mn	55	8604.1	7.5	**0.8742**	0.026	3.0	ug/L	949	Standard
	Co	59	127.7	2.4	**0.0018**	0.001	84.5	ug/L	109	Standard
	Ni	60	1182.7	2.5	**0.4762**	0.016	3.3	ug/L	187	Standard
	Cu	65	280.3	6.7	**0.0839**	0.003	3.5	ug/L	95	Standard
	Zn	66	2060.8	4.7	**1.4612**	0.053	3.6	ug/L	320	Standard
>	**Ge**	72	443529.8	5.3				ug/L	478028	Standard
	As	75	-232.9	13.1	**0.0091**	0.015	166.3	ug/L	-247	Standard
	Se	82	-37.6	39.2	**0.0384**	0.092	238.7	ug/L	-45	Standard
	Se-1	77	110.0	10.1	**0.2940**	0.187	63.4	ug/L	101	Standard
>	**Ga**	71	25.0	34.6				mg/L	38	Standard
	Rb	85	40.0	12.5				ug/L	27	Standard
	Y	89	399616.1	5.8				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	8.4	77.7	**-0.0152**	0.002	15.7	ug/L	7	Standard
	Ag	107	72.3	4.2	**0.0014**	0.000	34.4	ug/L	60	Standard
	Cd	111	19.7	36.1	**0.0047**	0.003	71.9	mg/L	2	Standard
	Cd	114	44.8	8.0	**-0.0036**	0.001	34.6	ug/L	28	Standard
>	**In**	115	459616.4	6.3				ug/L	514607	Standard
	Sn	118	132.7	20.3	**0.0143**	0.017	116.1	ug/L	125	Standard
	Sb	123	181.8	27.7	**0.0493**	0.013	26.2	ug/L	14	Standard
	Ba	135	57.0	20.7	**0.0145**	0.008	54.6	ug/L	10	Standard
	Ce	140	38.3	39.8				ug/L	25	Standard
>	**Tb**	159	575431.3	5.6				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	46.3	39.3	**0.0048**	0.003	55.0	ug/L	4	Standard
	Tl	205	28.3	62.0	**0.0026**	0.003	105.9	ug/L	0	Standard
	Pb	206	119.3	3.4	**0.0059**	0.002	33.1	ug/L	113	Standard
	Pb	207	105.0	4.2	**-0.0018**	0.001	38.7	ug/L	88	Standard
	Pb	208	254.3	5.3	**0.0004**	0.002	407.2	ug/L	233	Standard
	U	238	6.3	55.5	**-0.0019**	0.001	51.4	ug/L	1	Standard
>	**Bi**	209	292568.5	5.7				ug/L	321163	Standard

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Na	23	1.7	173.2	**0.7038**	1.210	172.0	mg/L	2	Standard
Mg	24	65.0	23.1	**0.0415**	0.014	33.9	mg/L	48	Standard
K	39	3.3	86.6	**-0.0086**	0.046	540.3	mg/L	2	Standard
Ca	43	30.0	16.7	**0.1243**	0.697	561.2	mg/L	38	Standard
Fe	54	139.2	15.8	**-0.0169**	0.017	102.4	mg/L	218	Standard
Fe	57	266.7	13.6	**0.0614**	0.089	145.3	mg/L	283	Standard
> **Sc-1**	45	40228.5	7.3				mg/L	46336	Standard
Cl	35	7914.1	1.5				ug/L	7415	Standard
Kr	83	96.3	13.5				ug/L	106	Standard
Br	81	2393.5	3.9				ug/L	2367	Standard
P	31	127807.2	3.6				ug/L	257843	Standard
S	34	23406.4	1.5				ug/L	25966	Standard
Sr	88	85.0	41.2				ug/L	92	Standard
C	12	23.3	24.7				mg/L	10	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	9.7	105.8				mg/L	10	Standard
Ho-1	165	5.0	100.0				mg/L	2	Standard
Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		98.395	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		92.783	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.314
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.097
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 11:11:43
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	209290.5	4.1				ug/L	199689	Standard
	Be	9	113586.4	4.6	**51.0849**	0.270	0.5	ug/L	22	Standard
	Al	27	8988827.4	3.7	**47.0203**	1.293	2.7	ug/L	615	Standard
	Sc	45	46397.6	3.1				ug/L	46336	Standard
	Ti	47	37164.9	4.1	**99.2952**	0.563	0.6	ug/L	20	Standard
	V	51	265284.1	3.4	**49.5102**	0.646	1.3	ug/L	893	Standard
	Cr	52	258604.3	4.6	**49.5371**	0.250	0.5	ug/L	3436	Standard
	Cr	53	56008.5	4.4	**49.7573**	0.211	0.4	ug/L	325	Standard
	Mn	55	498729.1	5.0	**51.1127**	0.293	0.6	ug/L	949	Standard
	Co	59	305649.5	4.9	**50.9532**	0.523	1.0	ug/L	109	Standard
	Ni	60	120399.0	4.2	**51.2318**	0.314	0.6	ug/L	187	Standard
	Cu	65	119167.4	5.4	**51.7626**	0.823	1.6	ug/L	95	Standard
	Zn	66	66083.3	4.2	**51.2549**	0.147	0.3	ug/L	320	Standard
>	**Ge**	72	496973.4	4.5				ug/L	478028	Standard
	As	75	73180.3	5.0	**51.2739**	0.249	0.5	ug/L	-247	Standard
	Se	82	7435.3	5.0	**49.3046**	0.316	0.6	ug/L	-45	Standard
	Se-1	77	4989.8	5.2	**51.9620**	1.316	2.5	ug/L	101	Standard
>	**Ga**	71	78.3	7.4				mg/L	38	Standard
	Rb	85	1026.7	5.8				ug/L	27	Standard
	Y	89	444611.8	3.2				ug/L	457712	Standard
>	**Rh**	103	35.0	100.0				ug/L	7	Standard
	Mo	98	327129.7	3.5	**113.9664**	0.676	0.6	ug/L	7	Standard
	Ag	107	324018.4	3.9	**53.1674**	0.195	0.4	ug/L	60	Standard
	Cd	111	110832.5	4.1	**52.3006**	0.234	0.4	mg/L	2	Standard
	Cd	114	289565.1	4.6	**51.9595**	0.672	1.3	ug/L	28	Standard
>	**In**	115	515802.7	3.7				ug/L	514607	Standard
	Sn	118	67045.8	3.8	**52.9931**	0.159	0.3	ug/L	125	Standard
	Sb	123	170216.6	2.8	**49.6126**	0.451	0.9	ug/L	14	Standard
	Ba	135	99797.3	4.4	**51.2456**	0.385	0.8	ug/L	10	Standard
	Ce	140	36.7	7.9				ug/L	25	Standard
>	**Tb**	159	638428.1	4.5				ug/L	648946	Standard
	Ho	165	13.3	57.3				ug/L	2	Standard
	Tl	203	327799.9	3.8	**51.2835**	0.123	0.2	ug/L	4	Standard
	Tl	205	338289.2	2.1	**52.7069**	0.904	1.7	ug/L	0	Standard
	Pb	206	136052.5	3.1	**52.1029**	0.282	0.5	ug/L	113	Standard
	Pb	207	122212.2	4.3	**52.0236**	0.398	0.8	ug/L	88	Standard
	Pb	208	317357.6	3.8	**51.5533**	0.132	0.3	ug/L	233	Standard
	U	238	205921.8	3.7	**50.5842**	0.272	0.5	ug/L	1	Standard
>	**Bi**	209	314386.3	3.6				ug/L	321163	Standard

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	Na	23	21.7	13.3	**7.7420**	1.006	13.0	mg/L	2	Standard
	Mg	24	4859.1	7.0	**4.8080**	0.259	5.4	mg/L	48	Standard
	K	39	296.7	9.3	**3.9063**	0.458	11.7	mg/L	2	Standard
	Ca	43	101.7	41.8	**5.8431**	3.658	62.6	mg/L	38	Standard
	Fe	54	8634.5	4.1	**4.7997**	0.065	1.4	mg/L	218	Standard
	Fe	57	2730.2	6.3	**5.0685**	0.192	3.8	mg/L	283	Standard
>	**Sc-1**	45	46397.6	3.1				mg/L	46336	Standard
	Cl	35	7576.6	4.5				ug/L	7415	Standard
	Kr	83	99.7	12.3				ug/L	106	Standard
	Br	81	2516.9	11.9				ug/L	2367	Standard
	P	31	289692.1	1.8				ug/L	257843	Standard
	S	34	26155.9	1.9				ug/L	25966	Standard
	Sr	88	95.0	15.8				ug/L	92	Standard
	C	12	6.7	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	2.7	221.0				mg/L	10	Standard
	Ho-1	165	13.3	57.3				mg/L	2	Standard
	Er	166	13.3	114.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.808	
	Be	9	102.170		
	Al	27	94.041		
	Sc	45			
	Ti	47	99.295		
	V	51	99.020		
	Cr	52	99.074		
	Cr	53			
	Mn	55	102.225		
	Co	59	101.906		
	Ni	60	102.464		
	Cu	65	103.525		
	Zn	66	102.510		
>	Ge	72		103.963	
	As	75	102.548		
	Se	82	98.609		
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98	113.966	
	Ag	107	106.335	
	Cd	111	104.601	
	Cd	114		
>	In	115		100.232
	Sn	118	105.986	
	Sb	123	99.225	
	Ba	135	102.491	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	102.567	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	103.107	
	U	238	101.168	
>	Bi	209		97.890
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 11:14:47
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	205703.3	9.4				ug/L	199689	Standard
	Be	9	65.0	35.3	**0.0211**	0.008	36.9	ug/L	22	Standard
	Al	27	2146.8	16.9	**0.0078**	0.001	11.2	ug/L	615	Standard
	Sc	45	43114.8	7.2				ug/L	46336	Standard
	Ti	47	21.3	14.3	**-0.0010**	0.012	1219.0	ug/L	20	Standard
	V	51	892.7	8.1	**0.0008**	0.009	1140.5	ug/L	893	Standard
	Cr	52	3403.7	2.2	**-0.0058**	0.034	577.7	ug/L	3436	Standard
	Cr	53	330.0	9.5	**0.0278**	0.036	131.5	ug/L	325	Standard
	Mn	55	1040.7	7.0	**-0.0024**	0.003	118.2	ug/L	949	Standard
	Co	59	116.7	12.4	**-0.0016**	0.001	90.3	ug/L	109	Standard
	Ni	60	1055.4	8.7	**0.3865**	0.021	5.5	ug/L	187	Standard
	Cu	65	258.7	14.3	**0.0661**	0.010	15.6	ug/L	95	Standard
	Zn	66	327.3	8.7	**-0.0723**	0.007	9.1	ug/L	320	Standard
>	**Ge**	72	469595.2	6.3				ug/L	478028	Standard
	As	75	-229.5	19.4	**0.0199**	0.041	207.5	ug/L	-247	Standard
	Se	82	-37.3	34.6	**0.0511**	0.099	194.5	ug/L	-45	Standard
	Se-1	77	108.3	8.7	**0.2021**	0.155	76.9	ug/L	101	Standard
>	**Ga**	71	58.3	9.9				mg/L	38	Standard
	Rb	85	41.7	25.0				ug/L	27	Standard
	Y	89	422193.9	7.7				ug/L	457712	Standard
>	**Rh**	103	5.0	0.0				ug/L	7	Standard
	Mo	98	63.0	35.4	**0.0044**	0.007	153.2	ug/L	7	Standard
	Ag	107	84.7	22.4	**0.0027**	0.003	103.6	ug/L	60	Standard
	Cd	111	11.2	75.3	**-0.0002**	0.004	1624.9	mg/L	2	Standard
	Cd	114	49.9	75.8	**-0.0035**	0.007	188.1	ug/L	28	Standard
>	**In**	115	489117.7	5.5				ug/L	514607	Standard
	Sn	118	128.3	11.2	**0.0040**	0.006	159.3	ug/L	125	Standard
	Sb	123	341.0	45.3	**0.0936**	0.041	43.8	ug/L	14	Standard
	Ba	135	16.0	47.2	**-0.0100**	0.004	36.8	ug/L	10	Standard
	Ce	140	8.3	69.3				ug/L	25	Standard
>	**Tb**	159	604334.9	7.0				ug/L	648946	Standard
	Ho	165	10.0	50.0				ug/L	2	Standard
	Tl	203	33.3	80.3	**0.0023**	0.004	170.3	ug/L	4	Standard
	Tl	205	28.3	53.9	**0.0025**	0.003	103.0	ug/L	0	Standard
	Pb	206	115.0	15.7	**0.0023**	0.004	183.5	ug/L	113	Standard
	Pb	207	92.0	23.7	**-0.0095**	0.007	69.8	ug/L	88	Standard
	Pb	208	244.0	10.7	**-0.0029**	0.002	55.1	ug/L	233	Standard
	U	238	9.3	69.7	**-0.0013**	0.001	114.4	ug/L	1	Standard
>	**Bi**	209	302983.8	6.8				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	55.0	31.5	**0.0257**	0.017	65.3	mg/L	48	Standard
K	39	3.3	173.2	**-0.0178**	0.077	431.6	mg/L	2	Standard
Ca	43	33.3	31.2	**0.2306**	1.109	481.0	mg/L	38	Standard
Fe	54	202.6	28.2	**0.0142**	0.027	189.5	mg/L	218	Standard
Fe	57	235.0	7.7	**-0.0496**	0.074	148.4	mg/L	283	Standard
> **Sc-1**	45	43114.8	7.2				mg/L	46336	Standard
Cl	35	7343.8	0.8				ug/L	7415	Standard
Kr	83	97.3	9.9				ug/L	106	Standard
Br	81	2340.2	4.1				ug/L	2367	Standard
P	31	256857.2	3.4				ug/L	257843	Standard
S	34	26511.5	0.5				ug/L	25966	Standard
Sr	88	90.0	19.2				ug/L	92	Standard
C	12	6.7	86.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	-0.5	100.0				mg/L	10	Standard
Ho-1	165	10.0	50.0				mg/L	2	Standard
Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		103.012	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		98.236	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.047
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.340
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005401
Sample Date/Time: Tuesday, November 05, 2013 11:18:12
Number of Replicates: 3
Autosampler Position: 306
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	599864.5	0.7				ug/L	199689	Standard
	Be	9	75.0	30.6	**0.0035**	0.004	101.5	ug/L	22	Standard
	Al	27	S	S	**S**	S	S	ug/L	615	Standard
	Sc	45	42098.4	1.6				ug/L	46336	Standard
	Ti	47	1924.8	19.2	**5.8120**	1.039	17.9	ug/L	20	Standard
	V	51	2690.7	2.2	**0.4002**	0.013	3.3	ug/L	893	Standard
	Cr	52	7815.3	1.7	**1.0297**	0.013	1.3	ug/L	3436	Standard
	Cr	53	3332.0	3.5	**3.1216**	0.175	5.6	ug/L	325	Standard
	Mn	55	11012544.5	1.3	**1293.9482**	18.231	1.4	ug/L	949	Standard
	Co	59	4771.1	3.3	**0.8878**	0.014	1.6	ug/L	109	Standard
	Ni	60	30765.2	3.2	**14.9089**	0.453	3.0	ug/L	187	Standard
	Cu	65	27853.9	0.5	**13.8057**	0.308	2.2	ug/L	95	Standard
	Zn	66	22939.4	2.4	**20.1398**	0.236	1.2	ug/L	320	Standard
>	**Ge**	72	434537.9	2.0				ug/L	478028	Standard
	As	75	11828.2	6.4	**9.6438**	0.764	7.9	ug/L	-247	Standard
	Se	82	132781.9	1.7	**1001.1409**	5.492	0.5	ug/L	-45	Standard
	Se-1	77	97734.6	1.2	**1186.0303**	9.608	0.8	ug/L	101	Standard
>	**Ga**	71	256.7	18.5				mg/L	38	Standard
	Rb	85	96529.9	2.0				ug/L	27	Standard
	Y	89	350766.5	3.2				ug/L	457712	Standard
>	**Rh**	103	2055.1	1.9				ug/L	7	Standard
	Mo	98	2143.8	2.3	**0.9671**	0.015	1.6	ug/L	7	Standard
	Ag	107	127.7	30.3	**0.0156**	0.008	50.2	ug/L	60	Standard
	Cd	111	204.6	12.7	**0.1216**	0.015	12.3	mg/L	2	Standard
	Cd	114	400.2	12.6	**0.0819**	0.010	11.6	ug/L	28	Standard
>	**In**	115	390952.5	2.6				ug/L	514607	Standard
	Sn	118	116.0	16.4	**0.0182**	0.020	107.5	ug/L	125	Standard
	Sb	123	234.2	26.7	**0.0800**	0.022	27.3	ug/L	14	Standard
	Ba	135	9926.3	2.5	**6.7102**	0.081	1.2	ug/L	10	Standard
	Ce	140	2073.5	6.6				ug/L	25	Standard
>	**Tb**	159	523731.7	0.9				ug/L	648946	Standard
	Ho	165	178.3	44.4				ug/L	2	Standard
	Tl	203	797.4	5.6	**0.1747**	0.009	4.9	ug/L	4	Standard
	Tl	205	778.4	12.0	**0.1705**	0.020	11.6	ug/L	0	Standard
	Pb	206	152.7	13.8	**0.0400**	0.011	27.2	ug/L	113	Standard
	Pb	207	121.3	12.2	**0.0237**	0.009	37.3	ug/L	88	Standard
	Pb	208	352.7	14.9	**0.0376**	0.011	30.3	ug/L	233	Standard
	U	238	98112.6	0.6	**34.3214**	0.162	0.5	ug/L	1	Standard
>	**Bi**	209	220768.5	1.1				ug/L	321163	Standard

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	Na	23	355.0	14.1	**139.9098**	21.746	15.5	mg/L	2	Standard
	Mg	24	954151.6	2.2	**1047.9145**	6.673	0.6	mg/L	48	Standard
	K	39	518.3	8.8	**7.5631**	0.628	8.3	mg/L	2	Standard
	Ca	43	898.4	4.7	**81.6817**	4.843	5.9	mg/L	38	Standard
	Fe	54	435.4	21.2	**0.1645**	0.060	36.2	mg/L	218	Standard
	Fe	57	1536.7	8.7	**2.9251**	0.251	8.6	mg/L	283	Standard
>	**Sc-1**	45	42098.4	1.6				mg/L	46336	Standard
	Cl	35	44395.0	2.6				ug/L	7415	Standard
	Kr	83	398.0	7.1				ug/L	106	Standard
	Br	81	164128.0	2.9				ug/L	2367	Standard
	P	31	186972.4	3.3				ug/L	257843	Standard
	S	34	16557.4	1.5				ug/L	25966	Standard
	Sr	88	12453.5	3.3				ug/L	92	Standard
	C	12	120.0	22.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	173.2				mg/L	0	Standard
	Dy	164	66.3	23.9				mg/L	10	Standard
	Ho-1	165	178.3	44.4				mg/L	2	Standard
	Er	166	76.7	52.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		300.399	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.902	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	75.971
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	68.740
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311005402
Sample Date/Time: Tuesday, November 05, 2013 11:21:59
Number of Replicates: 3
Autosampler Position: 311
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	532963.9	5.4				ug/L	199689	Standard
	Be	9	81.7	15.4	**0.0063**	0.003	47.9	ug/L	22	Standard
	Al	27	S	S	**S**	S	S	ug/L	615	Standard
	Sc	45	40223.4	4.4				ug/L	46336	Standard
	Ti	47	863.0	13.7	**2.4871**	0.260	10.5	ug/L	20	Standard
	V	51	2506.6	3.7	**0.3438**	0.011	3.3	ug/L	893	Standard
	Cr	52	7705.0	4.4	**0.9506**	0.012	1.3	ug/L	3436	Standard
	Cr	53	3287.0	0.2	**2.9703**	0.126	4.2	ug/L	325	Standard
	Mn	55	2359011.8	3.7	**268.2691**	0.738	0.3	ug/L	949	Standard
	Co	59	4019.5	5.7	**0.7200**	0.018	2.6	ug/L	109	Standard
	Ni	60	33742.3	4.9	**15.8328**	0.188	1.2	ug/L	187	Standard
	Cu	65	28235.3	3.6	**13.5478**	0.201	1.5	ug/L	95	Standard
	Zn	66	22032.0	2.3	**18.7136**	0.305	1.6	ug/L	320	Standard
>	**Ge**	72	448762.5	3.8				ug/L	478028	Standard
	As	75	12421.2	17.7	**9.7777**	1.530	15.6	ug/L	-247	Standard
	Se	82	123128.9	3.5	**899.0024**	4.464	0.5	ug/L	-45	Standard
	Se-1	77	90998.8	4.1	**1068.9872**	6.558	0.6	ug/L	101	Standard
>	**Ga**	71	150.0	6.7				mg/L	38	Standard
	Rb	85	100006.0	4.2				ug/L	27	Standard
	Y	89	362368.3	2.1				ug/L	457712	Standard
>	**Rh**	103	2243.5	10.6				ug/L	7	Standard
	Mo	98	3056.7	2.1	**1.3244**	0.015	1.2	ug/L	7	Standard
	Ag	107	82.7	8.9	**0.0052**	0.002	30.5	ug/L	60	Standard
	Cd	111	167.3	4.0	**0.0939**	0.005	5.3	mg/L	2	Standard
	Cd	114	438.2	10.2	**0.0863**	0.008	8.8	ug/L	28	Standard
>	**In**	115	409166.9	3.0				ug/L	514607	Standard
	Sn	118	130.7	3.5	**0.0276**	0.007	25.0	ug/L	125	Standard
	Sb	123	165.2	4.3	**0.0509**	0.001	1.7	ug/L	14	Standard
	Ba	135	13343.5	2.4	**8.6246**	0.060	0.7	ug/L	10	Standard
	Ce	140	5517.7	3.3				ug/L	25	Standard
>	**Tb**	159	544153.9	2.3				ug/L	648946	Standard
	Ho	165	290.0	15.8				ug/L	2	Standard
	Tl	203	961.0	4.8	**0.2008**	0.011	5.5	ug/L	4	Standard
	Tl	205	936.7	2.2	**0.1956**	0.009	4.6	ug/L	0	Standard
	Pb	206	187.0	9.3	**0.0537**	0.007	13.3	ug/L	113	Standard
	Pb	207	135.0	8.0	**0.0279**	0.004	15.9	ug/L	88	Standard
	Pb	208	379.7	4.9	**0.0396**	0.005	12.1	ug/L	233	Standard
	U	238	103514.1	1.6	**34.4466**	0.354	1.0	ug/L	1	Standard
>	**Bi**	209	232104.0	2.4				ug/L	321163	Standard

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	Na	23	391.7	11.6	**161.6247**	20.714	12.8	mg/L	2	Standard
	Mg	24	817616.2	2.0	**940.5346**	22.681	2.4	mg/L	48	Standard
	K	39	433.3	3.3	**6.6259**	0.518	7.8	mg/L	2	Standard
	Ca	43	1131.7	7.2	**108.6632**	8.546	7.9	mg/L	38	Standard
	Fe	54	186.5	12.5	**0.0142**	0.021	147.3	mg/L	218	Standard
	Fe	57	1558.4	1.9	**3.1467**	0.153	4.8	mg/L	283	Standard
>	**Sc-1**	45	40223.4	4.4				mg/L	46336	Standard
	Cl	35	39450.0	2.7				ug/L	7415	Standard
	Kr	83	266.3	4.5				ug/L	106	Standard
	Br	81	150214.3	0.4				ug/L	2367	Standard
	P	31	198918.2	3.4				ug/L	257843	Standard
	S	34	18179.2	1.3				ug/L	25966	Standard
	Sr	88	12653.6	4.0				ug/L	92	Standard
	C	12	63.3	32.9				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	182.0	9.2				mg/L	10	Standard
	Ho-1	165	290.0	15.8				mg/L	2	Standard
	Er	166	166.7	13.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		266.897	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		93.878	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	79.511
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	72.270
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

Sample ID: L1311005402
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Method 6020 - Summary Report

Sample ID: L1311005403
Sample Date/Time: Tuesday, November 05, 2013 11:25:04
Number of Replicates: 3
Autosampler Position: 312
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	470841.3	4.0				ug/L	199689	Standard
	Be	9	148.3	7.0	**0.0215**	0.003	14.4	ug/L	22	Standard
	Al	27	629529490.3	3.3	**1463.6720**	16.021	1.1	ug/L	615	Standard
	Sc	45	40883.5	5.9				ug/L	46336	Standard
	Ti	47	651.7	10.5	**1.8836**	0.129	6.9	ug/L	20	Standard
	V	51	3496.7	6.9	**0.5558**	0.026	4.7	ug/L	893	Standard
	Cr	52	9039.7	4.7	**1.2575**	0.021	1.7	ug/L	3436	Standard
	Cr	53	2988.6	3.3	**2.7067**	0.195	7.2	ug/L	325	Standard
	Mn	55	10047924.5	3.5	**1154.7986**	5.389	0.5	ug/L	949	Standard
	Co	59	13221.8	5.0	**2.4443**	0.032	1.3	ug/L	109	Standard
	Ni	60	34607.8	3.6	**16.4143**	0.191	1.2	ug/L	187	Standard
	Cu	65	20659.4	4.0	**9.9989**	0.034	0.3	ug/L	95	Standard
	Zn	66	17864.9	2.0	**15.2695**	0.345	2.3	ug/L	320	Standard
>	**Ge**	72	444234.7	3.9				ug/L	478028	Standard
	As	75	9438.9	9.6	**7.5543**	0.495	6.5	ug/L	-247	Standard
	Se	82	73072.5	3.8	**539.0625**	1.969	0.4	ug/L	-45	Standard
	Se-1	77	53257.5	3.1	**631.7807**	6.141	1.0	ug/L	101	Standard
>	**Ga**	71	253.3	4.1				mg/L	38	Standard
	Rb	85	66967.8	3.6				ug/L	27	Standard
	Y	89	364056.3	5.3				ug/L	457712	Standard
>	**Rh**	103	1780.1	5.3				ug/L	7	Standard
	Mo	98	3820.2	4.4	**1.6780**	0.068	4.1	ug/L	7	Standard
	Ag	107	76.3	29.6	**0.0041**	0.005	120.0	ug/L	60	Standard
	Cd	111	152.5	12.6	**0.0859**	0.009	10.5	mg/L	2	Standard
	Cd	114	364.9	3.5	**0.0708**	0.004	5.6	ug/L	28	Standard
>	**In**	115	404924.7	4.4				ug/L	514607	Standard
	Sn	118	128.0	6.8	**0.0261**	0.005	17.6	ug/L	125	Standard
	Sb	123	597.8	3.9	**0.2123**	0.004	1.7	ug/L	14	Standard
	Ba	135	28077.7	3.9	**18.3594**	0.106	0.6	ug/L	10	Standard
	Ce	140	2343.5	2.5				ug/L	25	Standard
>	**Tb**	159	538561.0	4.0				ug/L	648946	Standard
	Ho	165	126.7	12.1				ug/L	2	Standard
	Tl	203	701.3	4.6	**0.1466**	0.003	2.1	ug/L	4	Standard
	Tl	205	738.4	10.5	**0.1545**	0.014	9.1	ug/L	0	Standard
	Pb	206	164.7	3.3	**0.0428**	0.004	8.5	ug/L	113	Standard
	Pb	207	128.7	8.9	**0.0248**	0.006	24.9	ug/L	88	Standard
	Pb	208	355.0	6.9	**0.0346**	0.003	10.1	ug/L	233	Standard
	U	238	69775.7	2.6	**23.3608**	0.059	0.3	ug/L	1	Standard
>	**Bi**	209	230652.8	2.6				ug/L	321163	Standard

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	Na	23	355.0	15.7	**144.8243**	30.075	20.8	mg/L	2	Standard
	Mg	24	882661.2	4.2	**999.0106**	22.181	2.2	mg/L	48	Standard
	K	39	380.0	4.7	**5.7127**	0.522	9.1	mg/L	2	Standard
	Ca	43	1166.7	7.9	**110.6957**	14.733	13.3	mg/L	38	Standard
	Fe	54	219.9	13.7	**0.0342**	0.027	79.0	mg/L	218	Standard
	Fe	57	1371.7	3.3	**2.6557**	0.290	10.9	mg/L	283	Standard
>	**Sc-1**	45	40883.5	5.9				mg/L	46336	Standard
	Cl	35	35308.5	3.7				ug/L	7415	Standard
	Kr	83	276.3	3.9				ug/L	106	Standard
	Br	81	148010.1	3.7				ug/L	2367	Standard
	P	31	204996.3	2.5				ug/L	257843	Standard
	S	34	17651.9	0.7				ug/L	25966	Standard
	Sr	88	9679.8	2.3				ug/L	92	Standard
	C	12	126.7	4.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	0	Standard
	Dy	164	83.5	6.7				mg/L	10	Standard
	Ho-1	165	126.7	12.1				mg/L	2	Standard
	Er	166	66.7	31.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		235.787	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		92.931	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	78.686
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	71.818
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311005404
Sample Date/Time: Tuesday, November 05, 2013 11:28:08
Number of Replicates: 3
Autosampler Position: 313
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	374788.3	4.6				ug/L	199689	Standard
	Be	9	78.3	25.8	**0.0114**	0.005	44.5	ug/L	22	Standard
	Al	27	214863755.2	3.0	**627.7944**	13.203	2.1	ug/L	615	Standard
	Sc	45	44764.4	4.4				ug/L	46336	Standard
	Ti	47	641.7	3.5	**1.7601**	0.034	1.9	ug/L	20	Standard
	V	51	5833.0	5.5	**0.9835**	0.037	3.8	ug/L	893	Standard
	Cr	52	6517.7	4.3	**0.6377**	0.018	2.9	ug/L	3436	Standard
	Cr	53	1593.4	7.4	**1.2251**	0.042	3.5	ug/L	325	Standard
	Mn	55	4049607.7	5.6	**441.4643**	6.699	1.5	ug/L	949	Standard
	Co	59	8381.3	8.6	**1.4602**	0.058	4.0	ug/L	109	Standard
	Ni	60	25920.2	6.5	**11.6340**	0.251	2.2	ug/L	187	Standard
	Cu	65	9962.6	8.1	**4.5430**	0.163	3.6	ug/L	95	Standard
	Zn	66	15536.3	5.1	**12.5342**	0.082	0.7	ug/L	320	Standard
>	**Ge**	72	468087.7	4.7				ug/L	478028	Standard
	As	75	1488.9	8.2	**1.2932**	0.039	3.0	ug/L	-247	Standard
	Se	82	608.0	11.9	**4.5578**	0.313	6.9	ug/L	-45	Standard
	Se-1	77	507.0	6.2	**4.6950**	0.227	4.8	ug/L	101	Standard
>	**Ga**	71	155.0	19.6				mg/L	38	Standard
	Rb	85	62826.7	3.3				ug/L	27	Standard
	Y	89	397719.0	5.0				ug/L	457712	Standard
>	**Rh**	103	1151.7	6.2				ug/L	7	Standard
	Mo	98	4936.1	4.3	**1.9460**	0.021	1.1	ug/L	7	Standard
	Ag	107	63.7	21.4	**-0.0000**	0.002	9219.8	ug/L	60	Standard
	Cd	111	105.3	6.9	**0.0510**	0.002	3.1	mg/L	2	Standard
	Cd	114	327.3	10.7	**0.0543**	0.005	8.4	ug/L	28	Standard
>	**In**	115	451555.9	4.1				ug/L	514607	Standard
	Sn	118	162.7	4.0	**0.0442**	0.004	8.1	ug/L	125	Standard
	Sb	123	274.5	15.7	**0.0814**	0.012	14.4	ug/L	14	Standard
	Ba	135	28492.5	4.1	**16.7028**	0.096	0.6	ug/L	10	Standard
	Ce	140	1361.7	2.6				ug/L	25	Standard
>	**Tb**	159	585039.6	4.9				ug/L	648946	Standard
	Ho	165	53.3	60.3				ug/L	2	Standard
	Tl	203	314.7	5.3	**0.0560**	0.003	5.7	ug/L	4	Standard
	Tl	205	340.0	12.7	**0.0615**	0.010	16.2	ug/L	0	Standard
	Pb	206	233.0	8.2	**0.0636**	0.007	11.0	ug/L	113	Standard
	Pb	207	194.0	5.7	**0.0490**	0.002	4.4	ug/L	88	Standard
	Pb	208	542.7	8.0	**0.0615**	0.005	7.7	ug/L	233	Standard
	U	238	22346.5	3.8	**6.5697**	0.059	0.9	ug/L	1	Standard
>	**Bi**	209	262554.1	3.5				ug/L	321163	Standard

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	Na	23	416.7	12.9	**153.8498**	14.123	9.2	mg/L	2	Standard
	Mg	24	282348.3	3.3	**291.7201**	3.436	1.2	mg/L	48	Standard
	K	39	366.7	12.9	**5.0045**	0.504	10.1	mg/L	2	Standard
	Ca	43	1631.8	3.8	**141.5731**	5.002	3.5	mg/L	38	Standard
	Fe	54	208.7	23.0	**0.0139**	0.024	171.8	mg/L	218	Standard
	Fe	57	1283.4	10.2	**2.1711**	0.161	7.4	mg/L	283	Standard
>	**Sc-1**	45	44764.4	4.4				mg/L	46336	Standard
	Cl	35	20785.6	4.9				ug/L	7415	Standard
	Kr	83	174.0	10.8				ug/L	106	Standard
	Br	81	36166.6	6.8				ug/L	2367	Standard
	P	31	261893.7	5.6				ug/L	257843	Standard
	S	34	21111.4	4.3				ug/L	25966	Standard
	Sr	88	4992.5	6.4				ug/L	92	Standard
	C	12	46.7	44.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	86.6				mg/L	0	Standard
	Dy	164	37.9	24.6				mg/L	10	Standard
	Ho-1	165	53.3	60.3				mg/L	2	Standard
	Er	166	43.3	58.1				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		187.686	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		97.920	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.748
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	81.751
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1311005405
Sample Date/Time: Tuesday, November 05, 2013 11:31:13
Number of Replicates: 3
Autosampler Position: 314
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	266794.0	3.9				ug/L	199689	Standard
	Be	9	76.7	16.4	**0.0189**	0.005	26.2	ug/L	22	Standard
	Al	27	114227411.7	1.1	**468.9611**	14.210	3.0	ug/L	615	Standard
	Sc	45	44961.7	3.9				ug/L	46336	Standard
	Ti	47	374.7	9.7	**0.9918**	0.073	7.3	ug/L	20	Standard
	V	51	4163.6	6.1	**0.6449**	0.034	5.3	ug/L	893	Standard
	Cr	52	6813.2	5.8	**0.6866**	0.031	4.5	ug/L	3436	Standard
	Cr	53	2220.2	3.0	**1.8046**	0.016	0.9	ug/L	325	Standard
	Mn	55	5239702.0	3.4	**566.9066**	3.648	0.6	ug/L	949	Standard
	Co	59	6023.9	7.1	**1.0353**	0.039	3.8	ug/L	109	Standard
	Ni	60	16049.2	6.5	**7.1109**	0.204	2.9	ug/L	187	Standard
	Cu	65	5893.5	5.9	**2.6456**	0.063	2.4	ug/L	95	Standard
	Zn	66	37921.5	5.4	**30.8291**	0.579	1.9	ug/L	320	Standard
>	**Ge**	72	471818.9	3.7				ug/L	478028	Standard
	As	75	2179.3	4.0	**1.7933**	0.013	0.7	ug/L	-247	Standard
	Se	82	893.0	5.5	**6.5090**	0.155	2.4	ug/L	-45	Standard
	Se-1	77	325.7	7.8	**2.6268**	0.335	12.7	ug/L	101	Standard
>	**Ga**	71	135.0	17.0				mg/L	38	Standard
	Rb	85	17004.6	5.8				ug/L	27	Standard
	Y	89	412730.8	2.1				ug/L	457712	Standard
>	**Rh**	103	666.7	11.6				ug/L	7	Standard
	Mo	98	3932.5	5.1	**1.5078**	0.017	1.1	ug/L	7	Standard
	Ag	107	63.0	18.3	**-0.0005**	0.002	348.0	ug/L	60	Standard
	Cd	111	136.1	7.8	**0.0661**	0.008	11.6	mg/L	2	Standard
	Cd	114	372.6	7.8	**0.0619**	0.006	10.4	ug/L	28	Standard
>	**In**	115	462945.3	4.4				ug/L	514607	Standard
	Sn	118	153.0	12.5	**0.0317**	0.011	34.5	ug/L	125	Standard
	Sb	123	270.5	7.7	**0.0781**	0.006	7.6	ug/L	14	Standard
	Ba	135	21395.4	3.9	**12.2309**	0.138	1.1	ug/L	10	Standard
	Ce	140	4724.1	4.3				ug/L	25	Standard
>	**Tb**	159	592437.6	2.8				ug/L	648946	Standard
	Ho	165	88.3	19.9				ug/L	2	Standard
	Tl	203	178.7	7.2	**0.0297**	0.002	7.3	ug/L	4	Standard
	Tl	205	190.0	9.5	**0.0324**	0.003	7.9	ug/L	0	Standard
	Pb	206	237.3	1.4	**0.0630**	0.005	7.5	ug/L	113	Standard
	Pb	207	195.3	4.6	**0.0473**	0.004	8.4	ug/L	88	Standard
	Pb	208	528.3	3.1	**0.0563**	0.003	4.6	ug/L	233	Standard
	U	238	39343.1	3.5	**11.2797**	0.055	0.5	ug/L	1	Standard
>	**Bi**	209	269284.2	3.2				ug/L	321163	Standard

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	Na	23	250.0	16.4	**92.2776**	15.831	17.2	mg/L	2	Standard
	Mg	24	265661.7	2.9	**273.2994**	6.761	2.5	mg/L	48	Standard
	K	39	71.7	22.4	**0.9239**	0.205	22.1	mg/L	2	Standard
	Ca	43	1030.0	10.1	**87.7094**	5.830	6.6	mg/L	38	Standard
	Fe	54	229.2	19.0	**0.0253**	0.021	83.0	mg/L	218	Standard
	Fe	57	803.4	4.7	**1.1389**	0.040	3.5	mg/L	283	Standard
>	**Sc-1**	45	44961.7	3.9				mg/L	46336	Standard
	Cl	35	14781.2	6.2				ug/L	7415	Standard
	Kr	83	158.7	6.2				ug/L	106	Standard
	Br	81	176063.9	1.8				ug/L	2367	Standard
	P	31	261892.3	4.7				ug/L	257843	Standard
	S	34	19721.2	2.5				ug/L	25966	Standard
	Sr	88	2526.9	5.2				ug/L	92	Standard
	C	12	50.0	40.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	82.2	25.2				mg/L	10	Standard
	Ho-1	165	88.3	19.9				mg/L	2	Standard
	Er	166	93.3	27.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		133.605	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.701	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.961
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.847
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1311005406
Sample Date/Time: Tuesday, November 05, 2013 11:34:17
Number of Replicates: 3
Autosampler Position: 315
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	420354.5	4.7				ug/L	199689	Standard
	Be	9	110.0	29.8	**0.0166**	0.008	50.8	ug/L	22	Standard
	Al	27	364677639.3	4.0	**949.7805**	14.101	1.5	ug/L	615	Standard
	Sc	45	40580.9	1.7				ug/L	46336	Standard
	Ti	47	366.3	8.6	**1.0416**	0.061	5.9	ug/L	20	Standard
	V	51	2889.5	5.6	**0.4341**	0.023	5.2	ug/L	893	Standard
	Cr	52	9149.8	2.8	**1.2988**	0.015	1.1	ug/L	3436	Standard
	Cr	53	3110.3	7.5	**2.8484**	0.177	6.2	ug/L	325	Standard
	Mn	55	2838756.3	3.6	**328.8714**	3.116	0.9	ug/L	949	Standard
	Co	59	2972.3	4.8	**0.5369**	0.009	1.6	ug/L	109	Standard
	Ni	60	18438.9	4.9	**8.7737**	0.143	1.6	ug/L	187	Standard
	Cu	65	15204.6	4.0	**7.4066**	0.102	1.4	ug/L	95	Standard
	Zn	66	12190.6	4.7	**10.3922**	0.237	2.3	ug/L	320	Standard
>	**Ge**	72	440524.6	3.4				ug/L	478028	Standard
	As	75	5300.4	7.8	**4.3759**	0.467	10.7	ug/L	-247	Standard
	Se	82	26439.8	3.5	**196.8751**	0.703	0.4	ug/L	-45	Standard
	Se-1	77	18786.7	4.9	**223.9604**	4.175	1.9	ug/L	101	Standard
>	**Ga**	71	95.0	24.1				mg/L	38	Standard
	Rb	85	40764.8	2.2				ug/L	27	Standard
	Y	89	365605.7	3.7				ug/L	457712	Standard
>	**Rh**	103	970.0	9.0				ug/L	7	Standard
	Mo	98	3665.0	4.2	**1.5851**	0.024	1.5	ug/L	7	Standard
	Ag	107	65.3	5.4	**0.0015**	0.001	45.0	ug/L	60	Standard
	Cd	111	72.5	5.3	**0.0373**	0.003	6.9	mg/L	2	Standard
	Cd	114	200.8	19.9	**0.0328**	0.011	32.1	ug/L	28	Standard
>	**In**	115	410695.7	3.2				ug/L	514607	Standard
	Sn	118	155.3	12.1	**0.0515**	0.018	34.7	ug/L	125	Standard
	Sb	123	135.1	3.9	**0.0397**	0.002	5.2	ug/L	14	Standard
	Ba	135	7624.6	2.5	**4.9021**	0.046	0.9	ug/L	10	Standard
	Ce	140	595.0	7.7				ug/L	25	Standard
>	**Tb**	159	533832.8	2.3				ug/L	648946	Standard
	Ho	165	135.0	46.3				ug/L	2	Standard
	Tl	203	334.7	2.5	**0.0672**	0.004	5.5	ug/L	4	Standard
	Tl	205	335.0	12.8	**0.0679**	0.011	15.6	ug/L	0	Standard
	Pb	206	130.0	10.9	**0.0234**	0.007	28.1	ug/L	113	Standard
	Pb	207	112.0	17.4	**0.0142**	0.013	92.6	ug/L	88	Standard
	Pb	208	288.3	5.6	**0.0187**	0.002	8.4	ug/L	233	Standard
	U	238	114882.8	2.6	**37.7730**	0.235	0.6	ug/L	1	Standard
>	**Bi**	209	234907.5	3.2				ug/L	321163	Standard

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	Na	23	325.0	17.3	**132.4471**	20.533	15.5	mg/L	2	Standard
	Mg	24	837529.7	3.2	**954.1982**	20.071	2.1	mg/L	48	Standard
	K	39	231.7	13.9	**3.4731**	0.481	13.8	mg/L	2	Standard
	Ca	43	951.7	8.0	**89.9655**	6.463	7.2	mg/L	38	Standard
	Fe	54	163.3	12.5	**-0.0025**	0.013	539.9	mg/L	218	Standard
	Fe	57	1213.4	8.6	**2.2927**	0.222	9.7	mg/L	283	Standard
>	**Sc-1**	45	40580.9	1.7				mg/L	46336	Standard
	Cl	35	30466.0	3.9				ug/L	7415	Standard
	Kr	83	214.3	3.1				ug/L	106	Standard
	Br	81	121014.7	1.0				ug/L	2367	Standard
	P	31	212292.0	4.2				ug/L	257843	Standard
	S	34	17596.9	2.9				ug/L	25966	Standard
	Sr	88	5484.3	5.4				ug/L	92	Standard
	C	12	126.7	31.9				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	103.5	21.7				mg/L	10	Standard
	Ho-1	165	135.0	46.3				mg/L	2	Standard
	Er	166	66.7	22.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		210.505	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		92.155	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	79.808
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	73.143
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311005407
Sample Date/Time: Tuesday, November 05, 2013 11:37:21
Number of Replicates: 3
Autosampler Position: 316
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	447357.5	3.2				ug/L	199689	Standard
	Be	9	71.7	17.6	**0.0068**	0.002	36.5	ug/L	22	Standard
	Al	27	462565480.4	2.5	**1131.9115**	14.063	1.2	ug/L	615	Standard
	Sc	45	37205.7	4.0				ug/L	46336	Standard
	Ti	47	522.7	5.6	**1.6231**	0.059	3.6	ug/L	20	Standard
	V	51	1888.6	16.7	**0.2501**	0.066	26.5	ug/L	893	Standard
	Cr	52	7001.0	1.5	**0.9345**	0.031	3.3	ug/L	3436	Standard
	Cr	53	5202.6	1.5	**5.3266**	0.216	4.1	ug/L	325	Standard
	Mn	55	3559678.5	3.1	**441.0772**	6.104	1.4	ug/L	949	Standard
	Co	59	4094.9	3.4	**0.8019**	0.019	2.3	ug/L	109	Standard
	Ni	60	16999.2	3.1	**8.6514**	0.041	0.5	ug/L	187	Standard
	Cu	65	17669.3	2.6	**9.2189**	0.041	0.4	ug/L	95	Standard
	Zn	66	15900.7	0.4	**14.6426**	0.431	2.9	ug/L	320	Standard
>	**Ge**	72	411916.7	2.7				ug/L	478028	Standard
	As	75	6689.8	1.0	**5.8280**	0.145	2.5	ug/L	-247	Standard
	Se	82	3070.5	0.7	**24.7355**	0.534	2.2	ug/L	-45	Standard
	Se-1	77	1001.4	2.7	**11.8187**	0.641	5.4	ug/L	101	Standard
>	**Ga**	71	156.7	12.9				mg/L	38	Standard
	Rb	85	92466.4	2.1				ug/L	27	Standard
	Y	89	325410.1	3.5				ug/L	457712	Standard
>	**Rh**	103	1735.1	3.5				ug/L	7	Standard
	Mo	98	1551.5	2.9	**0.7386**	0.001	0.1	ug/L	7	Standard
	Ag	107	68.0	6.7	**0.0037**	0.001	24.7	ug/L	60	Standard
	Cd	111	71.3	20.2	**0.0413**	0.008	19.7	mg/L	2	Standard
	Cd	114	166.4	7.8	**0.0292**	0.004	15.0	ug/L	28	Standard
>	**In**	115	368308.6	2.9				ug/L	514607	Standard
	Sn	118	135.3	7.5	**0.0473**	0.015	31.3	ug/L	125	Standard
	Sb	123	116.0	12.7	**0.0376**	0.006	17.2	ug/L	14	Standard
	Ba	135	5255.2	3.0	**3.7626**	0.014	0.4	ug/L	10	Standard
	Ce	140	1328.4	5.5				ug/L	25	Standard
>	**Tb**	159	493092.5	1.2				ug/L	648946	Standard
	Ho	165	170.0	42.7				ug/L	2	Standard
	Tl	203	423.3	8.4	**0.0966**	0.007	6.9	ug/L	4	Standard
	Tl	205	430.0	8.1	**0.0986**	0.007	7.4	ug/L	0	Standard
	Pb	206	141.0	5.0	**0.0381**	0.005	13.0	ug/L	113	Standard
	Pb	207	123.3	12.2	**0.0290**	0.009	29.6	ug/L	88	Standard
	Pb	208	313.7	7.8	**0.0326**	0.005	16.0	ug/L	233	Standard
	U	238	77823.1	2.0	**28.7473**	0.092	0.3	ug/L	1	Standard
>	**Bi**	209	209051.2	1.7				ug/L	321163	Standard

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	Na	23	238.3	8.5	**106.0392**	5.840	5.5	mg/L	2	Standard
	Mg	24	1377702.5	2.4	**1712.9018**	27.090	1.6	mg/L	48	Standard
	K	39	176.7	7.1	**2.8768**	0.100	3.5	mg/L	2	Standard
	Ca	43	666.7	12.8	**68.3384**	11.322	16.6	mg/L	38	Standard
	Fe	54	175.1	22.7	**0.0154**	0.028	181.5	mg/L	218	Standard
	Fe	57	1303.4	6.5	**2.7943**	0.332	11.9	mg/L	283	Standard
>	**Sc-1**	45	37205.7	4.0				mg/L	46336	Standard
	Cl	35	41042.2	2.4				ug/L	7415	Standard
	Kr	83	409.7	11.5				ug/L	106	Standard
	Br	81	615077.4	1.3				ug/L	2367	Standard
	P	31	165238.2	2.6				ug/L	257843	Standard
	S	34	15095.9	1.1				ug/L	25966	Standard
	Sr	88	10932.3	5.3				ug/L	92	Standard
	C	12	83.3	42.1				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	65.5				mg/L	0	Standard
	Dy	164	103.9	26.2				mg/L	10	Standard
	Ho-1	165	170.0	42.7				mg/L	2	Standard
	Er	166	126.7	25.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		224.027	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		86.170	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	71.571
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	65.092
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1311005411 WG451289-01
Sample Date/Time: Tuesday, November 05, 2013 11:44:28
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 100
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	213857.2	1.6				ug/L	199689	Standard
	Be	9	53.3	51.6	**0.0152**	0.012	78.6	ug/L	22	Standard
	Al	27	5106772.5	6.4	**26.1258**	1.462	5.6	ug/L	615	Standard
	Sc	45	41627.1	1.2				ug/L	46336	Standard
	Ti	47	19.3	19.6	**-0.0074**	0.010	135.9	ug/L	20	Standard
	V	51	1495.1	8.5	**0.1192**	0.024	20.5	ug/L	893	Standard
	Cr	52	5597.0	2.0	**0.4401**	0.030	6.9	ug/L	3436	Standard
	Cr	53	591.7	14.0	**0.2719**	0.072	26.5	ug/L	325	Standard
	Mn	55	106345.9	12.2	**11.4015**	1.320	11.6	ug/L	949	Standard
	Co	59	293.3	46.3	**0.0294**	0.023	79.9	ug/L	109	Standard
	Ni	60	1262.1	7.8	**0.4778**	0.038	8.0	ug/L	187	Standard
	Cu	65	1164.4	8.5	**0.4812**	0.039	8.1	ug/L	95	Standard
	Zn	66	2649.6	1.9	**1.8392**	0.019	1.0	ug/L	320	Standard
>	**Ge**	72	471198.4	1.2				ug/L	478028	Standard
	As	75	-29.3	46.1	**0.1693**	0.010	5.8	ug/L	-247	Standard
	Se	82	236.6	2.4	**1.9574**	0.020	1.0	ug/L	-45	Standard
	Se-1	77	266.7	4.3	**1.9654**	0.098	5.0	ug/L	101	Standard
>	**Ga**	71	33.3	22.9				mg/L	38	Standard
	Rb	85	590.0	6.8				ug/L	27	Standard
	Y	89	418376.9	1.6				ug/L	457712	Standard
>	**Rh**	103	15.0	33.3				ug/L	7	Standard
	Mo	98	56.1	105.3	**0.0025**	0.022	894.4	ug/L	7	Standard
	Ag	107	80.3	48.3	**0.0022**	0.007	314.3	ug/L	60	Standard
	Cd	111	6.3	18.3	**-0.0025**	0.001	23.8	mg/L	2	Standard
	Cd	114	30.2	58.4	**-0.0069**	0.003	48.8	ug/L	28	Standard
>	**In**	115	482237.3	0.6				ug/L	514607	Standard
	Sn	118	115.3	8.2	**-0.0053**	0.009	163.6	ug/L	125	Standard
	Sb	123	59.1	102.7	**0.0087**	0.019	217.8	ug/L	14	Standard
	Ba	135	107.7	9.8	**0.0407**	0.006	14.0	ug/L	10	Standard
	Ce	140	73.3	33.6				ug/L	25	Standard
>	**Tb**	159	601821.0	2.5				ug/L	648946	Standard
	Ho	165	11.7	65.5				ug/L	2	Standard
	Tl	203	69.0	16.7	**0.0084**	0.002	22.4	ug/L	4	Standard
	Tl	205	108.3	69.9	**0.0156**	0.012	79.0	ug/L	0	Standard
	Pb	206	108.0	5.6	**0.0002**	0.002	928.3	ug/L	113	Standard
	Pb	207	93.7	17.2	**-0.0080**	0.007	89.4	ug/L	88	Standard
	Pb	208	288.7	19.7	**0.0053**	0.010	180.6	ug/L	233	Standard
	U	238	1295.4	12.6	**0.3307**	0.040	12.2	ug/L	1	Standard
>	**Bi**	209	299148.8	1.0				ug/L	321163	Standard

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⌈	**Na**	23	1.7	173.2	**0.6776**	1.165	171.9	mg/L	2	Standard
|	**Mg**	24	11846.3	4.5	**13.1245**	0.505	3.8	mg/L	48	Standard
|	**K**	39	5.0	173.2	**0.0120**	0.128	1069.6	mg/L	2	Standard
|	**Ca**	43	40.0	25.0	**0.9495**	0.992	104.5	mg/L	38	Standard
|	**Fe**	54	97.5	34.0	**-0.0467**	0.022	46.7	mg/L	218	Standard
|	**Fe**	57	256.7	11.4	**0.0154**	0.062	401.4	mg/L	283	Standard
⌊>	**Sc-1**	45	41627.1	1.2				mg/L	46336	Standard
	Cl	35	9292.9	4.7				ug/L	7415	Standard
	Kr	83	110.0	2.4				ug/L	106	Standard
	Br	81	4974.2	5.8				ug/L	2367	Standard
	P	31	88767.9	4.2				ug/L	257843	Standard
	S	34	21386.8	5.5				ug/L	25966	Standard
	Sr	88	143.3	10.7				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	13.0	115.8				mg/L	10	Standard
	Ho-1	165	11.7	65.5				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		107.095	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		98.571	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: L1311005411 WG451289-01
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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.710
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.145
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: November 06, 2013

Method 6020 - Summary Report

Sample ID: L1311005412S WG451289-05
Sample Date/Time: Tuesday, November 05, 2013 11:47:32
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 100
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	207920.4	1.3				ug/L	199689	Standard
	Be	9	600.0	5.5	**0.2636**	0.018	6.9	ug/L	22	Standard
	Al	27	5253330.1	1.9	**27.6498**	0.341	1.2	ug/L	615	Standard
	Sc	45	42385.9	2.3				ug/L	46336	Standard
	Ti	47	23.7	19.1	**0.0039**	0.012	315.4	ug/L	20	Standard
	V	51	2593.5	2.1	**0.3288**	0.012	3.6	ug/L	893	Standard
	Cr	52	6787.9	1.8	**0.6643**	0.026	4.0	ug/L	3436	Standard
	Cr	53	771.7	7.1	**0.4316**	0.049	11.3	ug/L	325	Standard
	Mn	55	131799.8	0.9	**13.9630**	0.159	1.1	ug/L	949	Standard
	Co	59	1631.8	2.1	**0.2608**	0.006	2.5	ug/L	109	Standard
	Ni	60	1744.4	2.1	**0.6838**	0.015	2.2	ug/L	187	Standard
	Cu	65	1566.4	6.4	**0.6557**	0.044	6.7	ug/L	95	Standard
	Zn	66	3179.7	6.0	**2.2384**	0.147	6.6	ug/L	320	Standard
>	**Ge**	72	477968.0	0.4				ug/L	478028	Standard
	As	75	350.9	28.0	**0.4456**	0.072	16.1	ug/L	-247	Standard
	Se	82	248.6	6.1	**2.0166**	0.107	5.3	ug/L	-45	Standard
	Se-1	77	265.0	1.6	**1.9054**	0.058	3.1	ug/L	101	Standard
>	**Ga**	71	28.3	27.0				mg/L	38	Standard
	Rb	85	753.4	1.5				ug/L	27	Standard
	Y	89	416656.5	2.3				ug/L	457712	Standard
>	**Rh**	103	25.0	52.9				ug/L	7	Standard
	Mo	98	26.7	25.8	**-0.0086**	0.003	30.4	ug/L	7	Standard
	Ag	107	1497.4	3.9	**0.2491**	0.014	5.6	ug/L	60	Standard
	Cd	111	529.6	3.3	**0.2597**	0.010	3.9	mg/L	2	Standard
	Cd	114	1413.8	4.2	**0.2568**	0.012	4.7	ug/L	28	Standard
>	**In**	115	485952.1	1.4				ug/L	514607	Standard
	Sn	118	110.0	15.8	**-0.0104**	0.016	153.1	ug/L	125	Standard
	Sb	123	848.1	3.6	**0.2527**	0.010	4.0	ug/L	14	Standard
	Ba	135	543.3	3.3	**0.2778**	0.011	4.1	ug/L	10	Standard
	Ce	140	63.3	47.6				ug/L	25	Standard
>	**Tb**	159	597706.7	0.8				ug/L	648946	Standard
	Ho	165	15.0	33.3				ug/L	2	Standard
	Tl	203	1316.4	3.4	**0.2141**	0.005	2.3	ug/L	4	Standard
	Tl	205	1300.1	5.2	**0.2114**	0.013	6.3	ug/L	0	Standard
	Pb	206	749.4	4.8	**0.2595**	0.015	5.8	ug/L	113	Standard
	Pb	207	644.7	1.2	**0.2397**	0.006	2.6	ug/L	88	Standard
	Pb	208	1704.4	1.2	**0.2481**	0.007	2.6	ug/L	233	Standard
	U	238	2211.8	0.9	**0.5692**	0.011	2.0	ug/L	1	Standard
>	**Bi**	209	298275.6	1.1				ug/L	321163	Standard

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Na	23	5.0	100.0	**1.9426**	1.950	100.4	mg/L	2	Standard
Mg	24	12104.8	1.6	**13.1782**	0.425	3.2	mg/L	48	Standard
K	39	6.7	43.3	**0.0353**	0.042	118.8	mg/L	2	Standard
Ca	43	33.3	56.8	**0.2338**	1.697	725.5	mg/L	38	Standard
Fe	54	102.1	18.9	**-0.0451**	0.012	26.1	mg/L	218	Standard
Fe	57	273.3	5.3	**0.0427**	0.022	52.4	mg/L	283	Standard
> **Sc-1**	45	42385.9	2.3				mg/L	46336	Standard
Cl	35	9980.0	3.1				ug/L	7415	Standard
Kr	83	110.7	8.2				ug/L	106	Standard
Br	81	5147.5	2.5				ug/L	2367	Standard
P	31	93073.4	2.0				ug/L	257843	Standard
S	34	23688.5	3.2				ug/L	25966	Standard
Sr	88	116.7	20.3				ug/L	92	Standard
C	12	3.3	173.2				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	6.5	93.0				mg/L	10	Standard
Ho-1	165	15.0	33.3				mg/L	2	Standard
Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		104.122	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		99.987	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.432
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.874
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005413SD WG451289-06
Sample Date/Time: Tuesday, November 05, 2013 11:50:36
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 100
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	208924.0	0.8				ug/L	199689	Standard
	Be	9	565.0	9.2	**0.2465**	0.025	10.3	ug/L	22	Standard
	Al	27	4142654.7	1.7	**21.7007**	0.499	2.3	ug/L	615	Standard
	Sc	45	41780.9	1.3				ug/L	46336	Standard
	Ti	47	21.0	21.8	**-0.0033**	0.013	398.0	ug/L	20	Standard
	V	51	2555.2	4.0	**0.3228**	0.020	6.2	ug/L	893	Standard
	Cr	52	6810.9	0.3	**0.6728**	0.003	0.4	ug/L	3436	Standard
	Cr	53	668.3	7.5	**0.3376**	0.048	14.3	ug/L	325	Standard
	Mn	55	57634.4	1.4	**6.0583**	0.112	1.9	ug/L	949	Standard
	Co	59	1527.7	2.1	**0.2435**	0.005	2.2	ug/L	109	Standard
	Ni	60	1597.4	2.0	**0.6207**	0.016	2.6	ug/L	187	Standard
	Cu	65	1383.7	0.9	**0.5749**	0.005	0.9	ug/L	95	Standard
	Zn	66	2647.9	4.7	**1.8131**	0.102	5.6	ug/L	320	Standard
>	**Ge**	72	476627.8	0.5				ug/L	478028	Standard
	As	75	263.6	41.0	**0.3827**	0.079	20.6	ug/L	-247	Standard
	Se	82	247.5	12.8	**2.0135**	0.219	10.9	ug/L	-45	Standard
	Se-1	77	288.3	11.3	**2.1730**	0.375	17.3	ug/L	101	Standard
>	**Ga**	71	26.7	39.0				mg/L	38	Standard
	Rb	85	451.7	8.5				ug/L	27	Standard
	Y	89	416668.7	1.1				ug/L	457712	Standard
>	**Rh**	103	13.3	21.7				ug/L	7	Standard
	Mo	98	27.7	13.5	**-0.0082**	0.001	16.6	ug/L	7	Standard
	Ag	107	1492.7	2.3	**0.2483**	0.005	2.2	ug/L	60	Standard
	Cd	111	520.6	3.6	**0.2554**	0.009	3.6	mg/L	2	Standard
	Cd	114	1378.7	3.1	**0.2503**	0.009	3.5	ug/L	28	Standard
>	**In**	115	485516.8	0.3				ug/L	514607	Standard
	Sn	118	112.7	1.0	**-0.0082**	0.001	9.6	ug/L	125	Standard
	Sb	123	812.6	4.7	**0.2419**	0.012	5.1	ug/L	14	Standard
	Ba	135	527.3	1.9	**0.2693**	0.006	2.1	ug/L	10	Standard
	Ce	140	55.0	47.2				ug/L	25	Standard
>	**Tb**	159	595153.8	0.2				ug/L	648946	Standard
	Ho	165	10.0	50.0				ug/L	2	Standard
	Tl	203	1395.1	2.2	**0.2270**	0.006	2.5	ug/L	4	Standard
	Tl	205	1573.4	8.9	**0.2560**	0.022	8.5	ug/L	0	Standard
	Pb	206	736.4	4.7	**0.2540**	0.012	4.9	ug/L	113	Standard
	Pb	207	612.0	5.0	**0.2248**	0.011	5.1	ug/L	88	Standard
	Pb	208	1632.4	3.6	**0.2356**	0.008	3.3	ug/L	233	Standard
	U	238	1835.4	2.4	**0.4714**	0.010	2.1	ug/L	1	Standard
>	**Bi**	209	298392.4	0.9				ug/L	321163	Standard

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⌈	**Na**	23	5.0	100.0	**1.9894**	2.000	100.5	mg/L	2	Standard
|	**Mg**	24	9496.3	4.2	**10.4755**	0.364	3.5	mg/L	48	Standard
|	**K**	39	6.7	114.6	**0.0359**	0.111	310.3	mg/L	2	Standard
|	**Ca**	43	46.7	12.4	**1.5662**	0.600	38.3	mg/L	38	Standard
|	**Fe**	54	91.0	15.7	**-0.0512**	0.009	17.1	mg/L	218	Standard
|	**Fe**	57	283.3	2.7	**0.0751**	0.025	33.7	mg/L	283	Standard
⌊>	**Sc-1**	45	41780.9	1.3				mg/L	46336	Standard
	Cl	35	10144.7	1.9				ug/L	7415	Standard
	Kr	83	107.3	12.6				ug/L	106	Standard
	Br	81	4147.2	3.5				ug/L	2367	Standard
	P	31	91448.6	2.4				ug/L	257843	Standard
	S	34	24132.5	3.0				ug/L	25966	Standard
	Sr	88	126.7	22.4				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	19.5	48.8				mg/L	10	Standard
	Ho-1	165	10.0	50.0				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.625	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		99.707	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.347
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.910
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1311005413SD WG451289-06
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 11:53:43
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	223688.5	3.1				ug/L	199689	Standard
	Be	9	117910.6	2.7	**49.6289**	0.533	1.1	ug/L	22	Standard
	Al	27	8958063.4	3.5	**43.8254**	0.455	1.0	ug/L	615	Standard
	Sc	45	46044.9	1.6				ug/L	46336	Standard
	Ti	47	37576.2	2.1	**96.3000**	0.837	0.9	ug/L	20	Standard
	V	51	270709.5	4.5	**48.4299**	1.154	2.4	ug/L	893	Standard
	Cr	52	271158.0	2.3	**49.8368**	0.760	1.5	ug/L	3436	Standard
	Cr	53	57622.8	3.2	**49.0986**	0.796	1.6	ug/L	325	Standard
	Mn	55	518398.7	3.2	**50.9659**	0.589	1.2	ug/L	949	Standard
	Co	59	319282.4	3.7	**51.0518**	0.772	1.5	ug/L	109	Standard
	Ni	60	122098.1	3.6	**49.8224**	0.692	1.4	ug/L	187	Standard
	Cu	65	123715.7	3.1	**51.5560**	0.495	1.0	ug/L	95	Standard
	Zn	66	68953.0	3.3	**51.2928**	0.559	1.1	ug/L	320	Standard
>	**Ge**	72	518061.3	2.3				ug/L	478028	Standard
	As	75	75103.3	3.4	**50.4821**	0.677	1.3	ug/L	-247	Standard
	Se	82	7676.8	2.9	**48.8411**	0.419	0.9	ug/L	-45	Standard
	Se-1	77	5272.6	2.8	**52.6845**	0.312	0.6	ug/L	101	Standard
>	**Ga**	71	68.3	15.2				mg/L	38	Standard
	Rb	85	1153.4	18.9				ug/L	27	Standard
	Y	89	452373.0	2.4				ug/L	457712	Standard
>	**Rh**	103	38.3	27.2				ug/L	7	Standard
	Mo	98	344163.2	2.1	**116.5677**	0.703	0.6	ug/L	7	Standard
	Ag	107	333865.1	2.2	**53.2646**	0.244	0.5	ug/L	60	Standard
	Cd	111	114023.5	4.2	**52.3013**	0.980	1.9	mg/L	2	Standard
	Cd	114	292746.8	3.0	**51.0762**	0.301	0.6	ug/L	28	Standard
>	**In**	115	530545.9	2.4				ug/L	514607	Standard
	Sn	118	68691.4	1.9	**52.7902**	0.360	0.7	ug/L	125	Standard
	Sb	123	169266.7	2.3	**47.9553**	0.381	0.8	ug/L	14	Standard
	Ba	135	100507.7	2.6	**50.1821**	0.122	0.2	ug/L	10	Standard
	Ce	140	53.3	10.8				ug/L	25	Standard
>	**Tb**	159	634904.1	2.4				ug/L	648946	Standard
	Ho	165	6.7	43.3				ug/L	2	Standard
	Tl	203	323083.0	2.2	**50.2800**	0.477	0.9	ug/L	4	Standard
	Tl	205	352367.3	1.2	**54.5947**	0.364	0.7	ug/L	0	Standard
	Pb	206	136912.3	2.1	**52.1482**	0.198	0.4	ug/L	113	Standard
	Pb	207	123074.6	1.9	**52.1235**	0.063	0.1	ug/L	88	Standard
	Pb	208	321555.2	2.5	**51.9592**	0.394	0.8	ug/L	233	Standard
	U	238	203584.8	1.3	**49.7505**	0.256	0.5	ug/L	1	Standard
>	**Bi**	209	316046.2	1.8				ug/L	321163	Standard

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	Na	23	18.3	41.7	**6.6029**	2.774	42.0	mg/L	2	Standard
	Mg	24	4780.8	3.3	**4.7699**	0.213	4.5	mg/L	48	Standard
	K	39	220.0	17.8	**2.8925**	0.475	16.4	mg/L	2	Standard
	Ca	43	100.0	26.5	**5.7512**	2.341	40.7	mg/L	38	Standard
	Fe	54	8869.4	0.3	**4.9737**	0.077	1.6	mg/L	218	Standard
	Fe	57	2690.2	4.5	**5.0302**	0.164	3.3	mg/L	283	Standard
>	**Sc-1**	45	46044.9	1.6				mg/L	46336	Standard
	Cl	35	8302.9	6.6				ug/L	7415	Standard
	Kr	83	104.7	9.1				ug/L	106	Standard
	Br	81	3307.0	2.2				ug/L	2367	Standard
	P	31	270103.9	2.5				ug/L	257843	Standard
	S	34	26573.3	0.7				ug/L	25966	Standard
	Sr	88	73.3	14.2				ug/L	92	Standard
	C	12	20.0	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	13.2	114.0				mg/L	10	Standard
	Ho-1	165	6.7	43.3				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.018	
	Be	9	99.258		
	Al	27	87.651		
	Sc	45			
	Ti	47	96.300		
	V	51	96.860		
	Cr	52	99.674		
	Cr	53			
	Mn	55	101.932		
	Co	59	102.104		
	Ni	60	99.645		
	Cu	65	103.112		
	Zn	66	102.586		
>	Ge	72		108.375	
	As	75	100.964		
	Se	82	97.682		
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: QC Std 6
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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	116.568	
|	Ag	107	106.529	
|	Cd	111	104.603	
|	Cd	114		
|>	In	115		103.097
|	Sn	118	105.580	
|	Sb	123	95.911	
⌊	Ba	135	100.364	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.560	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	103.918	
|	U	238	99.501	
⌊>	Bi	209		98.407
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 11:56:47
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	216098.7	6.0				ug/L	199689	Standard
	Be	9	65.0	53.8	**0.0197**	0.014	68.9	ug/L	22	Standard
	Al	27	6511.7	55.6	**0.0289**	0.016	56.3	ug/L	615	Standard
	Sc	45	43811.7	4.3				ug/L	46336	Standard
	Ti	47	28.3	45.0	**0.0131**	0.030	226.9	ug/L	20	Standard
	V	51	998.7	5.0	**0.0117**	0.017	142.0	ug/L	893	Standard
	Cr	52	3935.2	3.3	**0.0594**	0.018	30.5	ug/L	3436	Standard
	Cr	53	403.3	14.1	**0.0749**	0.036	48.5	ug/L	325	Standard
	Mn	55	1024.4	5.8	**-0.0102**	0.001	11.5	ug/L	949	Standard
	Co	59	107.7	26.3	**-0.0043**	0.004	91.8	ug/L	109	Standard
	Ni	60	877.7	4.3	**0.2856**	0.004	1.3	ug/L	187	Standard
	Cu	65	658.0	11.6	**0.2335**	0.019	8.1	ug/L	95	Standard
	Zn	66	594.0	6.4	**0.1220**	0.015	12.5	ug/L	320	Standard
>	**Ge**	72	496112.1	5.1				ug/L	478028	Standard
	As	75	-227.9	21.4	**0.0303**	0.040	130.4	ug/L	-247	Standard
	Se	82	-25.3	36.9	**0.1432**	0.070	48.7	ug/L	-45	Standard
	Se-1	77	109.3	14.8	**0.1391**	0.116	83.2	ug/L	101	Standard
>	**Ga**	71	23.3	24.7				mg/L	38	Standard
	Rb	85	21.7	35.3				ug/L	27	Standard
	Y	89	434195.4	5.5				ug/L	457712	Standard
>	**Rh**	103	10.0	86.6				ug/L	7	Standard
	Mo	98	63.4	50.6	**0.0038**	0.010	267.9	ug/L	7	Standard
	Ag	107	73.0	48.5	**0.0001**	0.005	3615.1	ug/L	60	Standard
	Cd	111	4.6	108.7	**-0.0035**	0.002	63.3	mg/L	2	Standard
	Cd	114	41.5	41.8	**-0.0052**	0.003	53.8	ug/L	28	Standard
>	**In**	115	506327.3	5.5				ug/L	514607	Standard
	Sn	118	130.7	19.6	**0.0021**	0.016	787.6	ug/L	125	Standard
	Sb	123	292.6	43.0	**0.0760**	0.032	42.2	ug/L	14	Standard
	Ba	135	10.7	76.4	**-0.0131**	0.004	29.7	ug/L	10	Standard
	Ce	140	8.3	91.7				ug/L	25	Standard
>	**Tb**	159	607969.3	4.9				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	23.0	97.9	**0.0006**	0.003	549.1	ug/L	4	Standard
	Tl	205	58.3	62.0	**0.0069**	0.005	74.2	ug/L	0	Standard
	Pb	206	116.7	8.8	**0.0021**	0.004	186.4	ug/L	113	Standard
	Pb	207	103.7	8.2	**-0.0051**	0.004	70.8	ug/L	88	Standard
	Pb	208	289.0	33.3	**0.0032**	0.013	419.5	ug/L	233	Standard
	U	238	33.3	149.8	**0.0043**	0.012	272.2	ug/L	1	Standard
>	**Bi**	209	310362.3	4.8				ug/L	321163	Standard

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⌈	**Na**	23	1.7	173.2	**0.6447**	1.108	171.9	mg/L	2	Standard
|	**Mg**	24	98.3	23.5	**0.0703**	0.020	27.9	mg/L	48	Standard
|	**K**	39	3.3	86.6	**-0.0157**	0.040	256.9	mg/L	2	Standard
|	**Ca**	43	35.0	14.3	**0.3173**	0.577	181.7	mg/L	38	Standard
|	**Fe**	54	219.2	18.1	**0.0234**	0.024	104.5	mg/L	218	Standard
|	**Fe**	57	225.0	16.8	**-0.0848**	0.062	72.8	mg/L	283	Standard
⌊>	**Sc-1**	45	43811.7	4.3				mg/L	46336	Standard
	Cl	35	7997.4	1.5				ug/L	7415	Standard
	Kr	83	105.3	13.7				ug/L	106	Standard
	Br	81	2783.6	1.7				ug/L	2367	Standard
	P	31	230331.2	1.8				ug/L	257843	Standard
	S	34	25897.1	0.9				ug/L	25966	Standard
	Sr	88	81.7	12.7				ug/L	92	Standard
	C	12	16.7	91.7				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.3	93.2				mg/L	10	Standard
	Ho-1	165	1.7	173.2				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		108.218	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		103.783	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.391
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.637
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Tuesday, November 05, 2013 11:59:00
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Method 6020 - Summary Report

Sample ID: L1311005408
Sample Date/Time: Tuesday, November 05, 2013 12:04:37
Number of Replicates: 3
Autosampler Position: 317
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	221849.7	2.5				ug/L	199689	Standard
	Be	9	23.3	32.7	**0.0017**	0.003	200.7	ug/L	22	Standard
	Al	27	8616230.5	1.0	**42.5155**	0.651	1.5	ug/L	615	Standard
	Sc	45	46808.9	0.4				ug/L	46336	Standard
	Ti	47	287.7	2.9	**0.7023**	0.027	3.8	ug/L	20	Standard
	V	51	27029.6	2.4	**4.8515**	0.037	0.8	ug/L	893	Standard
	Cr	52	5712.4	3.3	**0.3956**	0.024	6.0	ug/L	3436	Standard
	Cr	53	798.4	8.5	**0.4233**	0.055	13.0	ug/L	325	Standard
	Mn	55	250357.6	2.0	**25.4369**	0.139	0.5	ug/L	949	Standard
	Co	59	2465.9	2.7	**0.3864**	0.005	1.2	ug/L	109	Standard
	Ni	60	6606.4	2.5	**2.7082**	0.047	1.8	ug/L	187	Standard
	Cu	65	1630.8	8.6	**0.6515**	0.049	7.5	ug/L	95	Standard
	Zn	66	3526.4	1.6	**2.3930**	0.030	1.2	ug/L	320	Standard
>	**Ge**	72	500210.3	1.7				ug/L	478028	Standard
	As	75	3255.6	0.4	**2.4493**	0.030	1.2	ug/L	-247	Standard
	Se	82	246.9	6.4	**1.9284**	0.079	4.1	ug/L	-45	Standard
	Se-1	77	206.3	7.8	**1.1567**	0.173	15.0	ug/L	101	Standard
>	**Ga**	71	68.3	15.2				mg/L	38	Standard
	Rb	85	52112.8	2.7				ug/L	27	Standard
	Y	89	442650.3	3.1				ug/L	457712	Standard
>	**Rh**	103	166.7	12.5				ug/L	7	Standard
	Mo	98	82790.4	2.2	**29.8640**	0.098	0.3	ug/L	7	Standard
	Ag	107	62.0	8.4	**-0.0014**	0.001	53.0	ug/L	60	Standard
	Cd	111	-31.8	29.9	**-0.0212**	0.005	21.5	mg/L	2	Standard
	Cd	114	203.2	3.8	**0.0251**	0.002	8.6	ug/L	28	Standard
>	**In**	115	497892.5	2.0				ug/L	514607	Standard
	Sn	118	191.7	4.0	**0.0543**	0.007	12.8	ug/L	125	Standard
	Sb	123	2626.5	3.1	**0.7832**	0.014	1.7	ug/L	14	Standard
	Ba	135	46172.3	1.9	**24.5574**	0.222	0.9	ug/L	10	Standard
	Ce	140	701.7	1.1				ug/L	25	Standard
>	**Tb**	159	615077.0	1.8				ug/L	648946	Standard
	Ho	165	41.7	30.2				ug/L	2	Standard
	Tl	203	272.0	4.9	**0.0424**	0.001	3.1	ug/L	4	Standard
	Tl	205	281.7	18.1	**0.0447**	0.009	19.9	ug/L	0	Standard
	Pb	206	273.0	7.1	**0.0682**	0.007	10.0	ug/L	113	Standard
	Pb	207	210.7	3.8	**0.0457**	0.004	8.4	ug/L	88	Standard
	Pb	208	596.3	5.3	**0.0592**	0.004	7.4	ug/L	233	Standard
	U	238	29378.1	1.6	**7.6853**	0.048	0.6	ug/L	1	Standard
>	**Bi**	209	295119.2	2.0				ug/L	321163	Standard

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	Na	23	55.0	32.8	**19.4844**	6.428	33.0	mg/L	2	Standard
	Mg	24	88789.4	1.4	**87.6757**	1.086	1.2	mg/L	48	Standard
	K	39	245.0	9.4	**3.1794**	0.293	9.2	mg/L	2	Standard
	Ca	43	286.7	14.8	**21.4005**	3.698	17.3	mg/L	38	Standard
	Fe	54	242.5	4.4	**0.0280**	0.006	22.0	mg/L	218	Standard
	Fe	57	368.3	13.0	**0.1791**	0.096	53.6	mg/L	283	Standard
>	**Sc-1**	45	46808.9	0.4				mg/L	46336	Standard
	Cl	35	8030.8	2.8				ug/L	7415	Standard
	Kr	83	100.3	4.0				ug/L	106	Standard
	Br	81	33861.2	3.8				ug/L	2367	Standard
	P	31	320524.4	2.4				ug/L	257843	Standard
	S	34	21345.0	2.3				ug/L	25966	Standard
	Sr	88	645.0	8.9				ug/L	92	Standard
	C	12	90.0	55.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	65.5				mg/L	0	Standard
	Dy	164	31.4	65.9				mg/L	10	Standard
	Ho-1	165	41.7	30.2				mg/L	2	Standard
	Er	166	40.0	25.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.098	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		104.640	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.752
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.891
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: November 06, 2013

Method 6020 - Summary Report

Sample ID: L1311005409
Sample Date/Time: Tuesday, November 05, 2013 12:07:48
Number of Replicates: 3
Autosampler Position: 318
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	232606.0	2.6				ug/L	199689	Standard
	Be	9	66.7	18.9	**0.0186**	0.004	23.5	ug/L	22	Standard
	Al	27	57068576.3	0.7	**268.6315**	6.423	2.4	ug/L	615	Standard
	Sc	45	45448.1	1.0				ug/L	46336	Standard
	Ti	47	167.0	6.3	**0.3870**	0.026	6.8	ug/L	20	Standard
	V	51	4320.0	1.9	**0.6376**	0.024	3.8	ug/L	893	Standard
	Cr	52	6856.9	1.4	**0.6330**	0.028	4.5	ug/L	3436	Standard
	Cr	53	736.7	11.2	**0.3763**	0.067	17.7	ug/L	325	Standard
	Mn	55	2550468.1	0.9	**263.3950**	0.584	0.2	ug/L	949	Standard
	Co	59	2369.2	0.4	**0.3753**	0.003	0.8	ug/L	109	Standard
	Ni	60	9601.4	2.6	**4.0261**	0.086	2.1	ug/L	187	Standard
	Cu	65	3849.8	5.7	**1.6312**	0.092	5.7	ug/L	95	Standard
	Zn	66	4360.3	3.1	**3.0809**	0.090	2.9	ug/L	320	Standard
>	**Ge**	72	494153.8	1.0				ug/L	478028	Standard
	As	75	910.4	3.8	**0.8302**	0.027	3.3	ug/L	-247	Standard
	Se	82	594.1	2.0	**4.2503**	0.090	2.1	ug/L	-45	Standard
	Se-1	77	407.3	10.6	**3.3324**	0.500	15.0	ug/L	101	Standard
>	**Ga**	71	61.7	20.4				mg/L	38	Standard
	Rb	85	18034.1	2.2				ug/L	27	Standard
	Y	89	430196.9	0.4				ug/L	457712	Standard
>	**Rh**	103	380.0	11.8				ug/L	7	Standard
	Mo	98	12020.8	1.2	**4.4428**	0.023	0.5	ug/L	7	Standard
	Ag	107	65.7	31.7	**-0.0005**	0.004	794.6	ug/L	60	Standard
	Cd	111	27.9	25.2	**0.0084**	0.004	42.9	mg/L	2	Standard
	Cd	114	129.3	19.8	**0.0120**	0.005	39.5	ug/L	28	Standard
>	**In**	115	484233.5	0.8				ug/L	514607	Standard
	Sn	118	150.7	0.8	**0.0241**	0.001	4.8	ug/L	125	Standard
	Sb	123	303.4	4.6	**0.0845**	0.005	5.9	ug/L	14	Standard
	Ba	135	22336.1	0.4	**12.2054**	0.051	0.4	ug/L	10	Standard
	Ce	140	721.7	3.3				ug/L	25	Standard
>	**Tb**	159	606180.4	0.8				ug/L	648946	Standard
	Ho	165	23.3	53.9				ug/L	2	Standard
	Tl	203	114.0	21.3	**0.0165**	0.004	25.6	ug/L	4	Standard
	Tl	205	146.7	14.2	**0.0227**	0.003	15.2	ug/L	0	Standard
	Pb	206	127.7	4.3	**0.0100**	0.002	19.7	ug/L	113	Standard
	Pb	207	105.3	10.9	**-0.0011**	0.005	444.9	ug/L	88	Standard
	Pb	208	287.3	5.2	**0.0068**	0.003	45.4	ug/L	233	Standard
	U	238	21731.6	1.0	**5.8062**	0.011	0.2	ug/L	1	Standard
>	**Bi**	209	288889.9	0.9				ug/L	321163	Standard

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	Na	23	268.3	20.1	**97.9592**	20.781	21.2	mg/L	2	Standard
	Mg	24	114198.8	1.1	**116.1628**	1.757	1.5	mg/L	48	Standard
	K	39	178.3	7.1	**2.3696**	0.194	8.2	mg/L	2	Standard
	Ca	43	985.0	7.5	**82.9961**	6.924	8.3	mg/L	38	Standard
	Fe	54	230.9	19.8	**0.0255**	0.027	106.2	mg/L	218	Standard
	Fe	57	778.4	8.5	**1.0689**	0.157	14.7	mg/L	283	Standard
>	**Sc-1**	45	45448.1	1.0				mg/L	46336	Standard
	Cl	35	11689.8	1.5				ug/L	7415	Standard
	Kr	83	122.3	0.5				ug/L	106	Standard
	Br	81	46357.6	6.1				ug/L	2367	Standard
	P	31	290078.5	2.7				ug/L	257843	Standard
	S	34	21688.8	1.7				ug/L	25966	Standard
	Sr	88	1531.7	4.9				ug/L	92	Standard
	C	12	90.0	11.1				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	31.6	17.9				mg/L	10	Standard
	Ho-1	165	23.3	53.9				mg/L	2	Standard
	Er	166	36.7	15.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		116.484	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		103.373	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	94.098
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	89.951
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1311005410
Sample Date/Time: Tuesday, November 05, 2013 12:10:52
Number of Replicates: 3
Autosampler Position: 319
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	275050.4	2.8				ug/L	199689	Standard
	Be	9	63.3	29.9	**0.0134**	0.006	45.6	ug/L	22	Standard
	Al	27	63706175.6	1.3	**253.5739**	4.106	1.6	ug/L	615	Standard
	Sc	45	45941.2	1.3				ug/L	46336	Standard
	Ti	47	153.0	2.8	**0.3545**	0.017	4.7	ug/L	20	Standard
	V	51	11258.7	2.1	**1.9688**	0.014	0.7	ug/L	893	Standard
	Cr	52	7377.8	3.3	**0.7513**	0.021	2.8	ug/L	3436	Standard
	Cr	53	730.0	7.2	**0.3793**	0.062	16.3	ug/L	325	Standard
	Mn	55	515694.1	2.4	**53.7890**	0.649	1.2	ug/L	949	Standard
	Co	59	3865.2	2.6	**0.6337**	0.002	0.3	ug/L	109	Standard
	Ni	60	8892.6	2.9	**3.7669**	0.035	0.9	ug/L	187	Standard
	Cu	65	3312.0	1.2	**1.4133**	0.021	1.5	ug/L	95	Standard
	Zn	66	4992.8	2.2	**3.6240**	0.059	1.6	ug/L	320	Standard
>	**Ge**	72	488467.0	2.6				ug/L	478028	Standard
	As	75	525.6	8.8	**0.5648**	0.041	7.3	ug/L	-247	Standard
	Se	82	298.4	3.4	**2.3156**	0.117	5.1	ug/L	-45	Standard
	Se-1	77	238.3	6.8	**1.5585**	0.244	15.7	ug/L	101	Standard
>	**Ga**	71	43.3	24.0				mg/L	38	Standard
	Rb	85	26880.5	4.8				ug/L	27	Standard
	Y	89	424540.1	1.8				ug/L	457712	Standard
>	**Rh**	103	391.7	8.5				ug/L	7	Standard
	Mo	98	3136.9	0.9	**1.1665**	0.018	1.6	ug/L	7	Standard
	Ag	107	63.7	20.3	**-0.0006**	0.003	438.0	ug/L	60	Standard
	Cd	111	19.6	7.5	**0.0044**	0.001	21.6	mg/L	2	Standard
	Cd	114	56.1	9.0	**-0.0018**	0.001	41.4	ug/L	28	Standard
>	**In**	115	475861.3	2.3				ug/L	514607	Standard
	Sn	118	145.3	9.8	**0.0218**	0.013	60.1	ug/L	125	Standard
	Sb	123	2252.7	0.7	**0.7021**	0.012	1.7	ug/L	14	Standard
	Ba	135	17041.6	1.9	**9.4724**	0.046	0.5	ug/L	10	Standard
	Ce	140	1821.8	5.2				ug/L	25	Standard
>	**Tb**	159	596175.8	2.5				ug/L	648946	Standard
	Ho	165	125.0	8.0				ug/L	2	Standard
	Tl	203	177.0	5.1	**0.0285**	0.002	8.5	ug/L	4	Standard
	Tl	205	198.3	16.4	**0.0330**	0.006	19.3	ug/L	0	Standard
	Pb	206	517.0	1.8	**0.1814**	0.007	3.7	ug/L	113	Standard
	Pb	207	405.0	2.6	**0.1457**	0.002	1.7	ug/L	88	Standard
	Pb	208	1136.0	4.0	**0.1653**	0.003	1.6	ug/L	233	Standard
	U	238	154261.8	1.7	**42.9622**	0.501	1.2	ug/L	1	Standard
>	**Bi**	209	277349.3	2.7				ug/L	321163	Standard

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	Na	23	113.3	10.2	**40.8951**	4.434	10.8	mg/L	2	Standard
	Mg	24	226030.5	1.7	**227.5035**	5.712	2.5	mg/L	48	Standard
	K	39	125.0	40.6	**1.6226**	0.677	41.7	mg/L	2	Standard
	Ca	43	581.7	4.9	**47.2880**	2.666	5.6	mg/L	38	Standard
	Fe	54	258.9	1.9	**0.0401**	0.005	11.5	mg/L	218	Standard
	Fe	57	525.0	1.0	**0.5209**	0.008	1.5	mg/L	283	Standard
>	**Sc-1**	45	45941.2	1.3				mg/L	46336	Standard
	Cl	35	12312.3	2.1				ug/L	7415	Standard
	Kr	83	117.3	8.1				ug/L	106	Standard
	Br	81	35067.2	2.8				ug/L	2367	Standard
	P	31	270299.3	2.9				ug/L	257843	Standard
	S	34	20959.5	1.5				ug/L	25966	Standard
	Sr	88	1545.1	4.3				ug/L	92	Standard
	C	12	76.7	39.8				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	92.2	47.9				mg/L	10	Standard
	Ho-1	165	125.0	8.0				mg/L	2	Standard
	Er	166	163.3	17.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		137.739	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		102.184	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	92.471
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	86.358
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	

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Method 6020 - Summary Report

Sample ID: L1311005414
Sample Date/Time: Tuesday, November 05, 2013 12:13:56
Number of Replicates: 3
Autosampler Position: 320
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	611190.2	0.1				ug/L	199689	Standard
	Be	9	96.7	26.5	**0.0066**	0.004	59.4	ug/L	22	Standard
	Al	27	S	S	**S**	S	S	ug/L	615	Standard
	Sc	45	41645.6	4.1				ug/L	46336	Standard
	Ti	47	835.0	6.0	**2.4679**	0.139	5.6	ug/L	20	Standard
	V	51	2864.7	11.8	**0.4316**	0.068	15.7	ug/L	893	Standard
	Cr	52	8756.5	2.0	**1.2215**	0.030	2.4	ug/L	3436	Standard
	Cr	53	4357.3	4.5	**4.1289**	0.228	5.5	ug/L	325	Standard
	Mn	55	10859491.7	0.9	**1264.5208**	11.901	0.9	ug/L	949	Standard
	Co	59	4807.1	1.9	**0.8867**	0.016	1.8	ug/L	109	Standard
	Ni	60	33204.3	0.8	**15.9531**	0.032	0.2	ug/L	187	Standard
	Cu	65	26270.8	0.8	**12.8992**	0.141	1.1	ug/L	95	Standard
	Zn	66	22080.4	0.5	**19.1998**	0.215	1.1	ug/L	320	Standard
>	**Ge**	72	438413.9	0.7				ug/L	478028	Standard
	As	75	10309.7	12.1	**8.3508**	0.997	11.9	ug/L	-247	Standard
	Se	82	136475.1	1.3	**1019.8140**	7.262	0.7	ug/L	-45	Standard
	Se-1	77	101966.3	0.6	**1226.3560**	1.159	0.1	ug/L	101	Standard
>	**Ga**	71	273.3	7.4				mg/L	38	Standard
	Rb	85	98299.5	1.4				ug/L	27	Standard
	Y	89	348872.1	2.3				ug/L	457712	Standard
>	**Rh**	103	2220.2	1.7				ug/L	7	Standard
	Mo	98	2171.5	1.0	**0.9836**	0.008	0.8	ug/L	7	Standard
	Ag	107	74.3	10.3	**0.0042**	0.002	37.6	ug/L	60	Standard
	Cd	111	168.1	13.3	**0.0994**	0.014	13.9	mg/L	2	Standard
	Cd	114	395.2	13.6	**0.0811**	0.011	13.6	ug/L	28	Standard
>	**In**	115	389481.1	1.7				ug/L	514607	Standard
	Sn	118	118.7	12.9	**0.0214**	0.016	73.3	ug/L	125	Standard
	Sb	123	117.4	10.8	**0.0356**	0.005	15.4	ug/L	14	Standard
	Ba	135	9848.9	1.2	**6.6836**	0.114	1.7	ug/L	10	Standard
	Ce	140	1950.1	2.8				ug/L	25	Standard
>	**Tb**	159	510815.1	0.9				ug/L	648946	Standard
	Ho	165	116.7	29.2				ug/L	2	Standard
	Tl	203	772.4	3.5	**0.1694**	0.008	4.4	ug/L	4	Standard
	Tl	205	723.4	4.9	**0.1586**	0.009	5.4	ug/L	0	Standard
	Pb	206	129.7	10.7	**0.0276**	0.008	28.3	ug/L	113	Standard
	Pb	207	119.3	9.2	**0.0226**	0.006	26.7	ug/L	88	Standard
	Pb	208	335.3	19.7	**0.0337**	0.015	45.3	ug/L	233	Standard
	U	238	97875.8	0.8	**34.2849**	0.324	0.9	ug/L	1	Standard
>	**Bi**	209	220471.9	1.0				ug/L	321163	Standard

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	Na	23	340.0	6.4	**135.6408**	13.977	10.3	mg/L	2	Standard
	Mg	24	905144.6	0.6	**1005.9261**	34.919	3.5	mg/L	48	Standard
	K	39	405.0	8.9	**5.9565**	0.354	5.9	mg/L	2	Standard
	Ca	43	870.0	7.8	**80.0083**	8.189	10.2	mg/L	38	Standard
	Fe	54	269.9	26.7	**0.0634**	0.052	81.6	mg/L	218	Standard
	Fe	57	1525.1	4.0	**2.9391**	0.023	0.8	mg/L	283	Standard
>	**Sc-1**	45	41645.6	4.1				mg/L	46336	Standard
	Cl	35	44606.2	0.1				ug/L	7415	Standard
	Kr	83	301.3	6.2				ug/L	106	Standard
	Br	81	167814.8	3.0				ug/L	2367	Standard
	P	31	199891.9	1.9				ug/L	257843	Standard
	S	34	18219.3	2.2				ug/L	25966	Standard
	Sr	88	13799.6	2.7				ug/L	92	Standard
	C	12	126.7	40.5				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	102.0	20.1				mg/L	10	Standard
	Ho-1	165	116.7	29.2				mg/L	2	Standard
	Er	166	96.7	23.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		306.071	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		91.713	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	75.685
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	68.648
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311005415
Sample Date/Time: Tuesday, November 05, 2013 12:17:00
Number of Replicates: 3
Autosampler Position: 321
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	223307.1	4.1				ug/L	199689	Standard
	Be	9	80.0	54.5	**0.0258**	0.019	75.4	ug/L	22	Standard
	Al	27	7929649.9	3.4	**38.9090**	2.174	5.6	ug/L	615	Standard
	Sc	45	46566.6	5.9				ug/L	46336	Standard
	Ti	47	346.7	3.4	**0.8629**	0.013	1.5	ug/L	20	Standard
	V	51	30135.0	4.8	**5.4535**	0.159	2.9	ug/L	893	Standard
	Cr	52	6446.0	8.5	**0.5420**	0.082	15.0	ug/L	3436	Standard
	Cr	53	1010.0	8.3	**0.6154**	0.069	11.2	ug/L	325	Standard
	Mn	55	260596.9	3.0	**26.6028**	0.337	1.3	ug/L	949	Standard
	Co	59	2728.2	6.8	**0.4318**	0.023	5.2	ug/L	109	Standard
	Ni	60	7799.0	6.8	**3.2265**	0.159	4.9	ug/L	187	Standard
	Cu	65	1938.5	16.4	**0.7873**	0.121	15.3	ug/L	95	Standard
	Zn	66	3521.1	8.4	**2.3991**	0.176	7.3	ug/L	320	Standard
>	**Ge**	72	497902.4	2.0				ug/L	478028	Standard
	As	75	3585.8	4.4	**2.6889**	0.066	2.4	ug/L	-247	Standard
	Se	82	295.5	10.2	**2.2550**	0.177	7.8	ug/L	-45	Standard
	Se-1	77	242.7	1.9	**1.5523**	0.077	5.0	ug/L	101	Standard
>	**Ga**	71	101.7	14.2				mg/L	38	Standard
	Rb	85	45655.4	2.8				ug/L	27	Standard
	Y	89	436768.5	3.9				ug/L	457712	Standard
>	**Rh**	103	163.3	23.8				ug/L	7	Standard
	Mo	98	85056.0	3.2	**30.8630**	0.124	0.4	ug/L	7	Standard
	Ag	107	85.0	8.9	**0.0026**	0.001	36.3	ug/L	60	Standard
	Cd	111	-32.0	36.0	**-0.0213**	0.005	24.2	mg/L	2	Standard
	Cd	114	166.6	1.9	**0.0185**	0.001	6.5	ug/L	28	Standard
>	**In**	115	494954.5	2.9				ug/L	514607	Standard
	Sn	118	188.7	4.0	**0.0527**	0.006	11.1	ug/L	125	Standard
	Sb	123	2739.7	4.2	**0.8224**	0.023	2.7	ug/L	14	Standard
	Ba	135	48960.3	2.6	**26.1969**	0.197	0.8	ug/L	10	Standard
	Ce	140	696.7	4.8				ug/L	25	Standard
>	**Tb**	159	602465.3	1.9				ug/L	648946	Standard
	Ho	165	50.0	45.8				ug/L	2	Standard
	Tl	203	285.0	10.3	**0.0446**	0.004	9.5	ug/L	4	Standard
	Tl	205	340.0	25.9	**0.0544**	0.015	27.4	ug/L	0	Standard
	Pb	206	282.0	6.2	**0.0722**	0.010	13.3	ug/L	113	Standard
	Pb	207	230.3	15.4	**0.0546**	0.014	25.6	ug/L	88	Standard
	Pb	208	653.7	6.6	**0.0693**	0.006	8.2	ug/L	233	Standard
	U	238	28358.2	3.2	**7.4294**	0.064	0.9	ug/L	1	Standard
>	**Bi**	209	294628.5	2.5				ug/L	321163	Standard

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	Na	23	51.7	14.8	**18.3845**	2.498	13.6	mg/L	2	Standard
	Mg	24	78276.7	1.1	**77.8435**	3.781	4.9	mg/L	48	Standard
	K	39	271.7	14.9	**3.5406**	0.372	10.5	mg/L	2	Standard
	Ca	43	268.3	19.1	**19.9453**	4.089	20.5	mg/L	38	Standard
	Fe	54	213.9	20.8	**0.0118**	0.019	159.6	mg/L	218	Standard
	Fe	57	315.0	7.3	**0.0729**	0.011	14.8	mg/L	283	Standard
>	**Sc-1**	45	46566.6	5.9				mg/L	46336	Standard
	Cl	35	9052.7	8.7				ug/L	7415	Standard
	Kr	83	111.0	5.5				ug/L	106	Standard
	Br	81	35905.9	3.4				ug/L	2367	Standard
	P	31	307158.5	2.6				ug/L	257843	Standard
	S	34	22194.6	3.9				ug/L	25966	Standard
	Sr	88	658.3	4.2				ug/L	92	Standard
	C	12	56.7	66.8				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	26.7	57.3				mg/L	0	Standard
	Dy	164	45.2	34.1				mg/L	10	Standard
	Ho-1	165	50.0	45.8				mg/L	2	Standard
	Er	166	30.0	33.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.827	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		104.158	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.181
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.738
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311008401
Sample Date/Time: Tuesday, November 05, 2013 12:20:05
Number of Replicates: 3
Autosampler Position: 322
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	231467.3	3.0				ug/L	199689	Standard
	Be	9	48.3	11.9	**0.0114**	0.003	25.1	ug/L	22	Standard
	Al	27	1085049.3	1.9	**5.1287**	0.109	2.1	ug/L	615	Standard
	Sc	45	45598.5	2.4				ug/L	46336	Standard
	Ti	47	128.0	69.7	**0.2658**	0.235	88.5	ug/L	20	Standard
	V	51	1373.4	8.2	**0.0680**	0.021	30.7	ug/L	893	Standard
	Cr	52	5650.7	1.5	**0.3349**	0.009	2.5	ug/L	3436	Standard
	Cr	53	838.4	2.9	**0.4259**	0.027	6.4	ug/L	325	Standard
	Mn	55	58812.3	2.8	**5.6176**	0.098	1.7	ug/L	949	Standard
	Co	59	204.7	8.6	**0.0102**	0.002	20.3	ug/L	109	Standard
	Ni	60	1362.1	3.8	**0.4620**	0.031	6.6	ug/L	187	Standard
	Cu	65	25638.7	2.4	**10.5280**	0.010	0.1	ug/L	95	Standard
	Zn	66	7356.8	3.4	**5.1068**	0.066	1.3	ug/L	320	Standard
>	**Ge**	72	523732.0	2.3				ug/L	478028	Standard
	As	75	-179.5	16.7	**0.0721**	0.018	24.9	ug/L	-247	Standard
	Se	82	-19.0	32.0	**0.1946**	0.035	18.1	ug/L	-45	Standard
	Se-1	77	142.7	13.6	**0.4154**	0.172	41.3	ug/L	101	Standard
>	**Ga**	71	31.7	18.2				mg/L	38	Standard
	Rb	85	2181.8	6.2				ug/L	27	Standard
	Y	89	451505.0	2.7				ug/L	457712	Standard
>	**Rh**	103	15.0	66.7				ug/L	7	Standard
	Mo	98	336.1	2.2	**0.0963**	0.003	3.6	ug/L	7	Standard
	Ag	107	70.0	6.2	**-0.0007**	0.001	145.8	ug/L	60	Standard
	Cd	111	17.5	22.7	**0.0024**	0.002	77.0	mg/L	2	Standard
	Cd	114	127.0	17.7	**0.0096**	0.003	35.3	ug/L	28	Standard
>	**In**	115	526669.8	2.6				ug/L	514607	Standard
	Sn	118	483.3	4.2	**0.2719**	0.013	4.9	ug/L	125	Standard
	Sb	123	61.9	21.3	**0.0079**	0.003	44.0	ug/L	14	Standard
	Ba	135	5038.2	3.8	**2.5160**	0.034	1.4	ug/L	10	Standard
	Ce	140	76.7	10.0				ug/L	25	Standard
>	**Tb**	159	641919.3	1.4				ug/L	648946	Standard
	Ho	165	10.0					ug/L	2	Standard
	Tl	203	56.7	1.0	**0.0057**	0.000	3.7	ug/L	4	Standard
	Tl	205	65.0	13.3	**0.0078**	0.001	16.7	ug/L	0	Standard
	Pb	206	3439.7	2.0	**1.2408**	0.018	1.5	ug/L	113	Standard
	Pb	207	2966.6	2.7	**1.1815**	0.018	1.5	ug/L	88	Standard
	Pb	208	7736.1	3.0	**1.1810**	0.007	0.6	ug/L	233	Standard
	U	238	31.3	8.0	**0.0039**	0.001	19.9	ug/L	1	Standard
>	**Bi**	209	322783.6	2.4				ug/L	321163	Standard

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	Na	23	13.3	43.3	**4.8470**	2.083	43.0	mg/L	2	Standard
	Mg	24	3650.4	1.9	**3.6700**	0.100	2.7	mg/L	48	Standard
	K	39	8.3	69.3	**0.0523**	0.082	156.6	mg/L	2	Standard
	Ca	43	70.0	18.9	**3.2317**	1.236	38.3	mg/L	38	Standard
	Fe	54	277.3	4.6	**0.0518**	0.006	11.0	mg/L	218	Standard
	Fe	57	243.3	6.3	**-0.0639**	0.029	45.5	mg/L	283	Standard
>	**Sc-1**	45	45598.5	2.4				mg/L	46336	Standard
	Cl	35	9354.2	2.4				ug/L	7415	Standard
	Kr	83	102.7	7.3				ug/L	106	Standard
	Br	81	5807.8	4.1				ug/L	2367	Standard
	P	31	272912.7	0.7				ug/L	257843	Standard
	S	34	24608.3	0.9				ug/L	25966	Standard
	Sr	88	101.7	22.2				ug/L	92	Standard
	C	12	16.7	34.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	6.2	100.1				mg/L	10	Standard
	Ho-1	165	10.0					mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		115.914	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		109.561	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	102.344
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.505
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311008402
Sample Date/Time: Tuesday, November 05, 2013 12:23:09
Number of Replicates: 3
Autosampler Position: 323
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	228646.0	4.3				ug/L	199689	Standard
	Be	9	53.3	30.1	**0.0136**	0.006	44.1	ug/L	22	Standard
	Al	27	40374.9	28.1	**0.1901**	0.055	29.2	ug/L	615	Standard
	Sc	45	45225.7	2.0				ug/L	46336	Standard
	Ti	47	57.0	7.6	**0.0884**	0.013	14.6	ug/L	20	Standard
	V	51	1414.8	1.8	**0.0853**	0.013	14.7	ug/L	893	Standard
	Cr	52	5495.0	2.1	**0.3454**	0.017	4.8	ug/L	3436	Standard
	Cr	53	353.3	12.8	**0.0256**	0.033	127.6	ug/L	325	Standard
	Mn	55	5212.9	9.9	**0.4133**	0.066	16.0	ug/L	949	Standard
	Co	59	122.0	2.2	**-0.0021**	0.001	40.2	ug/L	109	Standard
	Ni	60	838.4	2.2	**0.2633**	0.017	6.6	ug/L	187	Standard
	Cu	65	962.0	4.4	**0.3596**	0.009	2.4	ug/L	95	Standard
	Zn	66	3832.8	4.8	**2.6055**	0.045	1.7	ug/L	320	Standard
>	**Ge**	72	504345.6	3.7				ug/L	478028	Standard
	As	75	-212.9	8.6	**0.0440**	0.017	37.9	ug/L	-247	Standard
	Se	82	-26.8	53.7	**0.1365**	0.098	71.6	ug/L	-45	Standard
	Se-1	77	115.0	6.1	**0.1823**	0.043	23.6	ug/L	101	Standard
>	**Ga**	71	35.0	37.8				mg/L	38	Standard
	Rb	85	296.7	14.7				ug/L	27	Standard
	Y	89	446645.7	4.8				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	43.2	33.2	**-0.0032**	0.006	172.4	ug/L	7	Standard
	Ag	107	58.0	13.0	**-0.0024**	0.001	38.7	ug/L	60	Standard
	Cd	111	7.3	28.7	**-0.0022**	0.001	49.3	mg/L	2	Standard
	Cd	114	44.6	34.6	**-0.0047**	0.003	58.6	ug/L	28	Standard
>	**In**	115	513850.2	3.3				ug/L	514607	Standard
	Sn	118	139.0	7.1	**0.0077**	0.011	148.0	ug/L	125	Standard
	Sb	123	32.6	4.9	**-0.0002**	0.000	77.4	ug/L	14	Standard
	Ba	135	160.7	1.9	**0.0644**	0.001	1.9	ug/L	10	Standard
	Ce	140	170.0	20.6				ug/L	25	Standard
>	**Tb**	159	626702.4	4.8				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	13.0	46.8	**-0.0009**	0.001	91.2	ug/L	4	Standard
	Tl	205	21.7	13.3	**0.0013**	0.001	45.2	ug/L	0	Standard
	Pb	206	156.0	8.2	**0.0164**	0.003	16.3	ug/L	113	Standard
	Pb	207	157.7	3.5	**0.0173**	0.004	21.7	ug/L	88	Standard
	Pb	208	377.7	7.5	**0.0174**	0.006	34.5	ug/L	233	Standard
	U	238	6.7	62.4	**-0.0020**	0.001	49.9	ug/L	1	Standard
>	**Bi**	209	314695.1	4.3				ug/L	321163	Standard

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⌈	**Na**	23	1.7	173.2	**0.6018**	1.034	171.8	mg/L	2	Standard
|	**Mg**	24	406.7	5.0	**0.3830**	0.023	6.0	mg/L	48	Standard
|	**K**	39	6.7	43.3	**0.0294**	0.040	136.9	mg/L	2	Standard
|	**Ca**	43	36.7	34.3	**0.3629**	1.160	319.6	mg/L	38	Standard
|	**Fe**	54	260.8	14.4	**0.0436**	0.023	52.9	mg/L	218	Standard
|	**Fe**	57	238.3	17.0	**-0.0693**	0.094	135.0	mg/L	283	Standard
⌊>	**Sc-1**	45	45225.7	2.0				mg/L	46336	Standard
	Cl	35	9418.9	2.8				ug/L	7415	Standard
	Kr	83	99.3	9.0				ug/L	106	Standard
	Br	81	3323.7	3.9				ug/L	2367	Standard
	P	31	257935.2	3.3				ug/L	257843	Standard
	S	34	24297.8	2.2				ug/L	25966	Standard
	Sr	88	85.0	17.6				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	2.4	262.3				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	20.0	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		114.501	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		105.505	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.853
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.986
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311008403
Sample Date/Time: Tuesday, November 05, 2013 12:26:14
Number of Replicates: 3
Autosampler Position: 324
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	228359.4	3.5				ug/L	199689	Standard
	Be	9	38.3	27.2	**0.0077**	0.005	63.8	ug/L	22	Standard
	Al	27	16585.8	5.3	**0.0759**	0.002	2.1	ug/L	615	Standard
	Sc	45	45289.4	6.5				ug/L	46336	Standard
	Ti	47	48.7	27.1	**0.0676**	0.040	58.9	ug/L	20	Standard
	V	51	1344.5	2.9	**0.0727**	0.008	11.4	ug/L	893	Standard
	Cr	52	5521.7	4.1	**0.3524**	0.015	4.2	ug/L	3436	Standard
	Cr	53	418.3	17.0	**0.0857**	0.076	88.8	ug/L	325	Standard
	Mn	55	4809.8	1.9	**0.3727**	0.013	3.5	ug/L	949	Standard
	Co	59	133.7	7.3	**-0.0001**	0.002	1227.4	ug/L	109	Standard
	Ni	60	949.0	2.0	**0.3104**	0.010	3.1	ug/L	187	Standard
	Cu	65	1224.7	5.8	**0.4731**	0.007	1.5	ug/L	95	Standard
	Zn	66	3858.5	5.7	**2.6307**	0.038	1.4	ug/L	320	Standard
>	**Ge**	72	503357.2	4.4				ug/L	478028	Standard
	As	75	-225.6	18.9	**0.0351**	0.031	88.8	ug/L	-247	Standard
	Se	82	-24.9	91.8	**0.1522**	0.147	96.8	ug/L	-45	Standard
	Se-1	77	112.0	7.6	**0.1543**	0.090	58.4	ug/L	101	Standard
>	**Ga**	71	40.0	12.5				mg/L	38	Standard
	Rb	85	295.0	16.2				ug/L	27	Standard
	Y	89	439837.9	4.6				ug/L	457712	Standard
>	**Rh**	103	10.0	50.0				ug/L	7	Standard
	Mo	98	32.0	12.9	**-0.0073**	0.001	18.6	ug/L	7	Standard
	Ag	107	112.7	2.9	**0.0067**	0.001	7.8	ug/L	60	Standard
	Cd	111	61.6	15.1	**0.0235**	0.004	16.9	mg/L	2	Standard
	Cd	114	208.5	5.0	**0.0250**	0.001	2.8	ug/L	28	Standard
>	**In**	115	512609.4	3.8				ug/L	514607	Standard
	Sn	118	178.7	5.2	**0.0394**	0.006	16.2	ug/L	125	Standard
	Sb	123	99.7	6.3	**0.0195**	0.002	9.3	ug/L	14	Standard
	Ba	135	532.3	6.7	**0.2565**	0.008	3.0	ug/L	10	Standard
	Ce	140	115.0	15.1				ug/L	25	Standard
>	**Tb**	159	609548.8	4.3				ug/L	648946	Standard
	Ho	165	6.7	86.6				ug/L	2	Standard
	Tl	203	16.0	12.5	**-0.0004**	0.000	93.7	ug/L	4	Standard
	Tl	205	15.0	88.2	**0.0002**	0.002	965.9	ug/L	0	Standard
	Pb	206	262.0	9.7	**0.0577**	0.007	12.5	ug/L	113	Standard
	Pb	207	220.7	10.0	**0.0446**	0.006	14.4	ug/L	88	Standard
	Pb	208	593.3	6.0	**0.0530**	0.003	6.0	ug/L	233	Standard
	U	238	4.3	74.2	**-0.0025**	0.001	32.4	ug/L	1	Standard
>	**Bi**	209	312354.2	3.4				ug/L	321163	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
|	**Mg**	24	405.0	5.7	**0.3820**	0.040	10.4	mg/L	48	Standard
|	**K**	39	5.0	100.0	**0.0091**	0.071	785.8	mg/L	2	Standard
|	**Ca**	43	25.0	72.1	**-0.6197**	1.687	272.2	mg/L	38	Standard
|	**Fe**	54	242.4	17.9	**0.0332**	0.029	88.7	mg/L	218	Standard
|	**Fe**	57	275.0	13.1	**0.0115**	0.110	958.4	mg/L	283	Standard
⌊>	**Sc-1**	45	45289.4	6.5				mg/L	46336	Standard
	Cl	35	9834.5	1.2				ug/L	7415	Standard
	Kr	83	91.3	19.4				ug/L	106	Standard
	Br	81	3247.0	7.1				ug/L	2367	Standard
	P	31	264151.5	1.7				ug/L	257843	Standard
	S	34	25099.1	2.6				ug/L	25966	Standard
	Sr	88	80.0	6.3				ug/L	92	Standard
	C	12	16.7	91.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0					mg/L	0	Standard
	Dy	164	2.5	238.7				mg/L	10	Standard
	Ho-1	165	6.7	86.6				mg/L	2	Standard
	Er	166	16.7	34.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		114.358	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		105.299	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

Sample ID: L1311008403
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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.612
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.257
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: November 06, 2013

Method 6020 - Summary Report

Sample ID: L1311008404 WG451289-02
Sample Date/Time: Tuesday, November 05, 2013 12:29:19
Number of Replicates: 3
Autosampler Position: 325
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222812.8	3.6				ug/L	199689	Standard
	Be	9	40.0	45.1	**0.0086**	0.007	83.3	ug/L	22	Standard
	Al	27	9913816.7	4.0	**48.6972**	0.923	1.9	ug/L	615	Standard
	Sc	45	45428.0	2.3				ug/L	46336	Standard
	Ti	47	1032.0	26.0	**2.7504**	0.789	28.7	ug/L	20	Standard
	V	51	1373.1	5.5	**0.0849**	0.008	9.9	ug/L	893	Standard
	Cr	52	6108.6	4.1	**0.4981**	0.023	4.6	ug/L	3436	Standard
	Cr	53	3373.7	4.5	**2.7792**	0.206	7.4	ug/L	325	Standard
	Mn	55	47342.6	3.3	**4.8233**	0.056	1.2	ug/L	949	Standard
	Co	59	739.7	2.6	**0.1032**	0.004	3.6	ug/L	109	Standard
	Ni	60	4150.6	5.8	**1.7065**	0.064	3.8	ug/L	187	Standard
	Cu	65	14429.5	2.8	**6.3205**	0.048	0.8	ug/L	95	Standard
	Zn	66	36533.0	2.7	**28.6241**	0.150	0.5	ug/L	320	Standard
>	**Ge**	72	489327.3	2.3				ug/L	478028	Standard
	As	75	360.6	12.8	**0.4469**	0.037	8.2	ug/L	-247	Standard
	Se	82	35.0	5.2	**0.5474**	0.017	3.2	ug/L	-45	Standard
	Se-1	77	442.0	0.6	**3.7483**	0.129	3.5	ug/L	101	Standard
>	**Ga**	71	53.3	14.3				mg/L	38	Standard
	Rb	85	52313.5	1.3				ug/L	27	Standard
	Y	89	429827.0	1.1				ug/L	457712	Standard
>	**Rh**	103	58.3	38.7				ug/L	7	Standard
	Mo	98	2944.0	3.9	**1.0543**	0.035	3.3	ug/L	7	Standard
	Ag	107	73.3	26.6	**0.0006**	0.003	505.1	ug/L	60	Standard
	Cd	111	97.8	9.8	**0.0426**	0.005	11.0	mg/L	2	Standard
	Cd	114	330.7	11.0	**0.0494**	0.007	13.2	ug/L	28	Standard
>	**In**	115	493201.7	2.0				ug/L	514607	Standard
	Sn	118	284.0	4.1	**0.1323**	0.010	7.3	ug/L	125	Standard
	Sb	123	524.8	5.3	**0.1502**	0.007	4.6	ug/L	14	Standard
	Ba	135	23265.5	1.4	**12.4831**	0.077	0.6	ug/L	10	Standard
	Ce	140	186.7	20.5				ug/L	25	Standard
>	**Tb**	159	604951.1	0.9				ug/L	648946	Standard
	Ho	165	20.0	25.0				ug/L	2	Standard
	Tl	203	124.0	10.8	**0.0176**	0.002	9.4	ug/L	4	Standard
	Tl	205	148.3	46.7	**0.0222**	0.011	47.9	ug/L	0	Standard
	Pb	206	1295.7	3.2	**0.4828**	0.028	5.8	ug/L	113	Standard
	Pb	207	1051.7	3.3	**0.4246**	0.016	3.8	ug/L	88	Standard
	Pb	208	2857.4	4.8	**0.4476**	0.009	2.0	ug/L	233	Standard
	U	238	104.0	107.8	**0.0229**	0.028	121.9	ug/L	1	Standard
>	**Bi**	209	297028.9	3.0				ug/L	321163	Standard

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	Na	23	108.3	23.7	**39.4056**	8.639	21.9	mg/L	2	Standard
	Mg	24	34629.6	4.7	**35.2126**	1.386	3.9	mg/L	48	Standard
	K	39	168.3	21.5	**2.2384**	0.531	23.7	mg/L	2	Standard
	Ca	43	373.3	8.9	**29.7371**	3.599	12.1	mg/L	38	Standard
	Fe	54	249.2	12.5	**0.0359**	0.016	43.6	mg/L	218	Standard
	Fe	57	416.7	11.2	**0.3050**	0.105	34.4	mg/L	283	Standard
>	**Sc-1**	45	45428.0	2.3				mg/L	46336	Standard
	Cl	35	8914.6	2.9				ug/L	7415	Standard
	Kr	83	104.7	6.9				ug/L	106	Standard
	Br	81	14180.0	2.6				ug/L	2367	Standard
	P	31	275716.1	3.3				ug/L	257843	Standard
	S	34	23910.5	3.0				ug/L	25966	Standard
	Sr	88	288.3	12.8				ug/L	92	Standard
	C	12	40.0	90.1				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	38.6	27.3				mg/L	10	Standard
	Ho-1	165	20.0	25.0				mg/L	2	Standard
	Er	166	30.0	66.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.580	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		102.364	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.840
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.485
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311008404DP WG451289-07
Sample Date/Time: Tuesday, November 05, 2013 12:32:23
Number of Replicates: 3
Autosampler Position: 326
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222262.3	2.4				ug/L	199689	Standard
	Be	9	53.3	14.3	**0.0144**	0.004	24.8	ug/L	22	Standard
	Al	27	9964996.1	1.1	**49.0805**	0.891	1.8	ug/L	615	Standard
	Sc	45	45989.7	3.5				ug/L	46336	Standard
	Ti	47	906.0	7.3	**2.3643**	0.176	7.4	ug/L	20	Standard
	V	51	1539.6	4.3	**0.1127**	0.013	11.6	ug/L	893	Standard
	Cr	52	6142.2	2.7	**0.4884**	0.026	5.3	ug/L	3436	Standard
	Cr	53	3817.1	1.6	**3.1324**	0.113	3.6	ug/L	325	Standard
	Mn	55	53441.7	0.0	**5.3851**	0.107	2.0	ug/L	949	Standard
	Co	59	783.0	3.5	**0.1087**	0.002	2.3	ug/L	109	Standard
	Ni	60	4285.6	2.5	**1.7403**	0.023	1.3	ug/L	187	Standard
	Cu	65	14457.6	0.7	**6.2474**	0.147	2.3	ug/L	95	Standard
	Zn	66	36551.4	1.5	**28.2438**	0.213	0.8	ug/L	320	Standard
>	**Ge**	72	496144.3	1.9				ug/L	478028	Standard
	As	75	408.0	6.0	**0.4762**	0.018	3.7	ug/L	-247	Standard
	Se	82	43.5	43.6	**0.5995**	0.124	20.7	ug/L	-45	Standard
	Se-1	77	432.3	8.1	**3.5807**	0.407	11.4	ug/L	101	Standard
>	**Ga**	71	110.0	27.6				mg/L	38	Standard
	Rb	85	55473.0	0.9				ug/L	27	Standard
	Y	89	438662.4	1.8				ug/L	457712	Standard
>	**Rh**	103	56.7	5.1				ug/L	7	Standard
	Mo	98	3044.2	2.8	**1.0693**	0.035	3.3	ug/L	7	Standard
	Ag	107	63.0	17.2	**-0.0013**	0.002	145.5	ug/L	60	Standard
	Cd	111	103.6	7.2	**0.0445**	0.004	8.6	mg/L	2	Standard
	Cd	114	307.4	9.9	**0.0440**	0.007	15.0	ug/L	28	Standard
>	**In**	115	503053.3	2.1				ug/L	514607	Standard
	Sn	118	283.3	9.4	**0.1274**	0.025	19.8	ug/L	125	Standard
	Sb	123	523.5	3.6	**0.1468**	0.007	5.0	ug/L	14	Standard
	Ba	135	24073.4	1.1	**12.6655**	0.208	1.6	ug/L	10	Standard
	Ce	140	898.4	2.0				ug/L	25	Standard
>	**Tb**	159	608868.8	2.4				ug/L	648946	Standard
	Ho	165	25.0	20.0				ug/L	2	Standard
	Tl	203	136.0	5.3	**0.0195**	0.002	8.1	ug/L	4	Standard
	Tl	205	135.0	20.6	**0.0201**	0.005	24.7	ug/L	0	Standard
	Pb	206	1378.4	4.2	**0.5124**	0.017	3.2	ug/L	113	Standard
	Pb	207	1133.0	3.5	**0.4580**	0.014	3.2	ug/L	88	Standard
	Pb	208	3021.1	0.7	**0.4728**	0.007	1.5	ug/L	233	Standard
	U	238	63.7	16.1	**0.0128**	0.002	18.1	ug/L	1	Standard
>	**Bi**	209	298858.1	2.0				ug/L	321163	Standard

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	Na	23	81.7	18.7	**29.5365**	6.159	20.9	mg/L	2	Standard
	Mg	24	35581.8	2.8	**35.7838**	1.962	5.5	mg/L	48	Standard
	K	39	206.7	17.2	**2.7282**	0.519	19.0	mg/L	2	Standard
	Ca	43	325.0	16.3	**25.1327**	4.567	18.2	mg/L	38	Standard
	Fe	54	302.1	7.4	**0.0645**	0.007	10.7	mg/L	218	Standard
	Fe	57	416.7	14.9	**0.2917**	0.107	36.8	mg/L	283	Standard
>	**Sc-1**	45	45989.7	3.5				mg/L	46336	Standard
	Cl	35	8922.6	1.3				ug/L	7415	Standard
	Kr	83	90.7	6.1				ug/L	106	Standard
	Br	81	13379.2	2.2				ug/L	2367	Standard
	P	31	292630.2	2.7				ug/L	257843	Standard
	S	34	24025.7	0.9				ug/L	25966	Standard
	Sr	88	310.0	8.1				ug/L	92	Standard
	C	12	20.0	50.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	47.8	60.8				mg/L	10	Standard
	Ho-1	165	25.0	20.0				mg/L	2	Standard
	Er	166	46.7	65.5				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.304	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		103.790	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.755
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.055
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1311008404DP WG451289-07
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 12:35:29
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	217750.8	2.4				ug/L	199689	Standard
	Be	9	116165.3	0.7	**50.2391**	1.133	2.3	ug/L	22	Standard
	Al	27	8831492.7	1.1	**44.3976**	0.710	1.6	ug/L	615	Standard
	Sc	45	46120.1	1.3				ug/L	46336	Standard
	Ti	47	36657.3	0.7	**96.8310**	0.790	0.8	ug/L	20	Standard
	V	51	267567.6	1.3	**49.3575**	0.286	0.6	ug/L	893	Standard
	Cr	52	263762.9	2.4	**49.9613**	0.793	1.6	ug/L	3436	Standard
	Cr	53	57119.2	3.8	**50.1643**	1.340	2.7	ug/L	325	Standard
	Mn	55	508922.5	1.6	**51.5796**	0.573	1.1	ug/L	949	Standard
	Co	59	313608.0	2.8	**51.6953**	1.253	2.4	ug/L	109	Standard
	Ni	60	119855.2	0.9	**50.4245**	0.632	1.3	ug/L	187	Standard
	Cu	65	118536.3	1.9	**50.9181**	0.464	0.9	ug/L	95	Standard
	Zn	66	67920.9	0.9	**52.0931**	0.625	1.2	ug/L	320	Standard
>	**Ge**	72	502620.5	1.2				ug/L	478028	Standard
	As	75	73065.3	1.1	**50.6290**	0.323	0.6	ug/L	-247	Standard
	Se	82	7472.8	2.4	**49.0049**	0.872	1.8	ug/L	-45	Standard
	Se-1	77	5176.9	2.1	**53.3356**	1.082	2.0	ug/L	101	Standard
>	**Ga**	71	53.3	51.6				mg/L	38	Standard
	Rb	85	1085.0	3.2				ug/L	27	Standard
	Y	89	445031.3	0.7				ug/L	457712	Standard
>	**Rh**	103	38.3	27.2				ug/L	7	Standard
	Mo	98	338976.3	1.8	**118.3696**	0.910	0.8	ug/L	7	Standard
	Ag	107	325642.3	1.4	**53.5655**	0.242	0.5	ug/L	60	Standard
	Cd	111	110943.7	1.7	**52.4843**	0.405	0.8	mg/L	2	Standard
	Cd	114	287966.8	2.2	**51.8051**	0.540	1.0	ug/L	28	Standard
>	**In**	115	514556.4	1.3				ug/L	514607	Standard
	Sn	118	67364.5	3.0	**53.3680**	0.934	1.7	ug/L	125	Standard
	Sb	123	164807.6	0.8	**48.1434**	0.253	0.5	ug/L	14	Standard
	Ba	135	98262.3	1.6	**50.5865**	0.355	0.7	ug/L	10	Standard
	Ce	140	25.0	20.0				ug/L	25	Standard
>	**Tb**	159	613275.7	1.6				ug/L	648946	Standard
	Ho	165	8.3	69.3				ug/L	2	Standard
	Tl	203	319769.4	1.1	**50.7081**	0.675	1.3	ug/L	4	Standard
	Tl	205	346372.9	0.8	**54.6942**	1.723	3.2	ug/L	0	Standard
	Pb	206	135504.3	1.7	**52.5869**	0.421	0.8	ug/L	113	Standard
	Pb	207	121525.1	1.3	**52.4414**	0.634	1.2	ug/L	88	Standard
	Pb	208	313962.3	1.1	**51.6973**	0.709	1.4	ug/L	233	Standard
	U	238	200928.0	1.4	**50.0266**	0.610	1.2	ug/L	1	Standard
>	**Bi**	209	310238.2	2.4				ug/L	321163	Standard

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	Na	23	25.0	87.2	**8.9997**	7.884	87.6	mg/L	2	Standard
	Mg	24	4600.7	2.4	**4.5793**	0.048	1.1	mg/L	48	Standard
	K	39	223.3	32.6	**2.9294**	0.937	32.0	mg/L	2	Standard
	Ca	43	66.7	17.3	**2.8544**	0.912	31.9	mg/L	38	Standard
	Fe	54	8886.0	0.9	**4.9750**	0.112	2.3	mg/L	218	Standard
	Fe	57	2690.2	7.6	**5.0245**	0.458	9.1	mg/L	283	Standard
>	**Sc-1**	45	46120.1	1.3				mg/L	46336	Standard
	Cl	35	8451.7	2.2				ug/L	7415	Standard
	Kr	83	96.0	9.3				ug/L	106	Standard
	Br	81	2786.9	3.8				ug/L	2367	Standard
	P	31	278079.9	5.3				ug/L	257843	Standard
	S	34	28501.8	2.8				ug/L	25966	Standard
	Sr	88	113.3	17.8				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.3	93.2				mg/L	10	Standard
	Ho-1	165	8.3	69.3				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		109.045	
	Be	9	100.478		
	Al	27	88.795		
	Sc	45			
	Ti	47	96.831		
	V	51	98.715		
	Cr	52	99.923		
	Cr	53			
	Mn	55	103.159		
	Co	59	103.391		
	Ni	60	100.849		
	Cu	65	101.836		
	Zn	66	104.186		
>	Ge	72		105.145	
	As	75	101.258		
	Se	82	98.010		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	118.370	
|	Ag	107	107.131	
|	Cd	111	104.969	
|	Cd	114		
|>	In	115		99.990
|	Sn	118	106.736	
|	Sb	123	96.287	
⌊	Ba	135	101.173	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	101.416	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	103.395	
|	U	238	100.053	
⌊>	Bi	209		96.598
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 12:38:34
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	211259.2	4.1				ug/L	199689	Standard
	Be	9	65.0	20.4	**0.0207**	0.006	27.1	ug/L	22	Standard
	Al	27	7364.3	85.7	**0.0347**	0.033	95.3	ug/L	615	Standard
	Sc	45	43012.7	3.2				ug/L	46336	Standard
	Ti	47	15.7	7.4	**-0.0184**	0.004	20.2	ug/L	20	Standard
	V	51	984.6	5.3	**0.0154**	0.015	100.1	ug/L	893	Standard
	Cr	52	3686.1	2.0	**0.0359**	0.022	60.4	ug/L	3436	Standard
	Cr	53	276.7	23.3	**-0.0270**	0.069	256.9	ug/L	325	Standard
	Mn	55	1152.7	22.9	**0.0073**	0.028	389.6	ug/L	949	Standard
	Co	59	117.7	24.9	**-0.0019**	0.004	233.5	ug/L	109	Standard
	Ni	60	669.3	4.9	**0.2065**	0.007	3.5	ug/L	187	Standard
	Cu	65	397.7	1.4	**0.1268**	0.006	4.5	ug/L	95	Standard
	Zn	66	387.7	4.9	**-0.0282**	0.024	85.3	ug/L	320	Standard
>	**Ge**	72	479464.3	4.1				ug/L	478028	Standard
	As	75	-246.6	12.9	**0.0116**	0.029	253.3	ug/L	-247	Standard
	Se	82	-35.6	53.9	**0.0670**	0.140	209.0	ug/L	-45	Standard
	Se-1	77	102.0	14.5	**0.1071**	0.200	186.5	ug/L	101	Standard
>	**Ga**	71	38.3	7.5				mg/L	38	Standard
	Rb	85	40.0	69.6				ug/L	27	Standard
	Y	89	426556.6	4.3				ug/L	457712	Standard
>	**Rh**	103	3.3	86.6				ug/L	7	Standard
	Mo	98	70.5	55.2	**0.0072**	0.014	189.7	ug/L	7	Standard
	Ag	107	92.3	29.9	**0.0039**	0.004	109.2	ug/L	60	Standard
	Cd	111	13.2	109.0	**0.0009**	0.007	809.2	mg/L	2	Standard
	Cd	114	59.6	56.0	**-0.0015**	0.006	413.5	ug/L	28	Standard
>	**In**	115	489472.5	3.3				ug/L	514607	Standard
	Sn	118	139.7	18.6	**0.0134**	0.021	153.2	ug/L	125	Standard
	Sb	123	261.6	28.3	**0.0702**	0.020	28.7	ug/L	14	Standard
	Ba	135	26.3	77.9	**-0.0043**	0.011	255.8	ug/L	10	Standard
	Ce	140	15.0	66.7				ug/L	25	Standard
>	**Tb**	159	588694.4	4.7				ug/L	648946	Standard
	Ho	165	8.3	69.3				ug/L	2	Standard
	Tl	203	43.0	68.5	**0.0039**	0.005	117.7	ug/L	4	Standard
	Tl	205	20.0	90.1	**0.0011**	0.003	260.5	ug/L	0	Standard
	Pb	206	114.3	10.2	**0.0022**	0.003	135.9	ug/L	113	Standard
	Pb	207	96.3	16.3	**-0.0073**	0.006	76.8	ug/L	88	Standard
	Pb	208	246.7	6.8	**-0.0023**	0.002	74.6	ug/L	233	Standard
	U	238	7.7	54.3	**-0.0017**	0.001	61.5	ug/L	1	Standard
>	**Bi**	209	302352.7	4.2				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	80.0	22.5	**0.0535**	0.022	40.7	mg/L	48	Standard
K	39	1.7	173.2	**-0.0389**	0.040	103.1	mg/L	2	Standard
Ca	43	31.7	36.5	**0.0637**	1.108	1738.7	mg/L	38	Standard
Fe	54	214.5	12.9	**0.0233**	0.021	88.0	mg/L	218	Standard
Fe	57	223.3	26.1	**-0.0775**	0.133	171.5	mg/L	283	Standard
> **Sc-1**	45	43012.7	3.2				mg/L	46336	Standard
Cl	35	8461.7	1.8				ug/L	7415	Standard
Kr	83	103.7	12.0				ug/L	106	Standard
Br	81	2453.5	3.8				ug/L	2367	Standard
P	31	246382.1	0.6				ug/L	257843	Standard
S	34	28244.6	0.5				ug/L	25966	Standard
Sr	88	88.3	42.5				ug/L	92	Standard
C	12	20.0	86.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	3.2	186.4				mg/L	10	Standard
Ho-1	165	8.3	69.3				mg/L	2	Standard
Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		105.794	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		100.300	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.116
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.143
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1311005401
Sample Date/Time: Tuesday, November 05, 2013 12:46:24
Number of Replicates: 3
Autosampler Position: 337
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	289129.4	0.7				ug/L	199689	Standard
	Be	9	55.0	24.1	**0.0097**	0.004	45.4	ug/L	22	Standard
	Al	27	257984195.4	1.3	**976.6198**	13.906	1.4	ug/L	615	Standard
	Sc	45	40221.6	0.4				ug/L	46336	Standard
	Ti	47	148.3	12.5	**0.3858**	0.060	15.5	ug/L	20	Standard
	V	51	1622.2	14.4	**0.1663**	0.046	27.8	ug/L	893	Standard
	Cr	52	5751.1	7.7	**0.5530**	0.084	15.3	ug/L	3436	Standard
	Cr	53	1061.7	2.7	**0.7850**	0.026	3.3	ug/L	325	Standard
	Mn	55	2073534.4	9.4	**240.1372**	21.396	8.9	ug/L	949	Standard
	Co	59	1062.4	11.4	**0.1777**	0.021	12.0	ug/L	109	Standard
	Ni	60	6854.9	5.1	**3.2062**	0.141	4.4	ug/L	187	Standard
	Cu	65	6208.3	1.8	**2.9940**	0.083	2.8	ug/L	95	Standard
	Zn	66	5403.6	4.2	**4.4185**	0.247	5.6	ug/L	320	Standard
>	**Ge**	72	440514.1	1.0				ug/L	478028	Standard
	As	75	7696.8	1.0	**6.2538**	0.120	1.9	ug/L	-247	Standard
	Se	82	24263.4	1.5	**180.7067**	2.026	1.1	ug/L	-45	Standard
	Se-1	77	16321.8	1.4	**194.5133**	2.350	1.2	ug/L	101	Standard
>	**Ga**	71	66.7	22.9				mg/L	38	Standard
	Rb	85	20969.5	5.1				ug/L	27	Standard
	Y	89	388366.6	1.3				ug/L	457712	Standard
>	**Rh**	103	468.3	18.9				ug/L	7	Standard
	Mo	98	438.8	24.2	**0.1623**	0.043	26.8	ug/L	7	Standard
	Ag	107	89.3	76.3	**0.0054**	0.013	244.8	ug/L	60	Standard
	Cd	111	38.1	39.7	**0.0155**	0.008	53.1	mg/L	2	Standard
	Cd	114	121.7	32.8	**0.0132**	0.009	64.8	ug/L	28	Standard
>	**In**	115	436253.1	1.0				ug/L	514607	Standard
	Sn	118	122.3	12.6	**0.0117**	0.016	134.0	ug/L	125	Standard
	Sb	123	60.5	29.5	**0.0111**	0.006	55.5	ug/L	14	Standard
	Ba	135	2156.8	0.5	**1.2918**	0.020	1.6	ug/L	10	Standard
	Ce	140	470.0	5.9				ug/L	25	Standard
>	**Tb**	159	554179.5	0.3				ug/L	648946	Standard
	Ho	165	31.7	18.2				ug/L	2	Standard
	Tl	203	277.0	25.3	**0.0497**	0.014	27.2	ug/L	4	Standard
	Tl	205	286.7	11.2	**0.0521**	0.006	11.5	ug/L	0	Standard
	Pb	206	139.0	29.9	**0.0214**	0.020	91.3	ug/L	113	Standard
	Pb	207	116.3	30.6	**0.0103**	0.019	181.3	ug/L	88	Standard
	Pb	208	267.0	13.0	**0.0087**	0.007	81.0	ug/L	233	Standard
	U	238	20413.1	0.6	**6.0801**	0.006	0.1	ug/L	1	Standard
>	**Bi**	209	259148.5	0.6				ug/L	321163	Standard

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	Na	23	103.3	15.6	**42.5562**	6.539	15.4	mg/L	2	Standard
	Mg	24	200361.2	1.4	**230.3172**	4.076	1.8	mg/L	48	Standard
	K	39	146.7	5.2	**2.1966**	0.118	5.4	mg/L	2	Standard
	Ca	43	355.0	5.1	**32.0862**	1.655	5.2	mg/L	38	Standard
	Fe	54	204.3	7.3	**0.0254**	0.010	39.2	mg/L	218	Standard
	Fe	57	581.7	15.6	**0.8122**	0.218	26.8	mg/L	283	Standard
>	**Sc-1**	45	40221.6	0.4				mg/L	46336	Standard
	Cl	35	18552.0	0.5				ug/L	7415	Standard
	Kr	83	112.3	2.7				ug/L	106	Standard
	Br	81	33697.5	5.6				ug/L	2367	Standard
	P	31	118437.8	1.3				ug/L	257843	Standard
	S	34	23865.4	1.0				ug/L	25966	Standard
	Sr	88	1833.4	6.5				ug/L	92	Standard
	C	12	23.3	99.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	15.9	98.6				mg/L	10	Standard
	Ho-1	165	31.7	18.2				mg/L	2	Standard
	Er	166	16.7	91.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		144.790	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		92.152	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	84.774
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	80.691
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311005407
Sample Date/Time: Tuesday, November 05, 2013 12:49:28
Number of Replicates: 3
Autosampler Position: 338
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	270906.4	2.5				ug/L	199689	Standard
	Be	9	36.7	41.7	**0.0046**	0.006	120.9	ug/L	22	Standard
	Al	27	120263006.7	0.8	**486.0722**	12.364	2.5	ug/L	615	Standard
	Sc	45	39613.4	1.3				ug/L	46336	Standard
	Ti	47	116.3	6.0	**0.2878**	0.023	8.1	ug/L	20	Standard
	V	51	1441.4	3.0	**0.1274**	0.013	10.0	ug/L	893	Standard
	Cr	52	5909.5	2.0	**0.5835**	0.013	2.2	ug/L	3436	Standard
	Cr	53	1790.1	3.9	**1.5133**	0.092	6.1	ug/L	325	Standard
	Mn	55	790124.5	1.8	**91.1222**	1.027	1.1	ug/L	949	Standard
	Co	59	1080.0	2.0	**0.1804**	0.006	3.1	ug/L	109	Standard
	Ni	60	4838.4	2.3	**2.2286**	0.032	1.4	ug/L	187	Standard
	Cu	65	5823.1	1.3	**2.7945**	0.066	2.4	ug/L	95	Standard
	Zn	66	5480.7	1.2	**4.4672**	0.030	0.7	ug/L	320	Standard
>	**Ge**	72	442131.0	1.2				ug/L	478028	Standard
	As	75	1509.5	8.1	**1.3763**	0.111	8.1	ug/L	-247	Standard
	Se	82	738.2	6.2	**5.7845**	0.408	7.0	ug/L	-45	Standard
	Se-1	77	321.3	1.8	**2.8152**	0.076	2.7	ug/L	101	Standard
>	**Ga**	71	46.7	32.7				mg/L	38	Standard
	Rb	85	24798.6	1.2				ug/L	27	Standard
	Y	89	381543.0	2.6				ug/L	457712	Standard
>	**Rh**	103	428.3	13.7				ug/L	7	Standard
	Mo	98	365.0	5.2	**0.1333**	0.009	6.6	ug/L	7	Standard
	Ag	107	51.3	11.7	**-0.0019**	0.001	63.1	ug/L	60	Standard
	Cd	111	17.5	26.3	**0.0041**	0.002	60.3	mg/L	2	Standard
	Cd	114	63.6	8.9	**0.0009**	0.001	144.8	ug/L	28	Standard
>	**In**	115	432412.3	1.3				ug/L	514607	Standard
	Sn	118	115.3	5.6	**0.0060**	0.007	122.2	ug/L	125	Standard
	Sb	123	51.6	2.3	**0.0082**	0.000	2.3	ug/L	14	Standard
	Ba	135	1432.4	3.3	**0.8593**	0.027	3.1	ug/L	10	Standard
	Ce	140	373.3	10.1				ug/L	25	Standard
>	**Tb**	159	546580.6	1.6				ug/L	648946	Standard
	Ho	165	36.7	34.3				ug/L	2	Standard
	Tl	203	177.3	5.6	**0.0315**	0.003	8.0	ug/L	4	Standard
	Tl	205	185.0	14.0	**0.0337**	0.005	16.1	ug/L	0	Standard
	Pb	206	127.7	6.1	**0.0174**	0.004	20.9	ug/L	113	Standard
	Pb	207	107.0	11.2	**0.0066**	0.005	82.5	ug/L	88	Standard
	Pb	208	289.7	1.1	**0.0144**	0.002	11.0	ug/L	233	Standard
	U	238	19243.9	1.7	**5.8617**	0.023	0.4	ug/L	1	Standard
>	**Bi**	209	253407.3	1.8				ug/L	321163	Standard

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	Na	23	66.7	15.6	**27.9186**	4.616	16.5	mg/L	2	Standard
	Mg	24	364884.8	0.6	**425.9148**	3.218	0.8	mg/L	48	Standard
	K	39	91.7	30.0	**1.3690**	0.416	30.4	mg/L	2	Standard
	Ca	43	288.3	12.5	**25.9665**	3.653	14.1	mg/L	38	Standard
	Fe	54	110.8	21.3	**-0.0350**	0.015	42.7	mg/L	218	Standard
	Fe	57	518.3	7.4	**0.6792**	0.076	11.1	mg/L	283	Standard
>	**Sc-1**	45	39613.4	1.3				mg/L	46336	Standard
	Cl	35	19327.0	1.0				ug/L	7415	Standard
	Kr	83	145.0	7.8				ug/L	106	Standard
	Br	81	135402.4	1.6				ug/L	2367	Standard
	P	31	115923.6	2.5				ug/L	257843	Standard
	S	34	22136.2	2.9				ug/L	25966	Standard
	Sr	88	1720.1	6.9				ug/L	92	Standard
	C	12	20.0	100.0				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	41.3	59.4				mg/L	10	Standard
	Ho-1	165	36.7	34.3				mg/L	2	Standard
	Er	166	43.3	96.1				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		135.664	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		92.491	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	84.028
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	78.903
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	

Sample ID: L1311005407
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Method 6020 - Summary Report

Sample ID: L1311005414
Sample Date/Time: Tuesday, November 05, 2013 12:52:32
Number of Replicates: 3
Autosampler Position: 339
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	304734.4	1.5				ug/L	199689	Standard
	Be	9	68.3	36.8	**0.0129**	0.008	62.1	ug/L	22	Standard
	Al	27	283787720.6	1.6	**1019.2488**	4.100	0.4	ug/L	615	Standard
	Sc	45	40714.6	1.0				ug/L	46336	Standard
	Ti	47	151.0	10.4	**0.3786**	0.051	13.5	ug/L	20	Standard
	V	51	1800.4	7.2	**0.1915**	0.027	14.1	ug/L	893	Standard
	Cr	52	6553.8	1.2	**0.6814**	0.035	5.1	ug/L	3436	Standard
	Cr	53	1231.7	3.3	**0.9149**	0.050	5.5	ug/L	325	Standard
	Mn	55	2465772.0	1.6	**276.0201**	1.257	0.5	ug/L	949	Standard
	Co	59	1140.7	2.9	**0.1853**	0.009	4.7	ug/L	109	Standard
	Ni	60	8367.6	1.0	**3.7994**	0.092	2.4	ug/L	187	Standard
	Cu	65	6985.3	0.9	**3.2598**	0.074	2.3	ug/L	95	Standard
	Zn	66	5977.8	2.0	**4.7451**	0.056	1.2	ug/L	320	Standard
>	**Ge**	72	455884.9	1.4				ug/L	478028	Standard
	As	75	7286.0	5.8	**5.7343**	0.262	4.6	ug/L	-247	Standard
	Se	82	27508.2	1.3	**197.9390**	1.500	0.8	ug/L	-45	Standard
	Se-1	77	18780.6	0.8	**216.3922**	1.632	0.8	ug/L	101	Standard
>	**Ga**	71	93.3	18.8				mg/L	38	Standard
	Rb	85	23833.7	3.0				ug/L	27	Standard
	Y	89	389927.1	0.4				ug/L	457712	Standard
>	**Rh**	103	576.7	13.4				ug/L	7	Standard
	Mo	98	457.4	2.4	**0.1649**	0.003	1.5	ug/L	7	Standard
	Ag	107	60.0	6.0	**-0.0006**	0.001	116.4	ug/L	60	Standard
	Cd	111	41.0	9.8	**0.0166**	0.002	13.9	mg/L	2	Standard
	Cd	114	106.8	34.1	**0.0094**	0.008	80.3	ug/L	28	Standard
>	**In**	115	448219.3	1.1				ug/L	514607	Standard
	Sn	118	118.3	13.7	**0.0049**	0.016	317.4	ug/L	125	Standard
	Sb	123	45.0	15.0	**0.0054**	0.002	42.7	ug/L	14	Standard
	Ba	135	2459.2	1.9	**1.4354**	0.018	1.2	ug/L	10	Standard
	Ce	140	531.7	4.8				ug/L	25	Standard
>	**Tb**	159	562129.5	1.7				ug/L	648946	Standard
	Ho	165	18.3	31.5				ug/L	2	Standard
	Tl	203	266.7	9.7	**0.0471**	0.004	9.5	ug/L	4	Standard
	Tl	205	270.0	6.7	**0.0483**	0.003	5.4	ug/L	0	Standard
	Pb	206	117.0	3.1	**0.0106**	0.003	25.0	ug/L	113	Standard
	Pb	207	113.7	9.2	**0.0082**	0.005	61.1	ug/L	88	Standard
	Pb	208	284.0	2.7	**0.0114**	0.002	18.5	ug/L	233	Standard
	U	238	22731.4	1.9	**6.6947**	0.102	1.5	ug/L	1	Standard
>	**Bi**	209	262127.3	2.1				ug/L	321163	Standard

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	Na	23	98.3	23.5	**39.9737**	9.076	22.7	mg/L	2	Standard
	Mg	24	222539.1	0.7	**252.7177**	2.672	1.1	mg/L	48	Standard
	K	39	176.7	7.1	**2.6246**	0.167	6.4	mg/L	2	Standard
	Ca	43	385.0	8.1	**34.5866**	3.040	8.8	mg/L	38	Standard
	Fe	54	132.1	30.8	**-0.0231**	0.026	113.2	mg/L	218	Standard
	Fe	57	603.3	2.1	**0.8465**	0.037	4.4	mg/L	283	Standard
>	**Sc-1**	45	40714.6	1.0				mg/L	46336	Standard
	Cl	35	19714.2	1.7				ug/L	7415	Standard
	Kr	83	129.0	14.0				ug/L	106	Standard
	Br	81	37736.9	1.3				ug/L	2367	Standard
	P	31	119931.2	1.9				ug/L	257843	Standard
	S	34	23030.8	1.6				ug/L	25966	Standard
	Sr	88	1916.8	1.7				ug/L	92	Standard
	C	12	40.0	25.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	15.5	96.9				mg/L	10	Standard
	Ho-1	165	18.3	31.5				mg/L	2	Standard
	Er	166	23.3	24.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		152.605	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		95.368	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.099
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	81.618
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Se 82 Upper, S, EEE	Se	82	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1311005401
Sample Date/Time: Tuesday, November 05, 2013 12:55:36
Number of Replicates: 3
Autosampler Position: 340
Sample Description: 500
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	211567.0	1.0				ug/L	199689	Standard
	Be	9	51.7	45.7	**0.0147**	0.010	70.7	ug/L	22	Standard
	Al	27	2966373.2	2.5	**15.3419**	0.315	2.1	ug/L	615	Standard
	Sc	45	41528.5	1.2				ug/L	46336	Standard
	Ti	47	29.0	22.6	**0.0197**	0.018	89.0	ug/L	20	Standard
	V	51	1688.6	1.3	**0.1571**	0.004	2.3	ug/L	893	Standard
	Cr	52	6386.0	0.9	**0.6005**	0.023	3.8	ug/L	3436	Standard
	Cr	53	321.7	1.8	**0.0178**	0.010	54.7	ug/L	325	Standard
	Mn	55	24042.1	2.7	**2.4873**	0.082	3.3	ug/L	949	Standard
	Co	59	129.3	8.3	**0.0006**	0.002	359.3	ug/L	109	Standard
	Ni	60	705.7	3.3	**0.2278**	0.015	6.7	ug/L	187	Standard
	Cu	65	496.3	8.2	**0.1748**	0.018	10.1	ug/L	95	Standard
	Zn	66	1634.4	3.5	**1.0024**	0.059	5.8	ug/L	320	Standard
>	**Ge**	72	471670.2	1.5				ug/L	478028	Standard
	As	75	-176.2	54.6	**0.0618**	0.070	112.7	ug/L	-247	Standard
	Se	82	218.6	12.8	**1.8319**	0.211	11.5	ug/L	-45	Standard
	Se-1	77	268.0	0.4	**1.9783**	0.034	1.7	ug/L	101	Standard
>	**Ga**	71	25.0	52.9				mg/L	38	Standard
	Rb	85	278.3	6.8				ug/L	27	Standard
	Y	89	415095.4	1.8				ug/L	457712	Standard
>	**Rh**	103	16.7	105.4				ug/L	7	Standard
	Mo	98	13.9	17.9	**-0.0133**	0.001	7.5	ug/L	7	Standard
	Ag	107	61.3	13.9	**-0.0012**	0.001	123.9	ug/L	60	Standard
	Cd	111	3.3	17.0	**-0.0040**	0.000	6.8	mg/L	2	Standard
	Cd	114	20.2	87.3	**-0.0088**	0.003	38.0	ug/L	28	Standard
>	**In**	115	483707.4	1.3				ug/L	514607	Standard
	Sn	118	115.0	8.7	**-0.0059**	0.008	143.4	ug/L	125	Standard
	Sb	123	20.6	3.0	**-0.0033**	0.000	7.2	ug/L	14	Standard
	Ba	135	37.0	12.4	**0.0018**	0.002	138.5	ug/L	10	Standard
	Ce	140	13.3	43.3				ug/L	25	Standard
>	**Tb**	159	581552.4	2.7				ug/L	648946	Standard
	Ho	165	5.0	0.0				ug/L	2	Standard
	Tl	203	29.3	16.8	**0.0019**	0.001	37.9	ug/L	4	Standard
	Tl	205	16.7	69.3	**0.0006**	0.002	291.3	ug/L	0	Standard
	Pb	206	100.3	9.0	**-0.0023**	0.004	186.0	ug/L	113	Standard
	Pb	207	93.3	7.9	**-0.0076**	0.003	40.6	ug/L	88	Standard
	Pb	208	232.7	3.3	**-0.0038**	0.002	53.4	ug/L	233	Standard
	U	238	162.3	1.9	**0.0388**	0.001	1.7	ug/L	1	Standard
>	**Bi**	209	295719.5	1.7				ug/L	321163	Standard

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	Na	23	3.3	173.2	**1.3523**	2.334	172.6	mg/L	2	Standard
	Mg	24	2481.9	1.3	**2.7310**	0.070	2.6	mg/L	48	Standard
	K	39	5.0	173.2	**0.0135**	0.131	969.7	mg/L	2	Standard
	Ca	43	31.7	9.1	**0.1600**	0.312	194.8	mg/L	38	Standard
	Fe	54	103.7	21.4	**-0.0427**	0.015	34.9	mg/L	218	Standard
	Fe	57	258.3	11.0	**0.0216**	0.073	338.1	mg/L	283	Standard
>	**Sc-1**	45	41528.5	1.2				mg/L	46336	Standard
	Cl	35	10803.9	1.0				ug/L	7415	Standard
	Kr	83	98.0	10.2				ug/L	106	Standard
	Br	81	3533.8	14.2				ug/L	2367	Standard
	P	31	90298.3	0.6				ug/L	257843	Standard
	S	34	24297.8	4.9				ug/L	25966	Standard
	Sr	88	95.0	22.9				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	9.5	107.6				mg/L	10	Standard
	Ho-1	165	5.0	0.0				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		105.948	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.670	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.996
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.078
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005402
Sample Date/Time: Tuesday, November 05, 2013 12:58:41
Number of Replicates: 3
Autosampler Position: 341
Sample Description: 500
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	207719.3	1.2				ug/L	199689	Standard
	Be	9	30.0	60.1	**0.0054**	0.008	154.2	ug/L	22	Standard
	Al	27	2664893.5	2.1	**14.0401**	0.379	2.7	ug/L	615	Standard
	Sc	45	41406.5	1.0				ug/L	46336	Standard
	Ti	47	23.3	16.2	**0.0049**	0.011	225.3	ug/L	20	Standard
	V	51	1642.4	2.3	**0.1529**	0.007	4.7	ug/L	893	Standard
	Cr	52	6260.3	2.4	**0.5942**	0.032	5.3	ug/L	3436	Standard
	Cr	53	276.7	14.6	**-0.0204**	0.042	204.3	ug/L	325	Standard
	Mn	55	5947.5	0.4	**0.5381**	0.010	1.8	ug/L	949	Standard
	Co	59	125.3	7.4	**0.0002**	0.002	725.2	ug/L	109	Standard
	Ni	60	663.3	2.7	**0.2133**	0.010	4.9	ug/L	187	Standard
	Cu	65	409.7	7.8	**0.1379**	0.013	9.4	ug/L	95	Standard
	Zn	66	1526.1	2.6	**0.9319**	0.021	2.2	ug/L	320	Standard
>	**Ge**	72	464590.6	1.1				ug/L	478028	Standard
	As	75	-116.7	53.9	**0.1033**	0.048	46.7	ug/L	-247	Standard
	Se	82	227.6	10.1	**1.9161**	0.144	7.5	ug/L	-45	Standard
	Se-1	77	259.7	1.0	**1.9294**	0.060	3.1	ug/L	101	Standard
>	**Ga**	71	13.3	21.7				mg/L	38	Standard
	Rb	85	286.7	10.7				ug/L	27	Standard
	Y	89	411486.3	0.9				ug/L	457712	Standard
>	**Rh**	103	15.0	0.0				ug/L	7	Standard
	Mo	98	12.3	10.1	**-0.0138**	0.000	3.1	ug/L	7	Standard
	Ag	107	64.7	4.5	**-0.0005**	0.000	96.6	ug/L	60	Standard
	Cd	111	2.3	108.5	**-0.0045**	0.001	29.1	mg/L	2	Standard
	Cd	114	36.9	54.4	**-0.0055**	0.004	72.9	ug/L	28	Standard
>	**In**	115	477724.7	1.6				ug/L	514607	Standard
	Sn	118	116.0	1.7	**-0.0038**	0.001	19.2	ug/L	125	Standard
	Sb	123	15.5	36.1	**-0.0049**	0.002	35.2	ug/L	14	Standard
	Ba	135	42.0	4.8	**0.0048**	0.001	29.9	ug/L	10	Standard
	Ce	140	26.7	47.2				ug/L	25	Standard
>	**Tb**	159	569009.6	2.3				ug/L	648946	Standard
	Ho	165	10.0	86.6				ug/L	2	Standard
	Tl	203	18.3	25.8	**0.0002**	0.001	491.2	ug/L	4	Standard
	Tl	205	16.7	45.8	**0.0007**	0.001	186.5	ug/L	0	Standard
	Pb	206	105.0	6.7	**0.0002**	0.003	1072.1	ug/L	113	Standard
	Pb	207	83.0	5.5	**-0.0117**	0.002	13.9	ug/L	88	Standard
	Pb	208	230.0	5.0	**-0.0036**	0.002	62.1	ug/L	233	Standard
	U	238	177.0	2.0	**0.0434**	0.001	3.0	ug/L	1	Standard
>	**Bi**	209	290783.5	1.4				ug/L	321163	Standard

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	Na	23	3.3	86.6	**1.3457**	1.161	86.3	mg/L	2	Standard
	Mg	24	2143.5	1.9	**2.3607**	0.029	1.2	mg/L	48	Standard
	K	39	15.0	57.7	**0.1624**	0.130	79.9	mg/L	2	Standard
	Ca	43	28.3	36.7	**-0.1572**	0.969	616.4	mg/L	38	Standard
	Fe	54	97.4	19.5	**-0.0466**	0.012	26.3	mg/L	218	Standard
	Fe	57	241.7	11.4	**-0.0154**	0.068	443.4	mg/L	283	Standard
>	**Sc-1**	45	41406.5	1.0				mg/L	46336	Standard
	Cl	35	10424.9	2.7				ug/L	7415	Standard
	Kr	83	94.3	12.6				ug/L	106	Standard
	Br	81	3027.0	2.2				ug/L	2367	Standard
	P	31	89408.0	0.4				ug/L	257843	Standard
	S	34	24366.3	3.3				ug/L	25966	Standard
	Sr	88	110.0	22.7				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	2.7	221.0				mg/L	10	Standard
	Ho-1	165	10.0	86.6				mg/L	2	Standard
	Er	166	13.3	114.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.021	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		97.189	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.833
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.541
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005403
Sample Date/Time: Tuesday, November 05, 2013 13:01:45
Number of Replicates: 3
Autosampler Position: 342
Sample Description: 200
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	212667.2	0.8				ug/L	199689	Standard
	Be	9	28.3	62.0	**0.0043**	0.008	181.3	ug/L	22	Standard
	Al	27	3909830.6	3.6	**20.1200**	0.768	3.8	ug/L	615	Standard
	Sc	45	41632.1	2.8				ug/L	46336	Standard
	Ti	47	24.7	4.7	**0.0073**	0.003	39.5	ug/L	20	Standard
	V	51	1587.8	2.8	**0.1358**	0.008	5.8	ug/L	893	Standard
	Cr	52	5798.8	1.9	**0.4749**	0.027	5.7	ug/L	3436	Standard
	Cr	53	290.0	6.2	**-0.0134**	0.016	117.2	ug/L	325	Standard
	Mn	55	52249.3	1.3	**5.5148**	0.041	0.7	ug/L	949	Standard
	Co	59	192.0	9.0	**0.0114**	0.003	24.9	ug/L	109	Standard
	Ni	60	759.4	3.5	**0.2503**	0.012	4.9	ug/L	187	Standard
	Cu	65	495.3	12.6	**0.1733**	0.028	16.1	ug/L	95	Standard
	Zn	66	1590.8	2.3	**0.9602**	0.023	2.4	ug/L	320	Standard
>	**Ge**	72	473768.6	0.6				ug/L	478028	Standard
	As	75	-127.3	46.0	**0.0975**	0.044	44.7	ug/L	-247	Standard
	Se	82	344.0	5.8	**2.6903**	0.129	4.8	ug/L	-45	Standard
	Se-1	77	348.0	7.8	**2.8556**	0.297	10.4	ug/L	101	Standard
>	**Ga**	71	26.7	54.1				mg/L	38	Standard
	Rb	85	455.0	14.0				ug/L	27	Standard
	Y	89	416493.6	0.6				ug/L	457712	Standard
>	**Rh**	103	28.3	10.2				ug/L	7	Standard
	Mo	98	30.8	42.2	**-0.0069**	0.005	69.1	ug/L	7	Standard
	Ag	107	56.0	18.6	**-0.0021**	0.002	84.6	ug/L	60	Standard
	Cd	111	10.6	141.5	**-0.0004**	0.008	2077.1	mg/L	2	Standard
	Cd	114	41.7	101.4	**-0.0047**	0.008	171.7	ug/L	28	Standard
>	**In**	115	481092.0	1.1				ug/L	514607	Standard
	Sn	118	123.0	16.6	**0.0014**	0.017	1203.9	ug/L	125	Standard
	Sb	123	22.7	41.5	**-0.0027**	0.003	107.8	ug/L	14	Standard
	Ba	135	193.3	4.4	**0.0880**	0.004	4.5	ug/L	10	Standard
	Ce	140	41.7	54.1				ug/L	25	Standard
>	**Tb**	159	573999.7	1.1				ug/L	648946	Standard
	Ho	165	6.7	43.3				ug/L	2	Standard
	Tl	203	36.0	47.4	**0.0031**	0.003	91.1	ug/L	4	Standard
	Tl	205	30.0	28.9	**0.0029**	0.001	50.1	ug/L	0	Standard
	Pb	206	105.0	11.5	**0.0002**	0.005	3137.6	ug/L	113	Standard
	Pb	207	80.7	18.6	**-0.0128**	0.007	52.8	ug/L	88	Standard
	Pb	208	249.7	6.8	**-0.0002**	0.003	1482.8	ug/L	233	Standard
	U	238	362.3	5.1	**0.0924**	0.005	5.7	ug/L	1	Standard
>	**Bi**	209	291363.1	0.4				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6646**	1.143	171.9	mg/L	2	Standard
	Mg	24	5621.0	2.0	**6.2128**	0.178	2.9	mg/L	48	Standard
	K	39	6.7	43.3	**0.0370**	0.042	114.5	mg/L	2	Standard
	Ca	43	40.0	43.3	**0.9210**	1.546	167.9	mg/L	38	Standard
	Fe	54	87.1	14.4	**-0.0534**	0.009	17.0	mg/L	218	Standard
	Fe	57	283.3	8.2	**0.0785**	0.072	91.5	mg/L	283	Standard
>	**Sc-1**	45	41632.1	2.8				mg/L	46336	Standard
	Cl	35	10611.0	1.9				ug/L	7415	Standard
	Kr	83	89.0	3.4				ug/L	106	Standard
	Br	81	3130.3	12.1				ug/L	2367	Standard
	P	31	89755.2	2.2				ug/L	257843	Standard
	S	34	24681.8	2.6				ug/L	25966	Standard
	Sr	88	108.3	9.6				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	6.2	100.1				mg/L	10	Standard
	Ho-1	165	6.7	43.3				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.499	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.109	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.487
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.721
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005406
Sample Date/Time: Tuesday, November 05, 2013 13:04:49
Number of Replicates: 3
Autosampler Position: 343
Sample Description: 100
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	207945.9	1.9				ug/L	199689	Standard
	Be	9	21.7	35.3	**0.0015**	0.003	215.4	ug/L	22	Standard
	Al	27	4366391.7	1.4	**22.9800**	0.129	0.6	ug/L	615	Standard
	Sc	45	41154.2	0.7				ug/L	46336	Standard
	Ti	47	23.3	24.7	**0.0048**	0.016	334.8	ug/L	20	Standard
	V	51	1587.6	3.0	**0.1419**	0.010	6.8	ug/L	893	Standard
	Cr	52	5707.4	1.7	**0.4791**	0.028	5.9	ug/L	3436	Standard
	Cr	53	335.0	6.8	**0.0350**	0.022	62.2	ug/L	325	Standard
	Mn	55	28866.8	0.9	**3.0564**	0.053	1.7	ug/L	949	Standard
	Co	59	154.0	5.2	**0.0053**	0.001	23.3	ug/L	109	Standard
	Ni	60	747.0	3.5	**0.2513**	0.012	5.0	ug/L	187	Standard
	Cu	65	550.7	5.9	**0.2035**	0.015	7.4	ug/L	95	Standard
	Zn	66	1710.4	1.9	**1.0859**	0.034	3.2	ug/L	320	Standard
>	**Ge**	72	464661.7	0.8				ug/L	478028	Standard
	As	75	-99.5	53.4	**0.1166**	0.039	33.7	ug/L	-247	Standard
	Se	82	239.1	1.0	**1.9983**	0.027	1.4	ug/L	-45	Standard
	Se-1	77	267.0	6.8	**2.0116**	0.197	9.8	ug/L	101	Standard
>	**Ga**	71	31.7	18.2				mg/L	38	Standard
	Rb	85	528.3	7.9				ug/L	27	Standard
	Y	89	414269.5	1.4				ug/L	457712	Standard
>	**Rh**	103	15.0	0.0				ug/L	7	Standard
	Mo	98	40.0	9.6	**-0.0032**	0.002	48.1	ug/L	7	Standard
	Ag	107	56.0	12.9	**-0.0019**	0.001	68.6	ug/L	60	Standard
	Cd	111	1.9	0.5	**-0.0047**	0.000	0.3	mg/L	2	Standard
	Cd	114	30.1	25.3	**-0.0068**	0.001	22.0	ug/L	28	Standard
>	**In**	115	472453.5	1.1				ug/L	514607	Standard
	Sn	118	119.0	6.9	**-0.0002**	0.006	3940.0	ug/L	125	Standard
	Sb	123	16.2	2.9	**-0.0046**	0.000	2.5	ug/L	14	Standard
	Ba	135	102.7	6.5	**0.0391**	0.003	8.3	ug/L	10	Standard
	Ce	140	16.7	34.6				ug/L	25	Standard
>	**Tb**	159	569432.0	1.0				ug/L	648946	Standard
	Ho	165	8.3	91.7				ug/L	2	Standard
	Tl	203	30.7	5.0	**0.0023**	0.000	10.8	ug/L	4	Standard
	Tl	205	30.0	16.7	**0.0030**	0.001	27.9	ug/L	0	Standard
	Pb	206	98.0	8.2	**-0.0019**	0.003	180.6	ug/L	113	Standard
	Pb	207	91.3	13.5	**-0.0071**	0.006	82.1	ug/L	88	Standard
	Pb	208	239.3	8.3	**-0.0012**	0.004	315.0	ug/L	233	Standard
	U	238	1162.7	1.4	**0.3110**	0.004	1.3	ug/L	1	Standard
>	**Bi**	209	285438.6	0.2				ug/L	321163	Standard

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	Na	23	3.3	86.6	**1.3497**	1.165	86.3	mg/L	2	Standard
	Mg	24	10435.3	0.7	**11.6918**	0.022	0.2	mg/L	48	Standard
	K	39	5.0	100.0	**0.0129**	0.075	581.2	mg/L	2	Standard
	Ca	43	55.0	24.1	**2.4291**	1.261	51.9	mg/L	38	Standard
	Fe	54	110.5	28.6	**-0.0378**	0.020	54.2	mg/L	218	Standard
	Fe	57	301.7	6.9	**0.1275**	0.048	37.4	mg/L	283	Standard
>	**Sc-1**	45	41154.2	0.7				mg/L	46336	Standard
	Cl	35	10559.0	1.8				ug/L	7415	Standard
	Kr	83	91.7	7.0				ug/L	106	Standard
	Br	81	3487.1	1.7				ug/L	2367	Standard
	P	31	93046.5	0.7				ug/L	257843	Standard
	S	34	24973.9	2.8				ug/L	25966	Standard
	Sr	88	115.0	28.5				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	2.5	205.9				mg/L	10	Standard
	Ho-1	165	8.3	91.7				mg/L	2	Standard
	Er	166	16.7	69.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.135	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		97.204	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.809
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.877
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005414
Sample Date/Time: Tuesday, November 05, 2013 13:07:53
Number of Replicates: 3
Autosampler Position: 344
Sample Description: 500
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	210371.5	3.4				ug/L	199689	Standard
	Be	9	26.7	21.7	**0.0037**	0.002	67.0	ug/L	22	Standard
	Al	27	2902775.5	2.0	**15.1050**	0.347	2.3	ug/L	615	Standard
	Sc	45	41389.8	1.6				ug/L	46336	Standard
	Ti	47	20.3	20.5	**-0.0038**	0.012	299.7	ug/L	20	Standard
	V	51	1540.6	1.1	**0.1320**	0.005	3.9	ug/L	893	Standard
	Cr	52	5759.1	1.5	**0.4879**	0.020	4.1	ug/L	3436	Standard
	Cr	53	291.7	18.3	**-0.0069**	0.051	730.5	ug/L	325	Standard
	Mn	55	22021.3	0.6	**2.3003**	0.024	1.0	ug/L	949	Standard
	Co	59	112.7	15.6	**-0.0021**	0.003	156.6	ug/L	109	Standard
	Ni	60	629.0	1.0	**0.1971**	0.003	1.3	ug/L	187	Standard
	Cu	65	374.3	1.5	**0.1212**	0.002	1.8	ug/L	95	Standard
	Zn	66	1757.1	1.1	**1.1224**	0.007	0.7	ug/L	320	Standard
>	**Ge**	72	465399.4	0.6				ug/L	478028	Standard
	As	75	-92.9	72.2	**0.1216**	0.050	41.1	ug/L	-247	Standard
	Se	82	221.4	7.8	**1.8709**	0.121	6.5	ug/L	-45	Standard
	Se-1	77	230.0	9.1	**1.5884**	0.251	15.8	ug/L	101	Standard
>	**Ga**	71	25.0	34.6				mg/L	38	Standard
	Rb	85	265.0	12.4				ug/L	27	Standard
	Y	89	413929.7	0.4				ug/L	457712	Standard
>	**Rh**	103	25.0	72.1				ug/L	7	Standard
	Mo	98	9.1	40.8	**-0.0150**	0.001	9.2	ug/L	7	Standard
	Ag	107	55.7	17.4	**-0.0021**	0.002	83.3	ug/L	60	Standard
	Cd	111	1.6	34.8	**-0.0048**	0.000	6.0	mg/L	2	Standard
	Cd	114	25.0	75.0	**-0.0079**	0.004	46.0	ug/L	28	Standard
>	**In**	115	479501.2	0.8				ug/L	514607	Standard
	Sn	118	124.3	5.7	**0.0029**	0.006	212.9	ug/L	125	Standard
	Sb	123	15.0	6.3	**-0.0051**	0.000	5.4	ug/L	14	Standard
	Ba	135	34.3	23.7	**0.0005**	0.004	975.6	ug/L	10	Standard
	Ce	140	15.0	57.7				ug/L	25	Standard
>	**Tb**	159	573915.3	1.3				ug/L	648946	Standard
	Ho	165	8.3	91.7				ug/L	2	Standard
	Tl	203	11.7	13.1	**-0.0010**	0.000	26.2	ug/L	4	Standard
	Tl	205	8.3	69.3	**-0.0007**	0.001	136.1	ug/L	0	Standard
	Pb	206	102.7	7.0	**-0.0009**	0.003	301.1	ug/L	113	Standard
	Pb	207	83.3	9.6	**-0.0117**	0.004	30.9	ug/L	88	Standard
	Pb	208	223.3	7.1	**-0.0049**	0.003	58.4	ug/L	233	Standard
	U	238	167.7	3.3	**0.0407**	0.002	4.4	ug/L	1	Standard
>	**Bi**	209	292056.0	0.8				ug/L	321163	Standard

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⌈	**Na**	23	1.7	173.2	**0.6667**	1.146	171.9	mg/L	2	Standard
|	**Mg**	24	2405.2	6.7	**2.6548**	0.188	7.1	mg/L	48	Standard
|	**K**	39	6.7	43.3	**0.0375**	0.042	112.8	mg/L	2	Standard
|	**Ca**	43	26.7	10.8	**-0.3116**	0.259	83.2	mg/L	38	Standard
|	**Fe**	54	106.1	18.7	**-0.0410**	0.013	30.9	mg/L	218	Standard
|	**Fe**	57	306.7	14.2	**0.1351**	0.099	73.4	mg/L	283	Standard
⌊>	**Sc-1**	45	41389.8	1.6				mg/L	46336	Standard
	Cl	35	10376.2	1.1				ug/L	7415	Standard
	Kr	83	96.3	8.8				ug/L	106	Standard
	Br	81	2826.9	4.8				ug/L	2367	Standard
	P	31	91281.2	4.9				ug/L	257843	Standard
	S	34	24438.0	2.7				ug/L	25966	Standard
	Sr	88	126.7	18.7				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.2	180.0				mg/L	10	Standard
	Ho-1	165	8.3	91.7				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.350	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		97.358	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.178
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.937
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: PBW 35 WG451424-04
Sample Date/Time: Tuesday, November 05, 2013 13:10:58
Number of Replicates: 3
Autosampler Position: 345
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	197106.3	3.1				ug/L	199689	Standard
	Be	9	41.7	18.3	**0.0116**	0.003	29.0	ug/L	22	Standard
	Al	27	3920.5	15.4	**0.0182**	0.003	15.0	ug/L	615	Standard
	Sc	45	39152.2	1.6				ug/L	46336	Standard
	Ti	47	20.7	30.7	**-0.0005**	0.018	3875.1	ug/L	20	Standard
	V	51	1524.6	3.0	**0.1414**	0.011	8.0	ug/L	893	Standard
	Cr	52	5501.0	1.6	**0.4816**	0.009	1.9	ug/L	3436	Standard
	Cr	53	278.3	9.2	**-0.0087**	0.023	268.6	ug/L	325	Standard
	Mn	55	679.7	5.7	**-0.0379**	0.004	11.4	ug/L	949	Standard
	Co	59	111.0	3.1	**-0.0016**	0.001	34.3	ug/L	109	Standard
	Ni	60	515.7	4.1	**0.1552**	0.011	7.1	ug/L	187	Standard
	Cu	65	239.7	15.3	**0.0632**	0.017	26.8	ug/L	95	Standard
	Zn	66	448.0	9.8	**0.0464**	0.035	76.6	ug/L	320	Standard
>	**Ge**	72	446857.7	0.8				ug/L	478028	Standard
	As	75	-249.0	9.3	**-0.0025**	0.018	717.1	ug/L	-247	Standard
	Se	82	-31.7	20.5	**0.0800**	0.048	60.4	ug/L	-45	Standard
	Se-1	77	97.3	4.9	**0.1287**	0.047	36.5	ug/L	101	Standard
>	**Ga**	71	18.3	78.7				mg/L	38	Standard
	Rb	85	20.0	50.0				ug/L	27	Standard
	Y	89	396076.3	1.8				ug/L	457712	Standard
>	**Rh**	103	10.0					ug/L	7	Standard
	Mo	98	6.4	22.0	**-0.0159**	0.001	3.7	ug/L	7	Standard
	Ag	107	54.0	16.5	**-0.0020**	0.002	88.1	ug/L	60	Standard
	Cd	111	1.0	0.5	**-0.0052**	0.000	0.2	mg/L	2	Standard
	Cd	114	20.4	86.9	**-0.0085**	0.004	42.5	ug/L	28	Standard
>	**In**	115	459870.2	1.6				ug/L	514607	Standard
	Sn	118	110.7	6.9	**-0.0047**	0.007	142.9	ug/L	125	Standard
	Sb	123	16.2	12.8	**-0.0045**	0.001	13.3	ug/L	14	Standard
	Ba	135	8.3	30.2	**-0.0137**	0.001	10.5	ug/L	10	Standard
	Ce	140	3.3	173.2				ug/L	25	Standard
>	**Tb**	159	549351.9	0.6				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	6.3	45.6	**-0.0018**	0.000	27.3	ug/L	4	Standard
	Tl	205	10.0	100.0	**-0.0003**	0.002	526.8	ug/L	0	Standard
	Pb	206	92.7	7.6	**-0.0033**	0.003	98.6	ug/L	113	Standard
	Pb	207	76.0	3.9	**-0.0135**	0.002	12.4	ug/L	88	Standard
	Pb	208	202.7	6.2	**-0.0069**	0.002	32.4	ug/L	233	Standard
	U	238	0.3	173.2	**-0.0035**	0.000	4.5	ug/L	1	Standard
>	**Bi**	209	279269.8	1.2				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	58.3	21.6	**0.0359**	0.014	39.4	mg/L	48	Standard
K	39	3.3	86.6	**-0.0090**	0.046	512.8	mg/L	2	Standard
Ca	43	33.3	31.2	**0.5098**	1.046	205.2	mg/L	38	Standard
Fe	54	112.1	25.9	**-0.0331**	0.020	60.0	mg/L	218	Standard
Fe	57	243.3	17.5	**0.0207**	0.105	507.1	mg/L	283	Standard
> **Sc-1**	45	39152.2	1.6				mg/L	46336	Standard
Cl	35	10078.0	4.7				ug/L	7415	Standard
Kr	83	94.0	4.9				ug/L	106	Standard
Br	81	2453.5	1.3				ug/L	2367	Standard
P	31	89612.7	3.0				ug/L	257843	Standard
S	34	23551.6	2.2				ug/L	25966	Standard
Sr	88	78.3	36.9				ug/L	92	Standard
C	12	3.3	173.2				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	16.2	71.3				mg/L	10	Standard
Ho-1	165	1.7	173.2				mg/L	2	Standard
Er	166	10.0					mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		98.707	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		93.479	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.363
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.956
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 13:14:04
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	230728.0	3.3				ug/L	199689	Standard
	Be	9	119393.9	3.1	**48.7154**	0.138	0.3	ug/L	22	Standard
	Al	27	9065419.0	2.6	**43.0073**	0.549	1.3	ug/L	615	Standard
	Sc	45	47557.9	3.2				ug/L	46336	Standard
	Ti	47	37839.2	2.8	**96.2838**	0.108	0.1	ug/L	20	Standard
	V	51	273661.9	3.9	**48.6212**	0.773	1.6	ug/L	893	Standard
	Cr	52	270632.2	3.6	**49.3714**	0.393	0.8	ug/L	3436	Standard
	Cr	53	58069.5	3.1	**49.1328**	0.591	1.2	ug/L	325	Standard
	Mn	55	525184.5	2.5	**51.2824**	0.777	1.5	ug/L	949	Standard
	Co	59	323763.8	3.8	**51.4055**	0.607	1.2	ug/L	109	Standard
	Ni	60	123447.4	2.6	**50.0324**	0.653	1.3	ug/L	187	Standard
	Cu	65	123250.4	3.8	**50.9963**	0.562	1.1	ug/L	95	Standard
	Zn	66	69235.3	3.1	**51.1437**	0.592	1.2	ug/L	320	Standard
>	**Ge**	72	521743.5	2.8				ug/L	478028	Standard
	As	75	75543.2	2.8	**50.4270**	0.135	0.3	ug/L	-247	Standard
	Se	82	7667.1	2.5	**48.4473**	0.717	1.5	ug/L	-45	Standard
	Se-1	77	5338.6	1.5	**52.9924**	0.924	1.7	ug/L	101	Standard
>	**Ga**	71	55.0	15.7				mg/L	38	Standard
	Rb	85	1138.4	4.5				ug/L	27	Standard
	Y	89	458855.4	1.5				ug/L	457712	Standard
>	**Rh**	103	35.0	37.8				ug/L	7	Standard
	Mo	98	340651.9	2.2	**115.0682**	0.795	0.7	ug/L	7	Standard
	Ag	107	334434.7	3.2	**53.2082**	0.878	1.6	ug/L	60	Standard
	Cd	111	112702.5	2.3	**51.5725**	0.136	0.3	mg/L	2	Standard
	Cd	114	298016.3	2.1	**51.8636**	0.131	0.3	ug/L	28	Standard
>	**In**	115	531965.8	2.3				ug/L	514607	Standard
	Sn	118	69639.4	2.2	**53.3742**	0.267	0.5	ug/L	125	Standard
	Sb	123	169541.9	2.1	**47.9051**	0.152	0.3	ug/L	14	Standard
	Ba	135	101177.5	2.1	**50.3853**	0.220	0.4	ug/L	10	Standard
	Ce	140	48.3	29.9				ug/L	25	Standard
>	**Tb**	159	630671.1	2.4				ug/L	648946	Standard
	Ho	165	6.7	114.6				ug/L	2	Standard
	Tl	203	320675.8	2.4	**50.1314**	0.431	0.9	ug/L	4	Standard
	Tl	205	354755.4	2.8	**55.2057**	0.691	1.3	ug/L	0	Standard
	Pb	206	135855.6	2.4	**51.9809**	0.461	0.9	ug/L	113	Standard
	Pb	207	121631.5	2.6	**51.7444**	0.695	1.3	ug/L	88	Standard
	Pb	208	318236.2	2.1	**51.6600**	0.323	0.6	ug/L	233	Standard
	U	238	198204.2	1.8	**48.6537**	0.201	0.4	ug/L	1	Standard
>	**Bi**	209	314603.1	1.5				ug/L	321163	Standard

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	Na	23	21.7	35.3	**7.5730**	2.703	35.7	mg/L	2	Standard
	Mg	24	4955.8	3.8	**4.7850**	0.062	1.3	mg/L	48	Standard
	K	39	225.0	25.6	**2.8621**	0.695	24.3	mg/L	2	Standard
	Ca	43	93.3	16.4	**4.8983**	1.116	22.8	mg/L	38	Standard
	Fe	54	9433.2	1.5	**5.1262**	0.123	2.4	mg/L	218	Standard
	Fe	57	2815.3	6.7	**5.1021**	0.221	4.3	mg/L	283	Standard
>	**Sc-1**	45	47557.9	3.2				mg/L	46336	Standard
	Cl	35	9054.7	4.2				ug/L	7415	Standard
	Kr	83	98.0	9.7				ug/L	106	Standard
	Br	81	2770.3	6.6				ug/L	2367	Standard
	P	31	274915.2	1.0				ug/L	257843	Standard
	S	34	27675.3	2.1				ug/L	25966	Standard
	Sr	88	90.0	20.0				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	2.9	187.9				mg/L	10	Standard
	Ho-1	165	6.7	114.6				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		115.544	
	Be	9	97.431		
	Al	27	86.015		
	Sc	45			
	Ti	47	96.284		
	V	51	97.242		
	Cr	52	98.743		
	Cr	53			
	Mn	55	102.565		
	Co	59	102.811		
	Ni	60	100.065		
	Cu	65	101.993		
	Zn	66	102.287		
>	Ge	72		109.145	
	As	75	100.854		
	Se	82	96.895		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	115.068	
|	Ag	107	106.416	
|	Cd	111	103.145	
|	Cd	114		
|>	In	115		103.373
|	Sn	118	106.748	
|	Sb	123	95.810	
⌊	Ba	135	100.771	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.263	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	103.320	
|	U	238	97.307	
⌊>	Bi	209		97.957
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 13:17:09
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	225484.4	2.4				ug/L	199689	Standard
	Be	9	41.7	6.9	**0.0091**	0.001	8.6	ug/L	22	Standard
	Al	27	3310.4	7.9	**0.0125**	0.001	8.8	ug/L	615	Standard
	Sc	45	46051.6	4.6				ug/L	46336	Standard
	Ti	47	24.3	26.4	**0.0030**	0.017	551.3	ug/L	20	Standard
	V	51	1007.5	2.7	**0.0123**	0.005	42.4	ug/L	893	Standard
	Cr	52	3920.5	2.0	**0.0537**	0.016	29.4	ug/L	3436	Standard
	Cr	53	223.3	12.3	**-0.0862**	0.021	24.0	ug/L	325	Standard
	Mn	55	1074.0	5.6	**-0.0054**	0.006	114.6	ug/L	949	Standard
	Co	59	111.0	8.0	**-0.0037**	0.001	33.3	ug/L	109	Standard
	Ni	60	613.0	4.0	**0.1717**	0.011	6.5	ug/L	187	Standard
	Cu	65	347.3	11.6	**0.0981**	0.016	16.4	ug/L	95	Standard
	Zn	66	399.7	2.3	**-0.0307**	0.013	41.9	ug/L	320	Standard
>	**Ge**	72	497697.3	1.9				ug/L	478028	Standard
	As	75	-232.1	12.1	**0.0292**	0.016	56.1	ug/L	-247	Standard
	Se	82	-34.0	31.7	**0.0901**	0.066	73.4	ug/L	-45	Standard
	Se-1	77	98.3	6.6	**0.0215**	0.050	234.2	ug/L	101	Standard
>	**Ga**	71	31.7	36.5				mg/L	38	Standard
	Rb	85	13.3	78.1				ug/L	27	Standard
	Y	89	445855.4	3.6				ug/L	457712	Standard
>	**Rh**	103	6.7	114.6				ug/L	7	Standard
	Mo	98	63.4	37.7	**0.0037**	0.008	208.7	ug/L	7	Standard
	Ag	107	82.3	13.4	**0.0017**	0.001	88.9	ug/L	60	Standard
	Cd	111	10.9	57.2	**-0.0005**	0.003	615.3	mg/L	2	Standard
	Cd	114	49.8	75.3	**-0.0037**	0.007	177.8	ug/L	28	Standard
>	**In**	115	511686.8	2.7				ug/L	514607	Standard
	Sn	118	132.3	15.6	**0.0024**	0.013	560.1	ug/L	125	Standard
	Sb	123	296.9	30.2	**0.0772**	0.024	31.5	ug/L	14	Standard
	Ba	135	17.3	8.8	**-0.0095**	0.001	9.0	ug/L	10	Standard
	Ce	140	6.7	114.6				ug/L	25	Standard
>	**Tb**	159	609701.0	2.7				ug/L	648946	Standard
	Ho	165	6.7	43.3				ug/L	2	Standard
	Tl	203	35.7	50.9	**0.0027**	0.003	101.6	ug/L	4	Standard
	Tl	205	23.3	65.5	**0.0016**	0.002	148.1	ug/L	0	Standard
	Pb	206	112.0	16.7	**0.0005**	0.007	1497.1	ug/L	113	Standard
	Pb	207	98.3	20.2	**-0.0073**	0.008	104.3	ug/L	88	Standard
	Pb	208	250.0	8.0	**-0.0026**	0.002	88.9	ug/L	233	Standard
	U	238	10.7	87.1	**-0.0010**	0.002	229.9	ug/L	1	Standard
>	**Bi**	209	308437.6	2.4				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.5744**	0.986	171.7	mg/L	2	Standard
	Mg	24	45.0	57.7	**0.0128**	0.028	217.0	mg/L	48	Standard
	K	39	5.0	0.0	**0.0053**	0.003	57.3	mg/L	2	Standard
	Ca	43	20.0	66.1	**-1.1205**	1.185	105.7	mg/L	38	Standard
	Fe	54	222.4	28.7	**0.0183**	0.034	187.2	mg/L	218	Standard
	Fe	57	248.3	10.1	**-0.0577**	0.059	101.5	mg/L	283	Standard
>	**Sc-1**	45	46051.6	4.6				mg/L	46336	Standard
	Cl	35	8631.8	2.1				ug/L	7415	Standard
	Kr	83	100.3	11.0				ug/L	106	Standard
	Br	81	2646.9	5.3				ug/L	2367	Standard
	P	31	236859.0	1.5				ug/L	257843	Standard
	S	34	26439.7	2.3				ug/L	25966	Standard
	Sr	88	86.7	14.5				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	3.2	173.2				mg/L	10	Standard
	Ho-1	165	6.7	43.3				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.918	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		104.115	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.433
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.038
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Tuesday, November 05, 2013 13:20:15
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	224054.5	4.0				ug/L	199689	Standard
	Be	9	485.0	15.2	**0.1955**	0.030	15.2	ug/L	22	Standard
	Al	27	2977.0	4.8	**0.0110**	0.001	6.2	ug/L	615	Standard
	Sc	45	45844.4	5.5				ug/L	46336	Standard
	Ti	47	19.3	33.7	**-0.0115**	0.015	132.1	ug/L	20	Standard
	V	51	3174.2	2.0	**0.4075**	0.019	4.7	ug/L	893	Standard
	Cr	52	8276.9	3.5	**0.8711**	0.002	0.2	ug/L	3436	Standard
	Cr	53	1078.4	2.6	**0.6616**	0.054	8.2	ug/L	325	Standard
	Mn	55	6268.3	3.5	**0.5164**	0.004	0.8	ug/L	949	Standard
	Co	59	2540.5	2.7	**0.3938**	0.007	1.7	ug/L	109	Standard
	Ni	60	4347.6	6.2	**1.7282**	0.051	2.9	ug/L	187	Standard
	Cu	65	2231.5	6.4	**0.8991**	0.026	2.9	ug/L	95	Standard
	Zn	66	9897.6	3.1	**7.2414**	0.068	0.9	ug/L	320	Standard
>	**Ge**	72	506440.7	3.7				ug/L	478028	Standard
	As	75	287.4	11.4	**0.3876**	0.019	4.9	ug/L	-247	Standard
	Se	82	17.4	50.6	**0.4256**	0.058	13.7	ug/L	-45	Standard
	Se-1	77	135.0	5.6	**0.3855**	0.028	7.4	ug/L	101	Standard
>	**Ga**	71	38.3	19.9				mg/L	38	Standard
	Rb	85	16.7	96.4				ug/L	27	Standard
	Y	89	456892.7	2.6				ug/L	457712	Standard
>	**Rh**	103	1.7	173.2				ug/L	7	Standard
	Mo	98	21.5	7.0	**-0.0110**	0.000	4.1	ug/L	7	Standard
	Ag	107	2616.9	3.1	**0.4144**	0.006	1.4	ug/L	60	Standard
	Cd	111	527.0	3.9	**0.2412**	0.009	3.9	mg/L	2	Standard
	Cd	114	1346.6	7.9	**0.2273**	0.018	8.0	ug/L	28	Standard
>	**In**	115	519744.1	3.3				ug/L	514607	Standard
	Sn	118	130.3	14.4	**-0.0005**	0.015	3252.0	ug/L	125	Standard
	Sb	123	1386.6	2.7	**0.3914**	0.006	1.5	ug/L	14	Standard
	Ba	135	1415.7	4.2	**0.7032**	0.008	1.1	ug/L	10	Standard
	Ce	140	8.3	69.3				ug/L	25	Standard
>	**Tb**	159	613697.2	3.6				ug/L	648946	Standard
	Ho	165	10.0	100.0				ug/L	2	Standard
	Tl	203	477.3	8.2	**0.0725**	0.004	5.6	ug/L	4	Standard
	Tl	205	520.0	6.7	**0.0798**	0.005	5.7	ug/L	0	Standard
	Pb	206	646.0	6.2	**0.2070**	0.008	4.1	ug/L	113	Standard
	Pb	207	526.0	4.7	**0.1768**	0.008	4.7	ug/L	88	Standard
	Pb	208	1444.0	2.0	**0.1935**	0.005	2.7	ug/L	233	Standard
	U	238	1520.1	3.1	**0.3741**	0.003	0.8	ug/L	1	Standard
>	**Bi**	209	310825.8	3.3				ug/L	321163	Standard

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Na	23	1.7	173.2	**0.6313**	1.085	171.8	mg/L	2	Standard
Mg	24	96.7	26.5	**0.0639**	0.021	32.2	mg/L	48	Standard
K	39	3.3	86.6	**-0.0178**	0.038	216.1	mg/L	2	Standard
Ca	43	26.7	10.8	**-0.5486**	0.343	62.5	mg/L	38	Standard
Fe	54	242.1	24.0	**0.0298**	0.025	84.2	mg/L	218	Standard
Fe	57	218.3	15.2	**-0.1160**	0.091	78.4	mg/L	283	Standard
Sc-1	45	45844.4	5.5				mg/L	46336	Standard
Cl	35	8833.9	2.7				ug/L	7415	Standard
Kr	83	94.3	11.7				ug/L	106	Standard
Br	81	2730.2	4.8				ug/L	2367	Standard
P	31	277007.9	1.4				ug/L	257843	Standard
S	34	27338.0	1.2				ug/L	25966	Standard
Sr	88	95.0	21.1				ug/L	92	Standard
C	12	13.3	114.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	16.3	129.0				mg/L	10	Standard
Ho-1	165	10.0	100.0				mg/L	2	Standard
Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		112.202	
Be	9	97.751		
Al	27			
Sc	45			
Ti	47			
V	51	101.880		
Cr	52	108.890		
Cr	53			
Mn	55	103.276		
Co	59	98.447		
Ni	60	108.011		
Cu	65	112.390		
Zn	66	115.863		
> Ge	72		105.944	
As	75	96.896		
Se	82	106.405		
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98		
	Ag	107	103.592	
	Cd	111	100.516	
	Cd	114		
>	In	115		100.998
	Sn	118		
	Sb	123	97.855	
	Ba	135	93.759	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	90.673	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	96.774	
	U	238	93.530	
>	Bi	209		96.781
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: LCSW 35 WG451424-05
Sample Date/Time: Tuesday, November 05, 2013 13:31:05
Number of Replicates: 3
Autosampler Position: 301
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	223228.1	2.5				ug/L	199689	Standard
	Be	9	57100.8	2.3	**24.0886**	0.907	3.8	ug/L	22	Standard
	Al	27	5155.9	24.2	**0.0217**	0.006	26.5	ug/L	615	Standard
	Sc	45	45862.6	0.8				ug/L	46336	Standard
	Ti	47	27.0	13.4	**0.0102**	0.010	99.3	ug/L	20	Standard
	V	51	128659.8	3.4	**23.8575**	0.551	2.3	ug/L	893	Standard
	Cr	52	129410.8	2.0	**24.3812**	0.214	0.9	ug/L	3436	Standard
	Cr	53	27333.0	2.0	**24.0870**	0.673	2.8	ug/L	325	Standard
	Mn	55	246376.0	1.6	**25.1398**	0.149	0.6	ug/L	949	Standard
	Co	59	151280.9	1.0	**25.1587**	0.463	1.8	ug/L	109	Standard
	Ni	60	57912.8	2.6	**24.5384**	0.342	1.4	ug/L	187	Standard
	Cu	65	58329.4	2.7	**25.2571**	0.305	1.2	ug/L	95	Standard
	Zn	66	33189.0	3.6	**25.5079**	0.597	2.3	ug/L	320	Standard
>	**Ge**	72	498062.2	1.6				ug/L	478028	Standard
	As	75	34835.9	2.2	**24.4570**	0.183	0.7	ug/L	-247	Standard
	Se	82	3529.9	3.1	**23.5208**	0.370	1.6	ug/L	-45	Standard
	Se-1	77	2457.5	2.7	**25.0181**	0.534	2.1	ug/L	101	Standard
>	**Ga**	71	33.3	8.7				mg/L	38	Standard
	Rb	85	31.7	24.1				ug/L	27	Standard
	Y	89	448845.7	2.6				ug/L	457712	Standard
>	**Rh**	103	13.3	86.6				ug/L	7	Standard
	Mo	98	61.6	45.4	**0.0031**	0.010	310.4	ug/L	7	Standard
	Ag	107	158430.0	2.4	**26.2281**	0.222	0.8	ug/L	60	Standard
	Cd	111	52352.2	2.0	**24.9300**	0.081	0.3	mg/L	2	Standard
	Cd	114	133157.2	3.3	**24.1058**	0.285	1.2	ug/L	28	Standard
>	**In**	115	511152.3	2.3				ug/L	514607	Standard
	Sn	118	153.7	3.6	**0.0199**	0.006	28.5	ug/L	125	Standard
	Sb	123	81410.9	2.7	**23.9331**	0.177	0.7	ug/L	14	Standard
	Ba	135	47451.5	1.6	**24.5849**	0.193	0.8	ug/L	10	Standard
	Ce	140	56.7	5.1				ug/L	25	Standard
>	**Tb**	159	614386.8	1.9				ug/L	648946	Standard
	Ho	165	5.0	173.2				ug/L	2	Standard
	Tl	203	156050.8	3.4	**24.8412**	0.232	0.9	ug/L	4	Standard
	Tl	205	167496.3	3.0	**26.5448**	0.217	0.8	ug/L	0	Standard
	Pb	206	67353.1	2.3	**26.2262**	0.153	0.6	ug/L	113	Standard
	Pb	207	57202.5	1.6	**24.7625**	0.249	1.0	ug/L	88	Standard
	Pb	208	154013.7	2.4	**25.4406**	0.123	0.5	ug/L	233	Standard
	U	238	94592.1	2.0	**23.6475**	0.166	0.7	ug/L	1	Standard
>	**Bi**	209	308927.3	2.6				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	88.3	37.7	**0.0561**	0.033	59.1	mg/L	48	Standard
K	39	8.3	69.3	**0.0509**	0.079	155.6	mg/L	2	Standard
Ca	43	33.3	52.7	**0.0103**	1.505	14582.9	mg/L	38	Standard
Fe	54	249.7	10.1	**0.0350**	0.015	42.7	mg/L	218	Standard
Fe	57	238.3	13.5	**-0.0769**	0.071	92.4	mg/L	283	Standard
> **Sc-1**	45	45862.6	0.8				mg/L	46336	Standard
Cl	35	8808.6	1.6				ug/L	7415	Standard
Kr	83	88.3	5.3				ug/L	106	Standard
Br	81	3663.8	4.7				ug/L	2367	Standard
P	31	275725.3	2.2				ug/L	257843	Standard
S	34	25287.8	0.9				ug/L	25966	Standard
Sr	88	96.7	24.4				ug/L	92	Standard
C	12	10.0	100.0				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	12.7	50.0				mg/L	10	Standard
Ho-1	165	5.0	173.2				mg/L	2	Standard
Er	166	13.3	114.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		111.788	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		104.191	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.329
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.190
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 35 WG451424-05
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Method 6020 - Summary Report

Sample ID: PBW 35 WG451424-04
Sample Date/Time: Tuesday, November 05, 2013 13:37:19
Number of Replicates: 3
Autosampler Position: 260
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222808.3	1.8				ug/L	199689	Standard
	Be	9	36.7	34.3	**0.0072**	0.005	70.1	ug/L	22	Standard
	Al	27	2555.2	17.5	**0.0090**	0.002	22.1	ug/L	615	Standard
	Sc	45	44100.8	3.4				ug/L	46336	Standard
	Ti	47	18.3	26.9	**-0.0126**	0.011	84.4	ug/L	20	Standard
	V	51	1281.5	5.5	**0.0668**	0.015	23.0	ug/L	893	Standard
	Cr	52	4952.8	4.4	**0.2664**	0.025	9.2	ug/L	3436	Standard
	Cr	53	371.7	23.5	**0.0488**	0.064	130.3	ug/L	325	Standard
	Mn	55	1045.4	10.6	**-0.0072**	0.006	85.9	ug/L	949	Standard
	Co	59	105.7	10.9	**-0.0043**	0.001	33.0	ug/L	109	Standard
	Ni	60	617.7	1.1	**0.1775**	0.015	8.7	ug/L	187	Standard
	Cu	65	544.0	14.1	**0.1861**	0.025	13.6	ug/L	95	Standard
	Zn	66	643.3	5.8	**0.1653**	0.008	4.6	ug/L	320	Standard
>	**Ge**	72	491455.9	4.9				ug/L	478028	Standard
	As	75	-199.8	25.7	**0.0485**	0.042	87.2	ug/L	-247	Standard
	Se	82	-22.6	61.3	**0.1594**	0.099	62.1	ug/L	-45	Standard
	Se-1	77	102.7	14.8	**0.0833**	0.172	206.4	ug/L	101	Standard
>	**Ga**	71	33.3	31.2				mg/L	38	Standard
	Rb	85	66.7	69.7				ug/L	27	Standard
	Y	89	436760.2	5.3				ug/L	457712	Standard
>	**Rh**	103	1.7	173.2				ug/L	7	Standard
	Mo	98	79.4	64.9	**0.0093**	0.017	179.5	ug/L	7	Standard
	Ag	107	79.7	50.3	**0.0013**	0.006	482.8	ug/L	60	Standard
	Cd	111	10.8	142.4	**-0.0007**	0.007	1079.6	mg/L	2	Standard
	Cd	114	55.4	87.9	**-0.0028**	0.008	302.4	ug/L	28	Standard
>	**In**	115	504584.9	4.4				ug/L	514607	Standard
	Sn	118	109.7	21.6	**-0.0147**	0.015	102.8	ug/L	125	Standard
	Sb	123	18.7	42.8	**-0.0042**	0.002	50.2	ug/L	14	Standard
	Ba	135	23.3	92.0	**-0.0065**	0.011	161.2	ug/L	10	Standard
	Ce	140	13.3	21.7				ug/L	25	Standard
>	**Tb**	159	596554.6	4.1				ug/L	648946	Standard
	Ho	165	5.0	0.0				ug/L	2	Standard
	Tl	203	38.3	107.9	**0.0031**	0.006	204.3	ug/L	4	Standard
	Tl	205	36.7	56.8	**0.0037**	0.003	82.5	ug/L	0	Standard
	Pb	206	109.0	28.6	**-0.0004**	0.010	2449.7	ug/L	113	Standard
	Pb	207	94.0	17.1	**-0.0087**	0.006	64.8	ug/L	88	Standard
	Pb	208	248.0	5.1	**-0.0024**	0.001	27.9	ug/L	233	Standard
	U	238	3.3	121.2	**-0.0028**	0.001	34.6	ug/L	1	Standard
>	**Bi**	209	304683.9	4.0				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	70.0	46.8	**0.0399**	0.032	81.1	mg/L	48	Standard
K	39	0.0		**-0.0621**	0.000	0.0	mg/L	2	Standard
Ca	43	20.0	66.1	**-1.0905**	1.110	101.8	mg/L	38	Standard
Fe	54	212.4	11.5	**0.0188**	0.019	98.5	mg/L	218	Standard
Fe	57	225.0	11.8	**-0.0847**	0.072	85.5	mg/L	283	Standard
> **Sc-1**	45	44100.8	3.4				mg/L	46336	Standard
Cl	35	9104.1	3.7				ug/L	7415	Standard
Kr	83	96.7	6.7				ug/L	106	Standard
Br	81	2796.9	5.7				ug/L	2367	Standard
P	31	222585.0	1.7				ug/L	257843	Standard
S	34	23531.6	2.3				ug/L	25966	Standard
Sr	88	93.3	24.2				ug/L	92	Standard
C	12	3.3	173.2				mg/L	10	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	3.2	173.2				mg/L	10	Standard
Ho-1	165	5.0	0.0				mg/L	2	Standard
Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		111.578	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		102.809	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: PBW 35 WG451424-04
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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.052
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.869
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 35 WG451424-04
Report Date/Time: Tuesday, November 05, 2013 13:39:32
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Method 6020 - Summary Report

Sample ID: L1310143101 WG451424-01
Sample Date/Time: Tuesday, November 05, 2013 13:40:38
Number of Replicates: 3
Autosampler Position: 302
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	229385.4	1.8				ug/L	199689	Standard
	Be	9	60.0	8.3	**0.0164**	0.002	14.1	ug/L	22	Standard
	Al	27	18410726.5	1.6	**87.8457**	0.650	0.7	ug/L	615	Standard
	Sc	45	43352.1	5.6				ug/L	46336	Standard
	Ti	47	1120.0	1.8	**3.1267**	0.120	3.8	ug/L	20	Standard
	V	51	38905.4	2.9	**7.5767**	0.064	0.9	ug/L	893	Standard
	Cr	52	51087.7	2.6	**9.8579**	0.062	0.6	ug/L	3436	Standard
	Cr	53	17224.8	2.4	**16.0952**	0.061	0.4	ug/L	325	Standard
	Mn	55	383988.8	2.2	**41.8751**	0.515	1.2	ug/L	949	Standard
	Co	59	3475.1	2.5	**0.5948**	0.006	1.0	ug/L	109	Standard
	Ni	60	31698.5	2.4	**14.2910**	0.079	0.6	ug/L	187	Standard
	Cu	65	51593.4	1.9	**23.8324**	0.149	0.6	ug/L	95	Standard
	Zn	66	35206.5	2.5	**28.9138**	0.180	0.6	ug/L	320	Standard
>	**Ge**	72	466886.2	2.0				ug/L	478028	Standard
	As	75	9449.5	1.3	**7.2139**	0.060	0.8	ug/L	-247	Standard
	Se	82	4396.9	1.9	**31.1569**	0.053	0.2	ug/L	-45	Standard
	Se-1	77	3212.3	3.5	**35.2828**	0.654	1.9	ug/L	101	Standard
>	**Ga**	71	2623.6	3.3				mg/L	38	Standard
	Rb	85	361105.5	3.3				ug/L	27	Standard
	Y	89	397204.7	1.3				ug/L	457712	Standard
>	**Rh**	103	118.3	21.7				ug/L	7	Standard
	Mo	98	741657.7	1.5	**305.3357**	3.093	1.0	ug/L	7	Standard
	Ag	107	57.0	24.4	**-0.0009**	0.003	311.2	ug/L	60	Standard
	Cd	111	-33.3	114.0	**-0.0240**	0.021	87.0	mg/L	2	Standard
	Cd	114	2098.2	7.2	**0.4322**	0.026	6.1	ug/L	28	Standard
>	**In**	115	436517.1	1.5				ug/L	514607	Standard
	Sn	118	258.0	8.1	**0.1383**	0.016	11.8	ug/L	125	Standard
	Sb	123	4540.9	3.2	**1.5539**	0.027	1.7	ug/L	14	Standard
	Ba	135	83336.9	1.7	**50.5725**	0.119	0.2	ug/L	10	Standard
	Ce	140	6744.8	4.8				ug/L	25	Standard
>	**Tb**	159	555559.2	2.5				ug/L	648946	Standard
	Ho	165	186.7	6.2				ug/L	2	Standard
	Tl	203	1111.4	4.8	**0.2153**	0.008	3.5	ug/L	4	Standard
	Tl	205	1231.7	9.7	**0.2387**	0.023	9.6	ug/L	0	Standard
	Pb	206	1177.4	1.5	**0.5232**	0.008	1.5	ug/L	113	Standard
	Pb	207	949.0	2.9	**0.4577**	0.007	1.6	ug/L	88	Standard
	Pb	208	2521.7	3.2	**0.4707**	0.012	2.6	ug/L	233	Standard
	U	238	3767.5	2.0	**1.1582**	0.005	0.4	ug/L	1	Standard
>	**Bi**	209	250433.7	1.5				ug/L	321163	Standard

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	Na	23	201.7	7.6	**77.0724**	4.102	5.3	mg/L	2	Standard
	Mg	24	548359.2	3.1	**585.4262**	16.075	2.7	mg/L	48	Standard
	K	39	415.0	12.6	**5.8524**	0.401	6.9	mg/L	2	Standard
	Ca	43	703.4	19.9	**61.0509**	8.916	14.6	mg/L	38	Standard
	Fe	54	665.9	20.8	**0.2954**	0.073	24.8	mg/L	218	Standard
	Fe	57	911.7	5.8	**1.4502**	0.215	14.8	mg/L	283	Standard
>	**Sc-1**	45	43352.1	5.6				mg/L	46336	Standard
	Cl	35	18231.6	3.4				ug/L	7415	Standard
	Kr	83	208.7	1.4				ug/L	106	Standard
	Br	81	228977.3	0.5				ug/L	2367	Standard
	P	31	301405.0	4.1				ug/L	257843	Standard
	S	34	17398.3	3.3				ug/L	25966	Standard
	Sr	88	783.4	10.1				ug/L	92	Standard
	C	12	50.0	20.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	166.7	38.1				mg/L	0	Standard
	Dy	164	284.7	9.3				mg/L	10	Standard
	Ho-1	165	186.7	6.2				mg/L	2	Standard
	Er	166	180.0	33.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		114.871	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		97.669	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	84.825
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	77.977
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mo 98 Upper, S, EEE	Mo	98	

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Method 6020 - Summary Report

Sample ID: L1310143101DP WG451424-06
Sample Date/Time: Tuesday, November 05, 2013 13:43:43
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	224460.6	1.3				ug/L	199689	Standard
	Be	9	93.3	16.4	**0.0308**	0.006	19.4	ug/L	22	Standard
	Al	27	17508516.3	2.0	**85.3653**	0.631	0.7	ug/L	615	Standard
	Sc	45	40898.5	0.7				ug/L	46336	Standard
	Ti	47	1115.7	1.5	**3.1690**	0.020	0.6	ug/L	20	Standard
	V	51	35972.6	1.9	**7.1204**	0.120	1.7	ug/L	893	Standard
	Cr	52	57447.7	2.3	**11.3833**	0.075	0.7	ug/L	3436	Standard
	Cr	53	18284.4	2.3	**17.4101**	0.118	0.7	ug/L	325	Standard
	Mn	55	366855.9	2.2	**40.7077**	0.223	0.5	ug/L	949	Standard
	Co	59	3251.7	2.4	**0.5654**	0.011	2.0	ug/L	109	Standard
	Ni	60	30541.8	2.6	**14.0107**	0.125	0.9	ug/L	187	Standard
	Cu	65	48759.0	1.9	**22.9191**	0.266	1.2	ug/L	95	Standard
	Zn	66	38155.0	1.9	**31.9274**	0.369	1.2	ug/L	320	Standard
>	**Ge**	72	458772.0	1.7				ug/L	478028	Standard
	As	75	9000.7	1.8	**6.9992**	0.173	2.5	ug/L	-247	Standard
	Se	82	4262.3	2.0	**30.7430**	0.511	1.7	ug/L	-45	Standard
	Se-1	77	3042.3	1.3	**33.9788**	0.510	1.5	ug/L	101	Standard
>	**Ga**	71	2460.2	3.4				mg/L	38	Standard
	Rb	85	346722.9	3.9				ug/L	27	Standard
	Y	89	385721.7	0.9				ug/L	457712	Standard
>	**Rh**	103	136.7	29.6				ug/L	7	Standard
	Mo	98	711970.6	2.0	**298.9537**	1.618	0.5	ug/L	7	Standard
	Ag	107	67.7	13.7	**0.0014**	0.002	117.2	ug/L	60	Standard
	Cd	111	-62.5	61.7	**-0.0411**	0.022	52.7	mg/L	2	Standard
	Cd	114	1949.4	8.9	**0.4094**	0.041	10.0	ug/L	28	Standard
>	**In**	115	427953.5	1.5				ug/L	514607	Standard
	Sn	118	336.0	3.4	**0.2177**	0.007	3.2	ug/L	125	Standard
	Sb	123	4404.3	0.7	**1.5376**	0.015	1.0	ug/L	14	Standard
	Ba	135	80761.4	2.3	**49.9877**	0.426	0.9	ug/L	10	Standard
	Ce	140	6419.7	3.3				ug/L	25	Standard
>	**Tb**	159	542804.3	2.0				ug/L	648946	Standard
	Ho	165	216.7	17.3				ug/L	2	Standard
	Tl	203	1040.7	6.0	**0.2025**	0.009	4.3	ug/L	4	Standard
	Tl	205	1075.0	5.3	**0.2094**	0.014	6.9	ug/L	0	Standard
	Pb	206	1159.4	2.3	**0.5178**	0.014	2.6	ug/L	113	Standard
	Pb	207	910.7	7.4	**0.4401**	0.036	8.3	ug/L	88	Standard
	Pb	208	2435.1	1.0	**0.4559**	0.005	1.0	ug/L	233	Standard
	U	238	3643.4	2.9	**1.1264**	0.019	1.7	ug/L	1	Standard
>	**Bi**	209	249012.3	1.8				ug/L	321163	Standard

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	Na	23	196.7	8.2	**79.6583**	6.319	7.9	mg/L	2	Standard
	Mg	24	516332.7	1.1	**583.7187**	2.637	0.5	mg/L	48	Standard
	K	39	333.3	13.6	**4.9839**	0.658	13.2	mg/L	2	Standard
	Ca	43	708.3	1.8	**65.7225**	0.912	1.4	mg/L	38	Standard
	Fe	54	640.8	13.8	**0.3045**	0.055	18.1	mg/L	218	Standard
	Fe	57	845.0	3.6	**1.4074**	0.082	5.8	mg/L	283	Standard
>	**Sc-1**	45	40898.5	0.7				mg/L	46336	Standard
	Cl	35	16611.1	1.7				ug/L	7415	Standard
	Kr	83	213.3	8.2				ug/L	106	Standard
	Br	81	223135.0	2.4				ug/L	2367	Standard
	P	31	254203.3	1.5				ug/L	257843	Standard
	S	34	16814.3	2.1				ug/L	25966	Standard
	Sr	88	656.7	1.8				ug/L	92	Standard
	C	12	46.7	12.4				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	193.3	24.4				mg/L	0	Standard
	Dy	164	233.1	30.2				mg/L	10	Standard
	Ho-1	165	216.7	17.3				mg/L	2	Standard
	Er	166	143.3	29.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.405	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		95.972	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	83.161
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	77.535
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mo 98 Upper, S, EEE	Mo	98	

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Method 6020 - Summary Report

Sample ID: L1310174804 WG451424-02
Sample Date/Time: Tuesday, November 05, 2013 13:46:47
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	238433.5	1.8				ug/L	199689	Standard
	Be	9	43.3	24.0	**0.0088**	0.004	43.5	ug/L	22	Standard
	Al	27	647536.2	2.5	**2.9690**	0.058	2.0	ug/L	615	Standard
	Sc	45	45647.0	1.6				ug/L	46336	Standard
	Ti	47	387.3	11.0	**0.9312**	0.135	14.5	ug/L	20	Standard
	V	51	1709.0	3.5	**0.1302**	0.012	8.9	ug/L	893	Standard
	Cr	52	4816.8	4.8	**0.1881**	0.021	11.0	ug/L	3436	Standard
	Cr	53	830.0	15.9	**0.4230**	0.096	22.6	ug/L	325	Standard
	Mn	55	94695.8	2.6	**9.1927**	0.052	0.6	ug/L	949	Standard
	Co	59	753.4	8.0	**0.0980**	0.007	6.8	ug/L	109	Standard
	Ni	60	1638.8	4.0	**0.5789**	0.013	2.2	ug/L	187	Standard
	Cu	65	2534.9	8.1	**1.0012**	0.057	5.7	ug/L	95	Standard
	Zn	66	5556.0	4.5	**3.8074**	0.129	3.4	ug/L	320	Standard
>	**Ge**	72	519405.2	2.7				ug/L	478028	Standard
	As	75	-121.3	50.4	**0.1095**	0.042	38.8	ug/L	-247	Standard
	Se	82	-4.7	433.7	**0.2812**	0.132	47.0	ug/L	-45	Standard
	Se-1	77	127.0	7.5	**0.2687**	0.062	23.2	ug/L	101	Standard
>	**Ga**	71	150.0	37.9				mg/L	38	Standard
	Rb	85	5799.4	6.1				ug/L	27	Standard
	Y	89	453813.1	4.1				ug/L	457712	Standard
>	**Rh**	103	21.7	13.3				ug/L	7	Standard
	Mo	98	189.3	25.2	**0.0466**	0.014	29.8	ug/L	7	Standard
	Ag	107	81.0	1.2	**0.0013**	0.001	47.7	ug/L	60	Standard
	Cd	111	10.4	19.7	**-0.0008**	0.001	96.6	mg/L	2	Standard
	Cd	114	41.1	44.3	**-0.0053**	0.004	66.1	ug/L	28	Standard
>	**In**	115	519948.3	3.8				ug/L	514607	Standard
	Sn	118	145.7	4.6	**0.0114**	0.003	23.3	ug/L	125	Standard
	Sb	123	31.5	21.3	**-0.0007**	0.002	249.1	ug/L	14	Standard
	Ba	135	7442.8	2.7	**3.7780**	0.161	4.3	ug/L	10	Standard
	Ce	140	5984.5	5.3				ug/L	25	Standard
>	**Tb**	159	625452.8	2.4				ug/L	648946	Standard
	Ho	165	76.7	29.4				ug/L	2	Standard
	Tl	203	63.0	33.9	**0.0067**	0.003	44.6	ug/L	4	Standard
	Tl	205	90.0	33.3	**0.0116**	0.004	36.2	ug/L	0	Standard
	Pb	206	382.7	2.4	**0.1014**	0.001	0.9	ug/L	113	Standard
	Pb	207	300.0	7.6	**0.0761**	0.006	8.3	ug/L	88	Standard
	Pb	208	788.7	1.2	**0.0825**	0.003	3.3	ug/L	233	Standard
	U	238	34.0	25.6	**0.0046**	0.002	41.2	ug/L	1	Standard
>	**Bi**	209	318769.1	2.8				ug/L	321163	Standard

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	Na	23	11.7	24.7	**4.2363**	1.025	24.2	mg/L	2	Standard
	Mg	24	720.0	21.2	**0.6969**	0.156	22.3	mg/L	48	Standard
	K	39	13.3	57.3	**0.1179**	0.102	86.5	mg/L	2	Standard
	Ca	43	45.0	33.3	**1.0454**	1.304	124.7	mg/L	38	Standard
	Fe	54	406.0	12.2	**0.1257**	0.025	20.1	mg/L	218	Standard
	Fe	57	266.7	10.3	**-0.0158**	0.050	316.0	mg/L	283	Standard
>	**Sc-1**	45	45647.0	1.6				mg/L	46336	Standard
	Cl	35	7239.1	3.9				ug/L	7415	Standard
	Kr	83	95.7	9.5				ug/L	106	Standard
	Br	81	4410.6	1.3				ug/L	2367	Standard
	P	31	300202.2	2.0				ug/L	257843	Standard
	S	34	20265.2	2.3				ug/L	25966	Standard
	Sr	88	91.7	17.5				ug/L	92	Standard
	C	12	13.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	123.8	13.7				mg/L	10	Standard
	Ho-1	165	76.7	29.4				mg/L	2	Standard
	Er	166	130.0	53.8				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		119.402	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		108.656	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	101.038
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	99.255
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 13:49:53
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222800.5	3.0				ug/L	199689	Standard
	Be	9	117383.3	3.2	**49.5959**	0.389	0.8	ug/L	22	Standard
	Al	27	8838938.7	0.5	**43.4434**	1.334	3.1	ug/L	615	Standard
	Sc	45	44174.3	1.5				ug/L	46336	Standard
	Ti	47	36399.3	1.5	**95.9176**	0.931	1.0	ug/L	20	Standard
	V	51	265045.9	1.9	**48.7720**	0.199	0.4	ug/L	893	Standard
	Cr	52	261314.7	3.6	**49.3611**	0.756	1.5	ug/L	3436	Standard
	Cr	53	57268.1	3.4	**50.1742**	0.738	1.5	ug/L	325	Standard
	Mn	55	509938.9	2.6	**51.5553**	0.782	1.5	ug/L	949	Standard
	Co	59	312693.0	3.1	**51.4127**	0.627	1.2	ug/L	109	Standard
	Ni	60	120990.1	2.7	**50.7703**	0.468	0.9	ug/L	187	Standard
	Cu	65	120104.9	1.2	**51.4752**	0.500	1.0	ug/L	95	Standard
	Zn	66	68449.3	1.9	**52.3697**	0.205	0.4	ug/L	320	Standard
>	**Ge**	72	503854.3	2.1				ug/L	478028	Standard
	As	75	73391.1	1.7	**50.7328**	0.468	0.9	ug/L	-247	Standard
	Se	82	7348.9	2.9	**48.0771**	0.448	0.9	ug/L	-45	Standard
	Se-1	77	5177.2	3.6	**53.2011**	1.447	2.7	ug/L	101	Standard
>	**Ga**	71	65.0	23.1				mg/L	38	Standard
	Rb	85	1073.4	1.4				ug/L	27	Standard
	Y	89	435720.3	3.1				ug/L	457712	Standard
>	**Rh**	103	36.7	28.4				ug/L	7	Standard
	Mo	98	347438.6	2.6	**123.2288**	1.493	1.2	ug/L	7	Standard
	Ag	107	330116.9	1.7	**55.1573**	0.274	0.5	ug/L	60	Standard
	Cd	111	110503.8	2.0	**53.0992**	0.241	0.5	mg/L	2	Standard
	Cd	114	285981.7	2.8	**52.2548**	0.453	0.9	ug/L	28	Standard
>	**In**	115	506606.4	2.1				ug/L	514607	Standard
	Sn	118	66730.8	4.4	**53.6870**	1.248	2.3	ug/L	125	Standard
	Sb	123	161744.5	1.2	**47.9943**	0.463	1.0	ug/L	14	Standard
	Ba	135	97303.5	2.2	**50.8800**	0.301	0.6	ug/L	10	Standard
	Ce	140	38.3	49.4				ug/L	25	Standard
>	**Tb**	159	606776.6	3.4				ug/L	648946	Standard
	Ho	165	8.3	69.3				ug/L	2	Standard
	Tl	203	317487.1	2.4	**50.8050**	0.444	0.9	ug/L	4	Standard
	Tl	205	350769.0	3.6	**55.8647**	0.763	1.4	ug/L	0	Standard
	Pb	206	137492.6	2.5	**53.8488**	0.228	0.4	ug/L	113	Standard
	Pb	207	122917.1	2.5	**53.5276**	0.490	0.9	ug/L	88	Standard
	Pb	208	315732.1	1.3	**52.4703**	0.556	1.1	ug/L	233	Standard
	U	238	197545.1	1.8	**49.6374**	0.266	0.5	ug/L	1	Standard
>	**Bi**	209	307375.6	2.3				ug/L	321163	Standard

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	Na	23	23.3	65.5	**8.7423**	5.730	65.5	mg/L	2	Standard
	Mg	24	4344.0	1.9	**4.5153**	0.140	3.1	mg/L	48	Standard
	K	39	185.0	9.7	**2.5299**	0.214	8.5	mg/L	2	Standard
	Ca	43	65.0	0.0	**2.9658**	0.085	2.9	mg/L	38	Standard
	Fe	54	8250.2	4.7	**4.8167**	0.157	3.3	mg/L	218	Standard
	Fe	57	2661.9	8.2	**5.2056**	0.422	8.1	mg/L	283	Standard
>	**Sc-1**	45	44174.3	1.5				mg/L	46336	Standard
	Cl	35	7383.8	1.7				ug/L	7415	Standard
	Kr	83	94.7	10.2				ug/L	106	Standard
	Br	81	3070.3	4.5				ug/L	2367	Standard
	P	31	273678.0	0.8				ug/L	257843	Standard
	S	34	24970.6	1.1				ug/L	25966	Standard
	Sr	88	95.0	10.5				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	16.0	35.2				mg/L	10	Standard
	Ho-1	165	8.3	69.3				mg/L	2	Standard
	Er	166	13.3	43.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.574	
	Be	9	99.192		
	Al	27	86.887		
	Sc	45			
	Ti	47	95.918		
	V	51	97.544		
	Cr	52	98.722		
	Cr	53			
	Mn	55	103.111		
	Co	59	102.825		
	Ni	60	101.541		
	Cu	65	102.950		
	Zn	66	104.739		
>	Ge	72		105.403	
	As	75	101.466		
	Se	82	96.154		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	123.229	
|	Ag	107	110.315	
|	Cd	111	106.198	
|	Cd	114		
|>	In	115		98.445
|	Sn	118	107.374	
|	Sb	123	95.989	
⌊	Ba	135	101.760	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	101.610	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	104.941	
|	U	238	99.275	
⌊>	Bi	209		95.707
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	
QC Std 6	Ag	107	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 13:52:57
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	212462.6	4.2				ug/L	199689	Standard
	Be	9	66.7	35.4	**0.0211**	0.010	45.8	ug/L	22	Standard
	Al	27	6476.8	66.7	**0.0298**	0.023	76.3	ug/L	615	Standard
	Sc	45	41714.1	4.5				ug/L	46336	Standard
	Ti	47	30.3	33.7	**0.0225**	0.029	128.0	ug/L	20	Standard
	V	51	931.2	8.9	**0.0050**	0.014	276.7	ug/L	893	Standard
	Cr	52	3659.4	3.7	**0.0324**	0.039	120.3	ug/L	3436	Standard
	Cr	53	340.0	8.9	**0.0301**	0.016	54.2	ug/L	325	Standard
	Mn	55	1307.7	37.2	**0.0241**	0.053	218.1	ug/L	949	Standard
	Co	59	162.3	51.0	**0.0060**	0.014	241.2	ug/L	109	Standard
	Ni	60	799.7	5.4	**0.2649**	0.014	5.4	ug/L	187	Standard
	Cu	65	480.7	8.5	**0.1643**	0.010	6.0	ug/L	95	Standard
	Zn	66	466.0	0.8	**0.0359**	0.017	46.8	ug/L	320	Standard
>	**Ge**	72	478460.1	4.6				ug/L	478028	Standard
	As	75	-200.3	11.5	**0.0458**	0.012	26.4	ug/L	-247	Standard
	Se	82	-26.4	36.3	**0.1336**	0.059	44.2	ug/L	-45	Standard
	Se-1	77	99.3	15.4	**0.0750**	0.161	214.7	ug/L	101	Standard
>	**Ga**	71	25.0	20.0				mg/L	38	Standard
	Rb	85	46.7	52.9				ug/L	27	Standard
	Y	89	415851.7	3.3				ug/L	457712	Standard
>	**Rh**	103	5.0	0.0				ug/L	7	Standard
	Mo	98	441.9	142.3	**0.1454**	0.234	161.3	ug/L	7	Standard
	Ag	107	146.0	84.6	**0.0135**	0.022	161.1	ug/L	60	Standard
	Cd	111	11.8	60.1	**0.0002**	0.004	1871.8	mg/L	2	Standard
	Cd	114	48.1	51.2	**-0.0036**	0.004	120.4	ug/L	28	Standard
>	**In**	115	485991.4	3.9				ug/L	514607	Standard
	Sn	118	133.7	15.7	**0.0090**	0.013	148.1	ug/L	125	Standard
	Sb	123	337.2	37.4	**0.0937**	0.035	37.7	ug/L	14	Standard
	Ba	135	20.0	62.6	**-0.0077**	0.007	88.7	ug/L	10	Standard
	Ce	140	11.7	99.0				ug/L	25	Standard
>	**Tb**	159	581997.6	3.5				ug/L	648946	Standard
	Ho	165	13.3	43.3				ug/L	2	Standard
	Tl	203	75.3	94.3	**0.0095**	0.012	125.3	ug/L	4	Standard
	Tl	205	71.7	67.0	**0.0096**	0.008	82.2	ug/L	0	Standard
	Pb	206	136.7	42.7	**0.0122**	0.024	196.5	ug/L	113	Standard
	Pb	207	113.3	41.2	**0.0012**	0.021	1773.4	ug/L	88	Standard
	Pb	208	295.0	19.7	**0.0066**	0.009	131.1	ug/L	233	Standard
	U	238	33.0	65.8	**0.0049**	0.005	112.6	ug/L	1	Standard
>	**Bi**	209	296872.7	4.3				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6361**	1.093	171.8	mg/L	2	Standard
	Mg	24	123.3	110.3	**0.1043**	0.153	146.3	mg/L	48	Standard
	K	39	10.0	50.0	**0.0844**	0.068	80.0	mg/L	2	Standard
	Ca	43	35.0	42.9	**0.4802**	1.521	316.7	mg/L	38	Standard
	Fe	54	192.7	15.6	**0.0137**	0.022	161.2	mg/L	218	Standard
	Fe	57	253.3	15.3	**0.0103**	0.114	1106.7	mg/L	283	Standard
>	**Sc-1**	45	41714.1	4.5				mg/L	46336	Standard
	Cl	35	7425.2	2.6				ug/L	7415	Standard
	Kr	83	94.0	3.7				ug/L	106	Standard
	Br	81	2716.9	14.6				ug/L	2367	Standard
	P	31	235923.6	2.9				ug/L	257843	Standard
	S	34	24833.7	2.7				ug/L	25966	Standard
	Sr	88	81.7	15.4				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	3.2	186.4				mg/L	10	Standard
	Ho-1	165	13.3	43.3				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.397	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		100.090	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.439
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.437
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174805S WG451424-07
Sample Date/Time: Tuesday, November 05, 2013 13:56:25
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	230742.0	3.8				ug/L	199689	Standard
	Be	9	57328.3	3.3	**23.3882**	0.235	1.0	ug/L	22	Standard
	Al	27	616425.4	2.8	**2.9211**	0.031	1.1	ug/L	615	Standard
	Sc	45	45277.6	4.6				ug/L	46336	Standard
	Ti	47	536.3	13.8	**1.3381**	0.195	14.6	ug/L	20	Standard
	V	51	130600.2	3.2	**23.6948**	0.136	0.6	ug/L	893	Standard
	Cr	52	131001.8	2.7	**24.1428**	0.022	0.1	ug/L	3436	Standard
	Cr	53	26840.4	1.7	**23.1314**	0.241	1.0	ug/L	325	Standard
	Mn	55	420825.0	3.5	**42.0868**	0.506	1.2	ug/L	949	Standard
	Co	59	155763.3	3.8	**25.3385**	0.440	1.7	ug/L	109	Standard
	Ni	60	59435.0	2.1	**24.6450**	0.130	0.5	ug/L	187	Standard
	Cu	65	59549.9	3.7	**25.2282**	0.277	1.1	ug/L	95	Standard
	Zn	66	35950.3	3.7	**27.0551**	0.323	1.2	ug/L	320	Standard
>	**Ge**	72	509024.5	2.6				ug/L	478028	Standard
	As	75	35679.5	2.3	**24.5119**	0.088	0.4	ug/L	-247	Standard
	Se	82	3476.0	2.2	**22.6792**	0.099	0.4	ug/L	-45	Standard
	Se-1	77	2492.2	1.5	**24.8221**	0.317	1.3	ug/L	101	Standard
>	**Ga**	71	131.7	5.8				mg/L	38	Standard
	Rb	85	5902.8	5.5				ug/L	27	Standard
	Y	89	445657.6	3.5				ug/L	457712	Standard
>	**Rh**	103	23.3	32.7				ug/L	7	Standard
	Mo	98	392.3	136.5	**0.1202**	0.191	158.6	ug/L	7	Standard
	Ag	107	158312.3	1.8	**25.8955**	0.214	0.8	ug/L	60	Standard
	Cd	111	53228.2	1.4	**25.0446**	0.237	0.9	mg/L	2	Standard
	Cd	114	133079.5	0.8	**23.8114**	0.408	1.7	ug/L	28	Standard
>	**In**	115	517377.7	2.4				ug/L	514607	Standard
	Sn	118	217.0	6.0	**0.0685**	0.014	20.2	ug/L	125	Standard
	Sb	123	79419.2	2.0	**23.0686**	0.110	0.5	ug/L	14	Standard
	Ba	135	55165.6	2.2	**28.2385**	0.179	0.6	ug/L	10	Standard
	Ce	140	8805.9	1.4				ug/L	25	Standard
>	**Tb**	159	619449.2	2.1				ug/L	648946	Standard
	Ho	165	98.3	25.1				ug/L	2	Standard
	Tl	203	156040.3	3.3	**24.3055**	0.383	1.6	ug/L	4	Standard
	Tl	205	169108.8	2.1	**26.2258**	0.063	0.2	ug/L	0	Standard
	Pb	206	69039.7	2.5	**26.3026**	0.083	0.3	ug/L	113	Standard
	Pb	207	59070.0	3.0	**25.0142**	0.204	0.8	ug/L	88	Standard
	Pb	208	155418.3	2.0	**25.1203**	0.165	0.7	ug/L	233	Standard
	U	238	94339.3	3.0	**23.0723**	0.223	1.0	ug/L	1	Standard
>	**Bi**	209	315722.3	2.3				ug/L	321163	Standard

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	Na	23	6.7	43.3	**2.4418**	1.036	42.4	mg/L	2	Standard
	Mg	24	711.7	8.4	**0.6966**	0.092	13.2	mg/L	48	Standard
	K	39	15.0	33.3	**0.1421**	0.064	45.1	mg/L	2	Standard
	Ca	43	36.7	20.8	**0.3302**	0.528	160.1	mg/L	38	Standard
	Fe	54	452.3	20.0	**0.1544**	0.046	29.9	mg/L	218	Standard
	Fe	57	273.3	21.4	**0.0078**	0.149	1911.6	mg/L	283	Standard
>	**Sc-1**	45	45277.6	4.6				mg/L	46336	Standard
	Cl	35	7026.3	2.8				ug/L	7415	Standard
	Kr	83	99.3	16.8				ug/L	106	Standard
	Br	81	3637.1	6.5				ug/L	2367	Standard
	P	31	302294.2	3.0				ug/L	257843	Standard
	S	34	21865.8	0.8				ug/L	25966	Standard
	Sr	88	91.7	11.4				ug/L	92	Standard
	C	12	16.7	91.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	164.9	22.6				mg/L	10	Standard
	Ho-1	165	98.3	25.1				mg/L	2	Standard
	Er	166	106.7	37.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		115.551	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		106.484	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.538
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.306
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174806SD WG451424-08
Sample Date/Time: Tuesday, November 05, 2013 13:59:30
Number of Replicates: 3
Autosampler Position: 306
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	228361.5	1.2				ug/L	199689	Standard
	Be	9	58141.4	3.3	**23.9628**	0.691	2.9	ug/L	22	Standard
	Al	27	618532.9	1.5	**2.9611**	0.047	1.6	ug/L	615	Standard
	Sc	45	44779.4	1.4				ug/L	46336	Standard
	Ti	47	378.3	3.3	**0.9355**	0.034	3.7	ug/L	20	Standard
	V	51	132479.5	2.7	**24.2798**	0.377	1.6	ug/L	893	Standard
	Cr	52	130784.7	3.0	**24.3495**	0.657	2.7	ug/L	3436	Standard
	Cr	53	28044.3	1.2	**24.4256**	0.500	2.0	ug/L	325	Standard
	Mn	55	422453.8	2.5	**42.6803**	0.987	2.3	ug/L	949	Standard
	Co	59	158128.5	3.3	**25.9810**	0.603	2.3	ug/L	109	Standard
	Ni	60	60719.1	1.8	**25.4287**	0.109	0.4	ug/L	187	Standard
	Cu	65	60108.0	1.8	**25.7246**	0.288	1.1	ug/L	95	Standard
	Zn	66	36214.9	2.2	**27.5395**	0.625	2.3	ug/L	320	Standard
>	**Ge**	72	503994.2	1.4				ug/L	478028	Standard
	As	75	35992.6	2.6	**24.9686**	0.523	2.1	ug/L	-247	Standard
	Se	82	3502.8	1.7	**23.0763**	0.349	1.5	ug/L	-45	Standard
	Se-1	77	2572.2	4.1	**25.9136**	1.086	4.2	ug/L	101	Standard
>	**Ga**	71	123.3	16.4				mg/L	38	Standard
	Rb	85	5837.8	1.7				ug/L	27	Standard
	Y	89	435433.9	1.3				ug/L	457712	Standard
>	**Rh**	103	15.0	66.7				ug/L	7	Standard
	Mo	98	138.7	82.8	**0.0308**	0.041	134.4	ug/L	7	Standard
	Ag	107	160574.4	2.6	**26.6912**	0.157	0.6	ug/L	60	Standard
	Cd	111	53241.0	2.1	**25.4575**	0.221	0.9	mg/L	2	Standard
	Cd	114	134555.6	2.2	**24.4631**	0.098	0.4	ug/L	28	Standard
>	**In**	115	509044.5	2.0				ug/L	514607	Standard
	Sn	118	165.7	4.0	**0.0300**	0.007	24.4	ug/L	125	Standard
	Sb	123	79368.4	2.4	**23.4290**	0.107	0.5	ug/L	14	Standard
	Ba	135	55131.8	2.2	**28.6822**	0.213	0.7	ug/L	10	Standard
	Ce	140	8365.6	3.2				ug/L	25	Standard
>	**Tb**	159	604431.7	2.0				ug/L	648946	Standard
	Ho	165	76.7	10.0				ug/L	2	Standard
	Tl	203	156437.5	1.3	**25.0138**	0.106	0.4	ug/L	4	Standard
	Tl	205	171652.1	1.9	**27.3222**	0.309	1.1	ug/L	0	Standard
	Pb	206	69859.7	2.0	**27.3184**	0.117	0.4	ug/L	113	Standard
	Pb	207	59506.6	1.4	**25.8693**	0.134	0.5	ug/L	88	Standard
	Pb	208	156740.8	1.9	**26.0019**	0.108	0.4	ug/L	233	Standard
	U	238	94737.7	1.9	**23.7824**	0.039	0.2	ug/L	1	Standard
>	**Bi**	209	307609.8	1.8				ug/L	321163	Standard

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	Na	23	6.7	86.6	**2.4521**	2.119	86.4	mg/L	2	Standard
	Mg	24	700.0	11.1	**0.6907**	0.091	13.2	mg/L	48	Standard
	K	39	11.7	65.5	**0.0986**	0.104	105.5	mg/L	2	Standard
	Ca	43	40.0	45.1	**0.6857**	1.630	237.6	mg/L	38	Standard
	Fe	54	491.8	3.6	**0.1810**	0.006	3.6	mg/L	218	Standard
	Fe	57	255.0	9.8	**-0.0298**	0.048	160.1	mg/L	283	Standard
>	**Sc-1**	45	44779.4	1.4				mg/L	46336	Standard
	Cl	35	7178.4	3.9				ug/L	7415	Standard
	Kr	83	101.0	1.0				ug/L	106	Standard
	Br	81	3380.4	4.4				ug/L	2367	Standard
	P	31	309008.3	1.9				ug/L	257843	Standard
	S	34	22575.1	2.9				ug/L	25966	Standard
	Sr	88	108.3	14.8				ug/L	92	Standard
	C	12	20.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	150.6	44.0				mg/L	10	Standard
	Ho-1	165	76.7	10.0				mg/L	2	Standard
	Er	166	56.7	10.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		114.359	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		105.432	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.919
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.780
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174811
Sample Date/Time: Tuesday, November 05, 2013 14:02:34
Number of Replicates: 3
Autosampler Position: 307
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	235475.4	3.4				ug/L	199689	Standard
	Be	9	55.0	9.1	**0.0138**	0.002	17.5	ug/L	22	Standard
	Al	27	658454.6	1.8	**3.0583**	0.065	2.1	ug/L	615	Standard
	Sc	45	45947.9	3.3				ug/L	46336	Standard
	Ti	47	298.7	5.8	**0.7102**	0.044	6.2	ug/L	20	Standard
	V	51	1490.1	5.2	**0.0936**	0.010	10.4	ug/L	893	Standard
	Cr	52	4425.0	3.5	**0.1241**	0.014	11.3	ug/L	3436	Standard
	Cr	53	456.7	12.7	**0.1102**	0.059	53.3	ug/L	325	Standard
	Mn	55	71339.6	1.3	**6.9716**	0.079	1.1	ug/L	949	Standard
	Co	59	592.3	1.5	**0.0734**	0.003	3.7	ug/L	109	Standard
	Ni	60	1240.1	2.2	**0.4218**	0.006	1.4	ug/L	187	Standard
	Cu	65	676.0	5.5	**0.2317**	0.016	6.7	ug/L	95	Standard
	Zn	66	3461.7	1.7	**2.2709**	0.022	1.0	ug/L	320	Standard
>	**Ge**	72	513991.2	2.3				ug/L	478028	Standard
	As	75	-188.4	18.7	**0.0633**	0.026	41.6	ug/L	-247	Standard
	Se	82	-22.6	40.6	**0.1681**	0.060	35.9	ug/L	-45	Standard
	Se-1	77	116.3	7.0	**0.1731**	0.062	35.8	ug/L	101	Standard
>	**Ga**	71	110.0	20.8				mg/L	38	Standard
	Rb	85	5179.2	0.5				ug/L	27	Standard
	Y	89	447806.3	3.5				ug/L	457712	Standard
>	**Rh**	103	8.3	124.9				ug/L	7	Standard
	Mo	98	50.5	0.8	**-0.0009**	0.000	38.6	ug/L	7	Standard
	Ag	107	69.3	8.5	**-0.0006**	0.001	205.0	ug/L	60	Standard
	Cd	111	9.9	19.9	**-0.0010**	0.001	98.1	mg/L	2	Standard
	Cd	114	33.0	23.2	**-0.0068**	0.001	20.8	ug/L	28	Standard
>	**In**	115	516465.5	1.7				ug/L	514607	Standard
	Sn	118	137.3	4.8	**0.0057**	0.007	122.1	ug/L	125	Standard
	Sb	123	103.2	38.8	**0.0202**	0.011	55.1	ug/L	14	Standard
	Ba	135	6828.2	1.1	**3.4853**	0.025	0.7	ug/L	10	Standard
	Ce	140	4095.6	7.0				ug/L	25	Standard
>	**Tb**	159	616260.0	2.2				ug/L	648946	Standard
	Ho	165	46.7	16.4				ug/L	2	Standard
	Tl	203	42.7	25.8	**0.0037**	0.002	41.5	ug/L	4	Standard
	Tl	205	55.0	15.7	**0.0065**	0.001	22.0	ug/L	0	Standard
	Pb	206	258.7	3.2	**0.0561**	0.005	8.9	ug/L	113	Standard
	Pb	207	211.7	4.7	**0.0405**	0.006	14.1	ug/L	88	Standard
	Pb	208	532.0	8.2	**0.0426**	0.006	13.8	ug/L	233	Standard
	U	238	25.7	41.7	**0.0027**	0.003	99.0	ug/L	1	Standard
>	**Bi**	209	313889.6	2.7				ug/L	321163	Standard

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	Na	23	3.3	86.6	**1.2051**	1.041	86.4	mg/L	2	Standard
	Mg	24	820.0	18.2	**0.7949**	0.170	21.5	mg/L	48	Standard
	K	39	16.7	17.3	**0.1635**	0.046	27.9	mg/L	2	Standard
	Ca	43	41.7	27.7	**0.7340**	1.016	138.4	mg/L	38	Standard
	Fe	54	440.6	18.4	**0.1452**	0.052	35.8	mg/L	218	Standard
	Fe	57	246.7	17.0	**-0.0601**	0.092	152.8	mg/L	283	Standard
>	**Sc-1**	45	45947.9	3.3				mg/L	46336	Standard
	Cl	35	7321.8	2.1				ug/L	7415	Standard
	Kr	83	94.3	13.3				ug/L	106	Standard
	Br	81	3727.1	5.7				ug/L	2367	Standard
	P	31	326062.1	3.4				ug/L	257843	Standard
	S	34	22556.8	1.6				ug/L	25966	Standard
	Sr	88	98.3	39.5				ug/L	92	Standard
	C	12	13.3	43.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	97.6	16.5				mg/L	10	Standard
	Ho-1	165	46.7	16.4				mg/L	2	Standard
	Er	166	50.0	52.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		117.921	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		107.523	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	100.361
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	97.735
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174811PS WG451504-01
Sample Date/Time: Tuesday, November 05, 2013 14:05:39
Number of Replicates: 3
Autosampler Position: 308
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	232916.8	6.7				ug/L	199689	Standard
	Be	9	119821.6	6.6	**48.4357**	0.841	1.7	ug/L	22	Standard
	Al	27	634469.9	3.1	**2.9824**	0.104	3.5	ug/L	615	Standard
	Sc	45	46872.5	5.2				ug/L	46336	Standard
	Ti	47	317.0	6.0	**0.7668**	0.069	9.0	ug/L	20	Standard
	V	51	270918.6	6.1	**49.3150**	0.814	1.7	ug/L	893	Standard
	Cr	52	267237.5	5.6	**49.9618**	0.531	1.1	ug/L	3436	Standard
	Cr	53	58369.0	4.3	**50.6268**	0.619	1.2	ug/L	325	Standard
	Mn	55	594304.4	5.8	**59.4583**	0.746	1.3	ug/L	949	Standard
	Co	59	325528.0	6.0	**52.9526**	0.715	1.3	ug/L	109	Standard
	Ni	60	122345.8	4.9	**50.8076**	0.497	1.0	ug/L	187	Standard
	Cu	65	124595.8	6.0	**52.8203**	0.885	1.7	ug/L	95	Standard
	Zn	66	72053.3	5.6	**54.5531**	0.716	1.3	ug/L	320	Standard
>	**Ge**	72	509138.4	4.7				ug/L	478028	Standard
	As	75	73204.3	4.6	**50.0781**	0.054	0.1	ug/L	-247	Standard
	Se	82	7150.2	4.6	**46.3089**	0.342	0.7	ug/L	-45	Standard
	Se-1	77	4995.8	4.3	**50.7662**	0.214	0.4	ug/L	101	Standard
>	**Ga**	71	131.7	22.9				mg/L	38	Standard
	Rb	85	4997.5	5.3				ug/L	27	Standard
	Y	89	450128.3	5.2				ug/L	457712	Standard
>	**Rh**	103	40.0	12.5				ug/L	7	Standard
	Mo	98	190.4	107.1	**0.0495**	0.075	150.7	ug/L	7	Standard
	Ag	107	334253.7	5.4	**54.9513**	0.733	1.3	ug/L	60	Standard
	Cd	111	110603.7	6.0	**52.2808**	0.370	0.7	mg/L	2	Standard
	Cd	114	281759.2	4.5	**50.6779**	0.703	1.4	ug/L	28	Standard
>	**In**	115	514976.5	6.0				ug/L	514607	Standard
	Sn	118	187.3	3.4	**0.0458**	0.008	16.9	ug/L	125	Standard
	Sb	123	164605.9	3.0	**48.1032**	1.646	3.4	ug/L	14	Standard
	Ba	135	106252.3	5.4	**54.6704**	0.404	0.7	ug/L	10	Standard
	Ce	140	4027.2	7.3				ug/L	25	Standard
>	**Tb**	159	615532.0	4.6				ug/L	648946	Standard
	Ho	165	53.3	37.9				ug/L	2	Standard
	Tl	203	322121.5	4.6	**51.1200**	0.403	0.8	ug/L	4	Standard
	Tl	205	354654.3	5.6	**56.0171**	1.223	2.2	ug/L	0	Standard
	Pb	206	138905.2	5.1	**53.9473**	0.643	1.2	ug/L	113	Standard
	Pb	207	125130.0	4.6	**54.0411**	0.359	0.7	ug/L	88	Standard
	Pb	208	321171.8	4.1	**52.9324**	0.319	0.6	ug/L	233	Standard
	U	238	199902.3	3.8	**49.8208**	0.062	0.1	ug/L	1	Standard
>	**Bi**	209	309883.0	3.9				ug/L	321163	Standard

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⌈	**Na**	23	3.3	173.2	**1.1228**	1.936	172.4	mg/L	2	Standard
|	**Mg**	24	815.0	6.4	**0.7726**	0.066	8.6	mg/L	48	Standard
|	**K**	39	16.7	62.4	**0.1540**	0.129	83.9	mg/L	2	Standard
|	**Ca**	43	30.0	44.1	**-0.3600**	0.972	270.1	mg/L	38	Standard
|	**Fe**	54	488.0	2.6	**0.1667**	0.021	12.6	mg/L	218	Standard
|	**Fe**	57	231.7	13.9	**-0.0986**	0.088	89.7	mg/L	283	Standard
⌊>	**Sc-1**	45	46872.5	5.2				mg/L	46336	Standard
	Cl	35	7079.7	6.0				ug/L	7415	Standard
	Kr	83	93.7	2.7				ug/L	106	Standard
	Br	81	3630.4	6.7				ug/L	2367	Standard
	P	31	371743.8	5.4				ug/L	257843	Standard
	S	34	21680.5	1.4				ug/L	25966	Standard
	Sr	88	71.7	10.7				ug/L	92	Standard
	C	12	20.0	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	87.8	41.2				mg/L	10	Standard
	Ho-1	165	53.3	37.9				mg/L	2	Standard
	Er	166	46.7	24.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		116.640	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		106.508	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.072
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.488
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174811SDL WG451504-02
Sample Date/Time: Tuesday, November 05, 2013 14:08:43
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	193936.9	1.9				ug/L	199689	Standard
	Be	9	48.3	57.0	**0.0150**	0.013	85.1	ug/L	22	Standard
	Al	27	113426.4	1.8	**0.6366**	0.001	0.1	ug/L	615	Standard
	Sc	45	36791.4	5.1				ug/L	46336	Standard
	Ti	47	55.7	23.4	**0.1087**	0.036	32.9	ug/L	20	Standard
	V	51	887.0	5.8	**0.0148**	0.006	42.1	ug/L	893	Standard
	Cr	52	3198.0	0.8	**0.0080**	0.024	301.9	ug/L	3436	Standard
	Cr	53	250.0	7.2	**-0.0280**	0.023	80.4	ug/L	325	Standard
	Mn	55	11987.1	1.3	**1.3010**	0.022	1.7	ug/L	949	Standard
	Co	59	172.3	6.7	**0.0109**	0.001	12.7	ug/L	109	Standard
	Ni	60	684.3	6.1	**0.2460**	0.012	4.8	ug/L	187	Standard
	Cu	65	298.7	5.8	**0.0970**	0.012	12.7	ug/L	95	Standard
	Zn	66	1277.7	0.9	**0.8052**	0.025	3.1	ug/L	320	Standard
>	**Ge**	72	432128.9	2.6				ug/L	478028	Standard
	As	75	-184.1	24.9	**0.0435**	0.034	78.3	ug/L	-247	Standard
	Se	82	-24.8	25.0	**0.1250**	0.044	35.2	ug/L	-45	Standard
	Se-1	77	95.0	18.6	**0.1419**	0.229	161.1	ug/L	101	Standard
>	**Ga**	71	40.0	21.7				mg/L	38	Standard
	Rb	85	828.4	5.6				ug/L	27	Standard
	Y	89	375785.0	3.5				ug/L	457712	Standard
>	**Rh**	103	6.7	86.6				ug/L	7	Standard
	Mo	98	11.2	20.9	**-0.0139**	0.001	7.3	ug/L	7	Standard
	Ag	107	68.0	22.3	**0.0012**	0.003	226.3	ug/L	60	Standard
	Cd	111	7.6	52.9	**-0.0015**	0.002	141.8	mg/L	2	Standard
	Cd	114	41.8	31.0	**-0.0039**	0.003	65.6	ug/L	28	Standard
>	**In**	115	438388.5	3.1				ug/L	514607	Standard
	Sn	118	118.3	16.0	**0.0070**	0.014	204.7	ug/L	125	Standard
	Sb	123	164.9	30.4	**0.0465**	0.015	33.3	ug/L	14	Standard
	Ba	135	1172.0	2.9	**0.6900**	0.006	0.8	ug/L	10	Standard
	Ce	140	690.0	7.1				ug/L	25	Standard
>	**Tb**	159	537001.9	4.3				ug/L	648946	Standard
	Ho	165	18.3	56.8				ug/L	2	Standard
	Tl	203	29.0	32.9	**0.0022**	0.001	69.3	ug/L	4	Standard
	Tl	205	40.0	21.7	**0.0049**	0.001	27.3	ug/L	0	Standard
	Pb	206	139.3	7.9	**0.0171**	0.004	24.2	ug/L	113	Standard
	Pb	207	111.7	14.5	**0.0039**	0.008	207.7	ug/L	88	Standard
	Pb	208	287.7	0.4	**0.0089**	0.002	23.9	ug/L	233	Standard
	U	238	10.0	26.5	**-0.0009**	0.001	76.2	ug/L	1	Standard
>	**Bi**	209	277998.7	3.7				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	166.7	21.3	**0.1754**	0.034	19.2	mg/L	48	Standard
K	39	6.7	114.6	**0.0541**	0.134	247.6	mg/L	2	Standard
Ca	43	11.7	65.5	**-1.5804**	0.879	55.6	mg/L	38	Standard
Fe	54	142.6	2.2	**-0.0062**	0.007	116.8	mg/L	218	Standard
Fe	57	233.3	12.2	**0.0358**	0.101	282.5	mg/L	283	Standard
> **Sc-1**	45	36791.4	5.1				mg/L	46336	Standard
Cl	35	6536.1	2.0				ug/L	7415	Standard
Kr	83	86.7	15.2				ug/L	106	Standard
Br	81	2276.8	7.2				ug/L	2367	Standard
P	31	133786.5	1.8				ug/L	257843	Standard
S	34	21431.8	2.4				ug/L	25966	Standard
Sr	88	103.3	20.1				ug/L	92	Standard
C	12	6.7	173.2				mg/L	10	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	18.9	85.9				mg/L	10	Standard
Ho-1	165	18.3	56.8				mg/L	2	Standard
Er	166	23.3	99.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		97.119	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.398	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.189
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.560
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 14:11:50
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	210368.9	1.6				ug/L	199689	Standard
	Be	9	110061.7	1.6	**49.2596**	1.057	2.1	ug/L	22	Standard
	Al	27	8389468.6	0.6	**43.6495**	0.468	1.1	ug/L	615	Standard
	Sc	45	42006.5	2.1				ug/L	46336	Standard
	Ti	47	33603.9	1.5	**94.1657**	0.215	0.2	ug/L	20	Standard
	V	51	241179.1	2.1	**47.1893**	0.362	0.8	ug/L	893	Standard
	Cr	52	241162.0	2.7	**48.4411**	0.815	1.7	ug/L	3436	Standard
	Cr	53	52766.8	2.5	**49.1681**	0.891	1.8	ug/L	325	Standard
	Mn	55	465136.4	0.4	**50.0150**	0.579	1.2	ug/L	949	Standard
	Co	59	283316.8	1.6	**49.5469**	0.294	0.6	ug/L	109	Standard
	Ni	60	111978.7	1.5	**49.9761**	0.240	0.5	ug/L	187	Standard
	Cu	65	111999.8	1.3	**51.0443**	0.165	0.3	ug/L	95	Standard
	Zn	66	64297.8	1.7	**52.3214**	1.036	2.0	ug/L	320	Standard
>	**Ge**	72	473766.1	1.6				ug/L	478028	Standard
	As	75	68827.1	1.1	**50.5995**	0.479	0.9	ug/L	-247	Standard
	Se	82	6827.0	2.8	**47.5017**	0.583	1.2	ug/L	-45	Standard
	Se-1	77	4799.4	2.1	**52.4400**	0.789	1.5	ug/L	101	Standard
>	**Ga**	71	50.0	36.1				mg/L	38	Standard
	Rb	85	970.0	8.0				ug/L	27	Standard
	Y	89	413744.8	2.2				ug/L	457712	Standard
>	**Rh**	103	31.7	48.2				ug/L	7	Standard
	Mo	98	315759.0	1.3	**117.1538**	2.100	1.8	ug/L	7	Standard
	Ag	107	301476.8	0.6	**52.6869**	0.544	1.0	ug/L	60	Standard
	Cd	111	102719.6	1.6	**51.6241**	0.371	0.7	mg/L	2	Standard
	Cd	114	269841.2	1.4	**51.5753**	0.412	0.8	ug/L	28	Standard
>	**In**	115	484340.9	1.0				ug/L	514607	Standard
	Sn	118	62830.7	2.9	**52.8823**	1.052	2.0	ug/L	125	Standard
	Sb	123	155211.0	0.7	**48.1675**	0.185	0.4	ug/L	14	Standard
	Ba	135	91743.6	0.9	**50.1783**	0.196	0.4	ug/L	10	Standard
	Ce	140	31.7	18.2				ug/L	25	Standard
>	**Tb**	159	583998.9	0.5				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	295293.6	1.5	**49.9210**	0.470	0.9	ug/L	4	Standard
	Tl	205	324219.6	1.8	**54.5632**	0.743	1.4	ug/L	0	Standard
	Pb	206	127852.8	0.5	**52.9061**	0.615	1.2	ug/L	113	Standard
	Pb	207	114055.7	1.1	**52.4750**	0.623	1.2	ug/L	88	Standard
	Pb	208	295311.5	1.0	**51.8404**	0.235	0.5	ug/L	233	Standard
	U	238	185522.0	1.3	**49.2450**	0.337	0.7	ug/L	1	Standard
>	**Bi**	209	290937.8	0.8				ug/L	321163	Standard

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	Na	23	10.0	50.0	**3.9701**	2.018	50.8	mg/L	2	Standard
	Mg	24	4359.0	4.7	**4.7640**	0.155	3.2	mg/L	48	Standard
	K	39	213.3	2.7	**3.0853**	0.137	4.4	mg/L	2	Standard
	Ca	43	81.7	9.4	**4.8475**	0.860	17.7	mg/L	38	Standard
	Fe	54	7943.4	2.0	**4.8822**	0.186	3.8	mg/L	218	Standard
	Fe	57	2451.9	3.0	**5.0303**	0.282	5.6	mg/L	283	Standard
>	**Sc-1**	45	42006.5	2.1				mg/L	46336	Standard
	Cl	35	7479.8	2.5				ug/L	7415	Standard
	Kr	83	92.7	9.0				ug/L	106	Standard
	Br	81	2470.2	5.0				ug/L	2367	Standard
	P	31	275493.8	0.6				ug/L	257843	Standard
	S	34	26147.5	1.8				ug/L	25966	Standard
	Sr	88	78.3	7.4				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	2.7	219.6				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	13.3	43.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		105.348	
	Be	9	98.519		
	Al	27	87.299		
	Sc	45			
	Ti	47	94.166		
	V	51	94.379		
	Cr	52	96.882		
	Cr	53			
	Mn	55	100.030		
	Co	59	99.094		
	Ni	60	99.952		
	Cu	65	102.089		
	Zn	66	104.643		
>	Ge	72		99.108	
	As	75	101.199		
	Se	82	95.003		
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98	117.154	
	Ag	107	105.374	
	Cd	111	103.248	
	Cd	114		
>	In	115		94.119
	Sn	118	105.765	
	Sb	123	96.335	
	Ba	135	100.357	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.842	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	103.681	
	U	238	98.490	
>	Bi	209		90.589
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 14:14:54
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	205256.4	2.2				ug/L	199689	Standard
	Be	9	51.7	40.3	**0.0153**	0.009	58.9	ug/L	22	Standard
	Al	27	2616.9	37.3	**0.0103**	0.005	47.1	ug/L	615	Standard
	Sc	45	39892.5	3.4				ug/L	46336	Standard
	Ti	47	22.3	56.9	**0.0013**	0.033	2534.9	ug/L	20	Standard
	V	51	838.7	7.2	**-0.0074**	0.010	131.6	ug/L	893	Standard
	Cr	52	3270.0	2.0	**-0.0238**	0.032	134.7	ug/L	3436	Standard
	Cr	53	233.3	12.9	**-0.0619**	0.017	27.1	ug/L	325	Standard
	Mn	55	948.7	9.6	**-0.0111**	0.004	39.7	ug/L	949	Standard
	Co	59	97.3	21.9	**-0.0048**	0.003	62.5	ug/L	109	Standard
	Ni	60	570.0	7.9	**0.1714**	0.007	4.2	ug/L	187	Standard
	Cu	65	282.7	5.7	**0.0795**	0.006	7.0	ug/L	95	Standard
	Zn	66	354.7	6.3	**-0.0453**	0.003	7.6	ug/L	320	Standard
>	**Ge**	72	462888.7	5.5				ug/L	478028	Standard
	As	75	-228.1	30.6	**0.0191**	0.054	282.1	ug/L	-247	Standard
	Se	82	-37.5	32.7	**0.0462**	0.088	191.1	ug/L	-45	Standard
	Se-1	77	90.0	4.0	**0.0088**	0.094	1071.8	ug/L	101	Standard
>	**Ga**	71	31.7	32.9				mg/L	38	Standard
	Rb	85	20.0	25.0				ug/L	27	Standard
	Y	89	398823.6	5.7				ug/L	457712	Standard
>	**Rh**	103	5.0	0.0				ug/L	7	Standard
	Mo	98	67.0	59.6	**0.0070**	0.014	197.2	ug/L	7	Standard
	Ag	107	73.0	48.6	**0.0012**	0.006	472.6	ug/L	60	Standard
	Cd	111	6.6	85.6	**-0.0023**	0.003	116.8	mg/L	2	Standard
	Cd	114	40.1	88.7	**-0.0049**	0.007	134.3	ug/L	28	Standard
>	**In**	115	464040.4	5.1				ug/L	514607	Standard
	Sn	118	120.0	18.8	**0.0022**	0.015	664.9	ug/L	125	Standard
	Sb	123	350.6	39.6	**0.1025**	0.039	37.8	ug/L	14	Standard
	Ba	135	13.3	95.6	**-0.0111**	0.007	60.8	ug/L	10	Standard
	Ce	140	11.7	24.7				ug/L	25	Standard
>	**Tb**	159	557273.9	5.4				ug/L	648946	Standard
	Ho	165	5.0	0.0				ug/L	2	Standard
	Tl	203	35.0	107.2	**0.0029**	0.006	206.6	ug/L	4	Standard
	Tl	205	25.0	103.9	**0.0021**	0.004	202.1	ug/L	0	Standard
	Pb	206	114.3	10.1	**0.0049**	0.003	66.6	ug/L	113	Standard
	Pb	207	88.7	24.3	**-0.0086**	0.008	92.9	ug/L	88	Standard
	Pb	208	263.3	11.1	**0.0031**	0.003	106.1	ug/L	233	Standard
	U	238	13.3	102.4	**-0.0001**	0.003	2901.9	ug/L	1	Standard
>	**Bi**	209	285515.2	5.1				ug/L	321163	Standard

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⌈	**Na**	23	1.7	173.2	**0.7212**	1.241	172.0	mg/L	2	Standard
|	**Mg**	24	65.0	13.3	**0.0423**	0.008	18.4	mg/L	48	Standard
|	**K**	39	3.3	173.2	**-0.0120**	0.087	722.0	mg/L	2	Standard
|	**Ca**	43	31.7	39.7	**0.3009**	1.341	445.6	mg/L	38	Standard
|	**Fe**	54	174.6	12.4	**0.0067**	0.012	176.0	mg/L	218	Standard
|	**Fe**	57	235.0	5.6	**-0.0101**	0.039	392.6	mg/L	283	Standard
⌊>	**Sc-1**	45	39892.5	3.4				mg/L	46336	Standard
	Cl	35	7497.2	1.6				ug/L	7415	Standard
	Kr	83	89.0	10.7				ug/L	106	Standard
	Br	81	2170.2	5.6				ug/L	2367	Standard
	P	31	234743.2	1.9				ug/L	257843	Standard
	S	34	25514.8	1.0				ug/L	25966	Standard
	Sr	88	100.0	18.0				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	12.7	117.1				mg/L	10	Standard
	Ho-1	165	5.0	0.0				mg/L	2	Standard
	Er	166	13.3	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		102.788	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		96.833	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.174
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.900
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1310186701
Sample Date/Time: Tuesday, November 05, 2013 14:18:19
Number of Replicates: 3
Autosampler Position: 301
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	220143.6	2.8				ug/L	199689	Standard
	Be	9	1236.7	3.8	**0.5206**	0.010	2.0	ug/L	22	Standard
	Al	27	1712351.9	1.9	**8.5134**	0.250	2.9	ug/L	615	Standard
	Sc	45	44440.1	1.1				ug/L	46336	Standard
	Ti	47	275.3	5.6	**0.6925**	0.058	8.4	ug/L	20	Standard
	V	51	2063.6	2.3	**0.2195**	0.003	1.1	ug/L	893	Standard
	Cr	52	3909.2	4.0	**0.0705**	0.019	27.1	ug/L	3436	Standard
	Cr	53	508.3	7.9	**0.1805**	0.046	25.6	ug/L	325	Standard
	Mn	55	46986.1	3.1	**4.8256**	0.034	0.7	ug/L	949	Standard
	Co	59	11467.3	1.6	**1.9363**	0.025	1.3	ug/L	109	Standard
	Ni	60	3903.5	1.9	**1.6144**	0.035	2.2	ug/L	187	Standard
	Cu	65	973.0	5.6	**0.3804**	0.013	3.5	ug/L	95	Standard
	Zn	66	5041.5	2.4	**3.6891**	0.152	4.1	ug/L	320	Standard
>	**Ge**	72	485434.8	2.5				ug/L	478028	Standard
	As	75	163.4	16.0	**0.3074**	0.016	5.1	ug/L	-247	Standard
	Se	82	-3.9	130.6	**0.2862**	0.035	12.2	ug/L	-45	Standard
	Se-1	77	116.3	8.6	**0.2464**	0.138	55.9	ug/L	101	Standard
>	**Ga**	71	90.0	22.2				mg/L	38	Standard
	Rb	85	10652.1	3.7				ug/L	27	Standard
	Y	89	455161.2	3.0				ug/L	457712	Standard
>	**Rh**	103	25.0	20.0				ug/L	7	Standard
	Mo	98	141.3	5.9	**0.0345**	0.004	10.9	ug/L	7	Standard
	Ag	107	64.0	5.6	**-0.0006**	0.001	110.0	ug/L	60	Standard
	Cd	111	30.4	15.2	**0.0097**	0.002	22.1	mg/L	2	Standard
	Cd	114	92.0	25.5	**0.0051**	0.005	92.6	ug/L	28	Standard
>	**In**	115	480145.5	1.2				ug/L	514607	Standard
	Sn	118	174.3	3.2	**0.0454**	0.006	14.0	ug/L	125	Standard
	Sb	123	202.7	12.5	**0.0537**	0.008	14.3	ug/L	14	Standard
	Ba	135	20264.2	1.2	**11.1657**	0.004	0.0	ug/L	10	Standard
	Ce	140	37384.4	0.9				ug/L	25	Standard
>	**Tb**	159	577979.0	2.1				ug/L	648946	Standard
	Ho	165	1400.1	7.5				ug/L	2	Standard
	Tl	203	178.0	1.5	**0.0270**	0.001	3.6	ug/L	4	Standard
	Tl	205	181.7	17.5	**0.0283**	0.005	18.4	ug/L	0	Standard
	Pb	206	2220.2	2.4	**0.8714**	0.021	2.4	ug/L	113	Standard
	Pb	207	1834.1	3.7	**0.7902**	0.026	3.3	ug/L	88	Standard
	Pb	208	4887.3	1.0	**0.8104**	0.024	2.9	ug/L	233	Standard
	U	238	324.0	1.9	**0.0819**	0.001	1.2	ug/L	1	Standard
>	**Bi**	209	292482.7	1.9				ug/L	321163	Standard

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	Na	23	16.7	34.6	**6.2240**	2.173	34.9	mg/L	2	Standard
	Mg	24	11969.7	2.8	**12.4199**	0.219	1.8	mg/L	48	Standard
	K	39	21.7	35.3	**0.2395**	0.105	43.7	mg/L	2	Standard
	Ca	43	111.7	22.1	**7.0782**	2.117	29.9	mg/L	38	Standard
	Fe	54	432.7	0.7	**0.1482**	0.001	0.7	mg/L	218	Standard
	Fe	57	340.0	3.9	**0.1583**	0.025	16.0	mg/L	283	Standard
>	**Sc-1**	45	44440.1	1.1				mg/L	46336	Standard
	Cl	35	7365.1	2.3				ug/L	7415	Standard
	Kr	83	91.7	4.4				ug/L	106	Standard
	Br	81	9109.4	1.2				ug/L	2367	Standard
	P	31	366437.0	1.3				ug/L	257843	Standard
	S	34	21785.7	2.6				ug/L	25966	Standard
	Sr	88	176.7	18.8				ug/L	92	Standard
	C	12	23.3	24.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	1984.4	5.8				mg/L	10	Standard
	Ho-1	165	1400.1	7.5				mg/L	2	Standard
	Er	166	1373.4	5.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.243	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.549	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.303
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.070
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310186702 WG451424-03
Sample Date/Time: Tuesday, November 05, 2013 14:21:23
Number of Replicates: 3
Autosampler Position: 302
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	221005.9	2.7				ug/L	199689	Standard
	Be	9	798.4	11.0	**0.3317**	0.035	10.5	ug/L	22	Standard
	Al	27	2593090.4	0.7	**12.8427**	0.246	1.9	ug/L	615	Standard
	Sc	45	46034.8	0.8				ug/L	46336	Standard
	Ti	47	876.4	6.6	**2.3678**	0.146	6.2	ug/L	20	Standard
	V	51	3568.5	0.5	**0.5171**	0.006	1.1	ug/L	893	Standard
	Cr	52	5155.2	4.3	**0.3319**	0.039	11.8	ug/L	3436	Standard
	Cr	53	913.4	3.1	**0.5615**	0.029	5.1	ug/L	325	Standard
	Mn	55	168575.8	1.8	**17.8494**	0.217	1.2	ug/L	949	Standard
	Co	59	16234.7	2.1	**2.7868**	0.045	1.6	ug/L	109	Standard
	Ni	60	4628.0	1.3	**1.9570**	0.015	0.8	ug/L	187	Standard
	Cu	65	1329.7	0.5	**0.5474**	0.006	1.2	ug/L	95	Standard
	Zn	66	8561.4	0.2	**6.5919**	0.048	0.7	ug/L	320	Standard
>	**Ge**	72	479052.9	0.6				ug/L	478028	Standard
	As	75	2105.6	2.8	**1.7158**	0.038	2.2	ug/L	-247	Standard
	Se	82	92.4	16.7	**0.9440**	0.102	10.8	ug/L	-45	Standard
	Se-1	77	141.0	8.5	**0.5323**	0.124	23.3	ug/L	101	Standard
>	**Ga**	71	131.7	32.7				mg/L	38	Standard
	Rb	85	14505.3	6.9				ug/L	27	Standard
	Y	89	465847.4	2.5				ug/L	457712	Standard
>	**Rh**	103	35.0	28.6				ug/L	7	Standard
	Mo	98	285.6	30.3	**0.0887**	0.030	34.1	ug/L	7	Standard
	Ag	107	99.7	52.4	**0.0056**	0.009	156.9	ug/L	60	Standard
	Cd	111	32.9	90.9	**0.0109**	0.015	135.4	mg/L	2	Standard
	Cd	114	136.6	54.8	**0.0136**	0.014	101.6	ug/L	28	Standard
>	**In**	115	477279.4	1.9				ug/L	514607	Standard
	Sn	118	251.7	4.9	**0.1124**	0.009	7.6	ug/L	125	Standard
	Sb	123	112.9	18.2	**0.0258**	0.006	22.2	ug/L	14	Standard
	Ba	135	13014.6	2.5	**7.2071**	0.056	0.8	ug/L	10	Standard
	Ce	140	12430.1	3.1				ug/L	25	Standard
>	**Tb**	159	576144.8	3.1				ug/L	648946	Standard
	Ho	165	2246.8	6.4				ug/L	2	Standard
	Tl	203	285.3	30.2	**0.0459**	0.013	29.2	ug/L	4	Standard
	Tl	205	283.3	24.0	**0.0462**	0.010	22.3	ug/L	0	Standard
	Pb	206	241.3	16.5	**0.0581**	0.014	24.1	ug/L	113	Standard
	Pb	207	187.3	14.7	**0.0376**	0.011	29.1	ug/L	88	Standard
	Pb	208	461.7	3.2	**0.0384**	0.002	4.1	ug/L	233	Standard
	U	238	505.0	2.5	**0.1327**	0.005	3.4	ug/L	1	Standard
>	**Bi**	209	286289.3	2.7				ug/L	321163	Standard

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	Na	23	33.3	31.2	**11.9843**	3.648	30.4	mg/L	2	Standard
	Mg	24	25428.0	2.5	**25.5127**	0.838	3.3	mg/L	48	Standard
	K	39	16.7	17.3	**0.1620**	0.037	22.8	mg/L	2	Standard
	Ca	43	111.7	5.2	**6.7468**	0.569	8.4	mg/L	38	Standard
	Fe	54	6595.4	2.5	**3.6708**	0.085	2.3	mg/L	218	Standard
	Fe	57	2000.1	2.2	**3.5949**	0.125	3.5	mg/L	283	Standard
>	**Sc-1**	45	46034.8	0.8				mg/L	46336	Standard
	Cl	35	7553.2	2.6				ug/L	7415	Standard
	Kr	83	100.0	11.3				ug/L	106	Standard
	Br	81	23848.8	2.2				ug/L	2367	Standard
	P	31	400374.6	1.0				ug/L	257843	Standard
	S	34	22441.6	2.0				ug/L	25966	Standard
	Sr	88	193.3	19.6				ug/L	92	Standard
	C	12	40.0	50.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	2814.2	10.5				mg/L	10	Standard
	Ho-1	165	2246.8	6.4				mg/L	2	Standard
	Er	166	2423.5	7.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.675	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		100.214	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.746
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.141
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1310186702 WG451424-03
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Method 6020 - Summary Report

Sample ID: L1310186703S WG451424-09
Sample Date/Time: Tuesday, November 05, 2013 14:24:28
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	215249.9	0.8				ug/L	199689	Standard
	Be	9	56237.5	1.8	**24.5910**	0.381	1.6	ug/L	22	Standard
	Al	27	2474541.3	0.5	**12.5797**	0.152	1.2	ug/L	615	Standard
	Sc	45	45750.7	1.9				ug/L	46336	Standard
	Ti	47	898.4	20.5	**2.4265**	0.465	19.2	ug/L	20	Standard
	V	51	125245.7	3.4	**24.1740**	0.485	2.0	ug/L	893	Standard
	Cr	52	122342.4	2.1	**23.9787**	0.054	0.2	ug/L	3436	Standard
	Cr	53	26598.3	1.5	**24.3976**	0.339	1.4	ug/L	325	Standard
	Mn	55	397130.4	2.4	**42.2517**	0.211	0.5	ug/L	949	Standard
	Co	59	158346.8	2.7	**27.4040**	0.307	1.1	ug/L	109	Standard
	Ni	60	59466.2	1.9	**26.2341**	0.319	1.2	ug/L	187	Standard
	Cu	65	55671.4	1.5	**25.0948**	0.326	1.3	ug/L	95	Standard
	Zn	66	40523.5	2.1	**32.5153**	0.430	1.3	ug/L	320	Standard
>	Ge	72	478536.9	2.0				ug/L	478028	Standard
	As	75	37350.4	2.2	**27.2711**	0.162	0.6	ug/L	-247	Standard
	Se	82	3524.1	4.5	**24.4246**	0.657	2.7	ug/L	-45	Standard
	Se-1	77	2528.5	2.8	**26.8687**	0.862	3.2	ug/L	101	Standard
>	Ga	71	123.3	10.2				mg/L	38	Standard
	Rb	85	13662.8	2.9				ug/L	27	Standard
	Y	89	455584.8	0.7				ug/L	457712	Standard
>	Rh	103	51.7	11.2				ug/L	7	Standard
	Mo	98	203.4	4.1	**0.0583**	0.002	3.4	ug/L	7	Standard
	Ag	107	146526.6	2.0	**26.0519**	0.233	0.9	ug/L	60	Standard
	Cd	111	50146.9	1.6	**25.6459**	0.061	0.2	mg/L	2	Standard
	Cd	114	128380.6	0.7	**24.9676**	0.255	1.0	ug/L	28	Standard
>	In	115	475926.1	1.5				ug/L	514607	Standard
	Sn	118	224.3	1.4	**0.0896**	0.005	5.3	ug/L	125	Standard
	Sb	123	76565.9	1.8	**24.1751**	0.101	0.4	ug/L	14	Standard
	Ba	135	57255.0	1.9	**31.8602**	0.156	0.5	ug/L	10	Standard
	Ce	140	12199.9	2.6				ug/L	25	Standard
>	Tb	159	572488.0	1.4				ug/L	648946	Standard
	Ho	165	2106.8	4.0				ug/L	2	Standard
	Tl	203	147191.2	2.7	**25.2377**	0.360	1.4	ug/L	4	Standard
	Tl	205	162215.9	2.9	**27.6879**	0.433	1.6	ug/L	0	Standard
	Pb	206	64864.6	2.0	**27.2034**	0.206	0.8	ug/L	113	Standard
	Pb	207	54844.8	1.7	**25.5699**	0.288	1.1	ug/L	88	Standard
	Pb	208	145224.5	1.7	**25.8376**	0.134	0.5	ug/L	233	Standard
	U	238	92069.9	1.2	**24.7898**	0.156	0.6	ug/L	1	Standard
>	Bi	209	286815.9	1.4				ug/L	321163	Standard

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	Na	23	25.0	40.0	**9.0676**	3.694	40.7	mg/L	2	Standard
	Mg	24	23989.0	0.7	**24.2164**	0.337	1.4	mg/L	48	Standard
	K	39	26.7	60.3	**0.3011**	0.224	74.3	mg/L	2	Standard
	Ca	43	126.7	23.1	**8.0729**	2.308	28.6	mg/L	38	Standard
	Fe	54	6027.8	1.3	**3.3678**	0.079	2.3	mg/L	218	Standard
	Fe	57	2033.5	3.5	**3.6904**	0.143	3.9	mg/L	283	Standard
>	**Sc-1**	45	45750.7	1.9				mg/L	46336	Standard
	Cl	35	7677.3	3.8				ug/L	7415	Standard
	Kr	83	110.3	10.6				ug/L	106	Standard
	Br	81	18281.0	1.7				ug/L	2367	Standard
	P	31	399845.8	0.9				ug/L	257843	Standard
	S	34	23121.0	3.4				ug/L	25966	Standard
	Sr	88	211.7	18.0				ug/L	92	Standard
	C	12	63.3	24.1				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	2928.5	6.0				mg/L	10	Standard
	Ho-1	165	2106.8	4.0				mg/L	2	Standard
	Er	166	2263.5	4.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		107.793	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		100.106	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1310186703S WG451424-09
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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.483
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.305
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1310186703S WG451424-09
Report Date/Time: Tuesday, November 05, 2013 14:26:41
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Method 6020 - Summary Report

Sample ID: L1310186704SD WG451424-10
Sample Date/Time: Tuesday, November 05, 2013 14:27:33
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	221259.5	2.5				ug/L	199689	Standard
	Be	9	58236.8	2.7	**24.7736**	0.220	0.9	ug/L	22	Standard
	Al	27	2496463.1	0.6	**12.3494**	0.236	1.9	ug/L	615	Standard
	Sc	45	45906.1	1.6				ug/L	46336	Standard
	Ti	47	660.0	7.3	**1.7907**	0.103	5.7	ug/L	20	Standard
	V	51	127796.6	3.0	**24.9613**	0.343	1.4	ug/L	893	Standard
	Cr	52	125268.3	2.8	**24.8624**	0.146	0.6	ug/L	3436	Standard
	Cr	53	27581.8	1.9	**25.6073**	0.115	0.4	ug/L	325	Standard
	Mn	55	405973.8	1.8	**43.7056**	0.281	0.6	ug/L	949	Standard
	Co	59	161894.2	3.0	**28.3443**	0.221	0.8	ug/L	109	Standard
	Ni	60	60403.5	1.7	**26.9640**	0.473	1.8	ug/L	187	Standard
	Cu	65	56890.0	2.5	**25.9424**	0.306	1.2	ug/L	95	Standard
	Zn	66	39576.3	1.7	**32.1234**	0.262	0.8	ug/L	320	Standard
>	**Ge**	72	473015.3	2.2				ug/L	478028	Standard
	As	75	37666.2	1.2	**27.8232**	0.279	1.0	ug/L	-247	Standard
	Se	82	3541.0	1.3	**24.8344**	0.330	1.3	ug/L	-45	Standard
	Se-1	77	2561.5	2.3	**27.5620**	0.674	2.4	ug/L	101	Standard
>	**Ga**	71	90.0	20.0				mg/L	38	Standard
	Rb	85	13429.3	2.7				ug/L	27	Standard
	Y	89	458205.9	1.3				ug/L	457712	Standard
>	**Rh**	103	38.3	19.9				ug/L	7	Standard
	Mo	98	326.0	75.3	**0.1044**	0.090	86.4	ug/L	7	Standard
	Ag	107	151380.3	1.7	**27.0956**	0.098	0.4	ug/L	60	Standard
	Cd	111	51329.6	3.1	**26.4215**	0.310	1.2	mg/L	2	Standard
	Cd	114	128962.1	2.3	**25.2459**	0.432	1.7	ug/L	28	Standard
>	**In**	115	472789.3	1.9				ug/L	514607	Standard
	Sn	118	234.0	4.8	**0.0993**	0.013	13.1	ug/L	125	Standard
	Sb	123	78465.2	2.6	**24.9382**	0.173	0.7	ug/L	14	Standard
	Ba	135	58035.0	1.7	**32.5113**	0.080	0.2	ug/L	10	Standard
	Ce	140	11431.0	1.9				ug/L	25	Standard
>	**Tb**	159	579359.2	2.8				ug/L	648946	Standard
	Ho	165	2158.5	5.0				ug/L	2	Standard
	Tl	203	150865.0	2.3	**25.8635**	0.264	1.0	ug/L	4	Standard
	Tl	205	164068.8	2.2	**28.0000**	0.218	0.8	ug/L	0	Standard
	Pb	206	66139.4	1.9	**27.7331**	0.059	0.2	ug/L	113	Standard
	Pb	207	56285.4	2.5	**26.2337**	0.162	0.6	ug/L	88	Standard
	Pb	208	148326.4	1.3	**26.3861**	0.195	0.7	ug/L	233	Standard
	U	238	93459.1	1.8	**25.1570**	0.060	0.2	ug/L	1	Standard
>	**Bi**	209	286890.3	1.9				ug/L	321163	Standard

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	Na	23	13.3	43.3	**4.8376**	2.171	44.9	mg/L	2	Standard
	Mg	24	24291.1	0.4	**24.4383**	0.370	1.5	mg/L	48	Standard
	K	39	23.3	53.9	**0.2538**	0.173	68.4	mg/L	2	Standard
	Ca	43	98.3	29.4	**5.6421**	2.578	45.7	mg/L	38	Standard
	Fe	54	6244.7	5.2	**3.4785**	0.133	3.8	mg/L	218	Standard
	Fe	57	1998.5	4.3	**3.6022**	0.157	4.3	mg/L	283	Standard
>	**Sc-1**	45	45906.1	1.6				mg/L	46336	Standard
	Cl	35	7530.5	3.4				ug/L	7415	Standard
	Kr	83	98.3	10.2				ug/L	106	Standard
	Br	81	17466.7	1.6				ug/L	2367	Standard
	P	31	405100.1	1.7				ug/L	257843	Standard
	S	34	22236.3	3.2				ug/L	25966	Standard
	Sr	88	180.0	5.6				ug/L	92	Standard
	C	12	73.3	28.4				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	2769.0	6.8				mg/L	10	Standard
	Ho-1	165	2158.5	5.0				mg/L	2	Standard
	Er	166	2183.5	3.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.802	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.951	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.874
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.329
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310186705
Sample Date/Time: Tuesday, November 05, 2013 14:30:37
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	213889.5	2.0				ug/L	199689	Standard
	Be	9	1326.7	5.1	**0.5755**	0.020	3.4	ug/L	22	Standard
	Al	27	16798323.8	1.2	**85.9712**	1.496	1.7	ug/L	615	Standard
	Sc	45	43308.5	0.3				ug/L	46336	Standard
	Ti	47	192.3	2.3	**0.4892**	0.007	1.5	ug/L	20	Standard
	V	51	1248.7	3.3	**0.0745**	0.005	6.9	ug/L	893	Standard
	Cr	52	4906.8	1.6	**0.3148**	0.004	1.3	ug/L	3436	Standard
	Cr	53	558.3	10.4	**0.2497**	0.058	23.2	ug/L	325	Standard
	Mn	55	525034.4	2.7	**57.6886**	0.856	1.5	ug/L	949	Standard
	Co	59	26708.2	3.4	**4.7515**	0.100	2.1	ug/L	109	Standard
	Ni	60	6228.6	0.5	**2.7564**	0.036	1.3	ug/L	187	Standard
	Cu	65	2356.9	1.9	**1.0463**	0.035	3.3	ug/L	95	Standard
	Zn	66	11130.8	2.6	**8.9706**	0.115	1.3	ug/L	320	Standard
>	**Ge**	72	463681.0	1.4				ug/L	478028	Standard
	As	75	-109.1	50.6	**0.1095**	0.040	36.4	ug/L	-247	Standard
	Se	82	6.7	119.8	**0.3603**	0.057	15.7	ug/L	-45	Standard
	Se-1	77	128.0	6.8	**0.4373**	0.119	27.2	ug/L	101	Standard
>	**Ga**	71	181.7	15.7				mg/L	38	Standard
	Rb	85	19839.7	3.7				ug/L	27	Standard
	Y	89	656396.7	3.0				ug/L	457712	Standard
>	**Rh**	103	40.0	33.1				ug/L	7	Standard
	Mo	98	214.4	3.9	**0.0650**	0.005	7.6	ug/L	7	Standard
	Ag	107	91.3	25.7	**0.0047**	0.004	83.3	ug/L	60	Standard
	Cd	111	53.7	33.6	**0.0225**	0.009	40.0	mg/L	2	Standard
	Cd	114	139.4	16.1	**0.0152**	0.004	27.9	ug/L	28	Standard
>	**In**	115	462293.8	2.0				ug/L	514607	Standard
	Sn	118	146.3	11.0	**0.0261**	0.012	45.0	ug/L	125	Standard
	Sb	123	88.0	4.7	**0.0189**	0.002	10.2	ug/L	14	Standard
	Ba	135	13433.6	1.3	**7.6830**	0.098	1.3	ug/L	10	Standard
	Ce	140	75996.8	1.5				ug/L	25	Standard
>	**Tb**	159	574309.1	1.8				ug/L	648946	Standard
	Ho	165	9986.6	3.7				ug/L	2	Standard
	Tl	203	355.3	5.6	**0.0605**	0.002	3.7	ug/L	4	Standard
	Tl	205	383.3	10.6	**0.0661**	0.008	12.5	ug/L	0	Standard
	Pb	206	225.7	7.0	**0.0554**	0.005	9.1	ug/L	113	Standard
	Pb	207	193.7	15.2	**0.0441**	0.012	28.3	ug/L	88	Standard
	Pb	208	547.3	3.5	**0.0575**	0.003	4.7	ug/L	233	Standard
	U	238	2336.2	3.7	**0.6511**	0.013	2.0	ug/L	1	Standard
>	**Bi**	209	275518.8	2.1				ug/L	321163	Standard

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	Na	23	50.0	60.8	**19.1305**	11.636	60.8	mg/L	2	Standard
	Mg	24	51059.2	0.9	**54.4823**	0.528	1.0	mg/L	48	Standard
	K	39	28.3	53.9	**0.3431**	0.218	63.7	mg/L	2	Standard
	Ca	43	230.0	5.8	**18.1670**	1.161	6.4	mg/L	38	Standard
	Fe	54	805.7	7.5	**0.3821**	0.037	9.8	mg/L	218	Standard
	Fe	57	466.7	5.1	**0.4582**	0.050	10.9	mg/L	283	Standard
>	**Sc-1**	45	43308.5	0.3				mg/L	46336	Standard
	Cl	35	8663.1	0.8				ug/L	7415	Standard
	Kr	83	129.7	5.1				ug/L	106	Standard
	Br	81	10066.7	2.7				ug/L	2367	Standard
	P	31	335725.5	2.7				ug/L	257843	Standard
	S	34	21508.6	1.8				ug/L	25966	Standard
	Sr	88	271.7	20.2				ug/L	92	Standard
	C	12	46.7	49.5				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	11853.7	4.6				mg/L	10	Standard
	Ho-1	165	9986.6	3.7				mg/L	2	Standard
	Er	166	10326.9	4.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		107.111	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		96.999	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.834
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.788
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310186706
Sample Date/Time: Tuesday, November 05, 2013 14:33:42
Number of Replicates: 3
Autosampler Position: 306
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	211831.6	3.3				ug/L	199689	Standard
	Be	9	1355.1	2.9	**0.5947**	0.033	5.5	ug/L	22	Standard
	Al	27	16238681.4	0.7	**83.9470**	2.167	2.6	ug/L	615	Standard
	Sc	45	43273.4	1.2				ug/L	46336	Standard
	Ti	47	177.0	12.0	**0.4456**	0.048	10.8	ug/L	20	Standard
	V	51	1150.2	9.0	**0.0551**	0.017	30.8	ug/L	893	Standard
	Cr	52	4629.4	3.7	**0.2590**	0.022	8.6	ug/L	3436	Standard
	Cr	53	605.0	6.8	**0.2963**	0.052	17.6	ug/L	325	Standard
	Mn	55	503280.4	1.2	**55.4344**	1.115	2.0	ug/L	949	Standard
	Co	59	25094.8	3.5	**4.4730**	0.076	1.7	ug/L	109	Standard
	Ni	60	5776.8	3.1	**2.5551**	0.015	0.6	ug/L	187	Standard
	Cu	65	2048.5	1.7	**0.9044**	0.009	1.0	ug/L	95	Standard
	Zn	66	10385.6	2.1	**8.3702**	0.283	3.4	ug/L	320	Standard
>	**Ge**	72	462697.0	2.6				ug/L	478028	Standard
	As	75	-143.0	20.1	**0.0832**	0.024	28.9	ug/L	-247	Standard
	Se	82	-1.2	1415.2	**0.3026**	0.122	40.3	ug/L	-45	Standard
	Se-1	77	130.7	6.9	**0.4713**	0.129	27.3	ug/L	101	Standard
>	**Ga**	71	140.0	14.3				mg/L	38	Standard
	Rb	85	19427.4	1.4				ug/L	27	Standard
	Y	89	642346.7	1.3				ug/L	457712	Standard
>	**Rh**	103	51.7	39.1				ug/L	7	Standard
	Mo	98	173.4	1.7	**0.0497**	0.001	1.4	ug/L	7	Standard
	Ag	107	58.7	8.7	**-0.0010**	0.001	114.6	ug/L	60	Standard
	Cd	111	50.7	5.2	**0.0213**	0.002	7.4	mg/L	2	Standard
	Cd	114	162.5	7.8	**0.0203**	0.003	14.9	ug/L	28	Standard
>	**In**	115	457086.3	2.4				ug/L	514607	Standard
	Sn	118	156.0	6.2	**0.0366**	0.011	30.7	ug/L	125	Standard
	Sb	123	69.7	14.0	**0.0132**	0.003	21.1	ug/L	14	Standard
	Ba	135	12937.2	2.0	**7.4827**	0.075	1.0	ug/L	10	Standard
	Ce	140	73363.9	2.3				ug/L	25	Standard
>	**Tb**	159	566220.1	2.5				ug/L	648946	Standard
	Ho	165	9554.7	0.3				ug/L	2	Standard
	Tl	203	329.3	5.8	**0.0558**	0.005	8.4	ug/L	4	Standard
	Tl	205	403.3	8.1	**0.0694**	0.005	7.1	ug/L	0	Standard
	Pb	206	214.0	10.3	**0.0500**	0.008	16.1	ug/L	113	Standard
	Pb	207	176.7	6.2	**0.0358**	0.006	16.3	ug/L	88	Standard
	Pb	208	473.7	2.1	**0.0437**	0.004	8.5	ug/L	233	Standard
	U	238	2194.8	2.3	**0.6103**	0.014	2.3	ug/L	1	Standard
>	**Bi**	209	276182.3	2.8				ug/L	321163	Standard

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	Na	23	40.0	43.3	**15.2665**	6.493	42.5	mg/L	2	Standard
	Mg	24	49504.1	2.8	**52.8671**	1.471	2.8	mg/L	48	Standard
	K	39	35.0	28.6	**0.4379**	0.138	31.4	mg/L	2	Standard
	Ca	43	265.0	10.5	**21.4047**	2.758	12.9	mg/L	38	Standard
	Fe	54	704.5	6.5	**0.3206**	0.024	7.4	mg/L	218	Standard
	Fe	57	485.0	6.3	**0.4995**	0.060	12.1	mg/L	283	Standard
>	**Sc-1**	45	43273.4	1.2				mg/L	46336	Standard
	Cl	35	8860.6	2.3				ug/L	7415	Standard
	Kr	83	135.3	7.8				ug/L	106	Standard
	Br	81	12675.3	2.5				ug/L	2367	Standard
	P	31	325636.2	1.9				ug/L	257843	Standard
	S	34	21455.2	0.7				ug/L	25966	Standard
	Sr	88	241.7	3.2				ug/L	92	Standard
	C	12	53.3	39.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	11424.0	2.2				mg/L	10	Standard
	Ho-1	165	9554.7	0.3				mg/L	2	Standard
	Er	166	10103.4	1.5				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.081	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		96.793	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.822
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.994
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174814
Sample Date/Time: Tuesday, November 05, 2013 14:36:46
Number of Replicates: 3
Autosampler Position: 307
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	215243.9	2.9				ug/L	199689	Standard
	Be	9	35.0	14.3	**0.0071**	0.002	34.6	ug/L	22	Standard
	Al	27	576759.4	2.8	**2.9296**	0.050	1.7	ug/L	615	Standard
	Sc	45	41324.7	5.9				ug/L	46336	Standard
	Ti	47	223.0	10.7	**0.5619**	0.075	13.4	ug/L	20	Standard
	V	51	1169.3	8.6	**0.0525**	0.014	26.6	ug/L	893	Standard
	Cr	52	3963.5	3.2	**0.0978**	0.007	6.8	ug/L	3436	Standard
	Cr	53	378.3	12.2	**0.0691**	0.052	75.4	ug/L	325	Standard
	Mn	55	56062.6	2.9	**5.9036**	0.017	0.3	ug/L	949	Standard
	Co	59	441.7	5.1	**0.0548**	0.003	5.5	ug/L	109	Standard
	Ni	60	957.0	6.4	**0.3368**	0.014	4.2	ug/L	187	Standard
	Cu	65	440.0	9.5	**0.1472**	0.014	9.6	ug/L	95	Standard
	Zn	66	2440.9	5.3	**1.6481**	0.045	2.7	ug/L	320	Standard
>	**Ge**	72	475547.6	3.2				ug/L	478028	Standard
	As	75	-180.4	10.9	**0.0595**	0.010	17.3	ug/L	-247	Standard
	Se	82	-33.4	30.0	**0.0834**	0.064	76.5	ug/L	-45	Standard
	Se-1	77	103.3	7.8	**0.1282**	0.120	93.3	ug/L	101	Standard
>	**Ga**	71	70.0	37.1				mg/L	38	Standard
	Rb	85	4223.9	3.1				ug/L	27	Standard
	Y	89	413645.0	4.2				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	28.4	18.3	**-0.0077**	0.002	28.9	ug/L	7	Standard
	Ag	107	62.0	18.2	**-0.0009**	0.002	186.8	ug/L	60	Standard
	Cd	111	4.6	25.1	**-0.0033**	0.001	15.9	mg/L	2	Standard
	Cd	114	23.2	33.0	**-0.0082**	0.001	18.2	ug/L	28	Standard
>	**In**	115	475515.3	2.5				ug/L	514607	Standard
	Sn	118	130.3	4.5	**0.0089**	0.002	26.1	ug/L	125	Standard
	Sb	123	39.0	19.4	**0.0025**	0.002	83.2	ug/L	14	Standard
	Ba	135	5655.1	1.2	**3.1337**	0.041	1.3	ug/L	10	Standard
	Ce	140	3010.3	5.5				ug/L	25	Standard
>	**Tb**	159	576237.5	2.0				ug/L	648946	Standard
	Ho	165	31.7	50.8				ug/L	2	Standard
	Tl	203	27.0	7.4	**0.0016**	0.000	18.6	ug/L	4	Standard
	Tl	205	33.3	37.7	**0.0034**	0.002	57.4	ug/L	0	Standard
	Pb	206	216.3	5.6	**0.0457**	0.007	14.5	ug/L	113	Standard
	Pb	207	180.7	2.3	**0.0327**	0.004	12.2	ug/L	88	Standard
	Pb	208	452.7	10.5	**0.0348**	0.006	18.0	ug/L	233	Standard
	U	238	21.3	63.3	**0.0020**	0.004	179.0	ug/L	1	Standard
>	**Bi**	209	293230.9	2.6				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	628.3	14.7	**0.6678**	0.064	9.6	mg/L	48	Standard
K	39	10.0	50.0	**0.0853**	0.066	77.6	mg/L	2	Standard
Ca	43	28.3	53.9	**-0.1132**	1.524	1346.3	mg/L	38	Standard
Fe	54	355.8	5.4	**0.1190**	0.018	15.1	mg/L	218	Standard
Fe	57	251.7	19.6	**0.0068**	0.098	1453.5	mg/L	283	Standard
> **Sc-1**	45	41324.7	5.9				mg/L	46336	Standard
Cl	35	7235.1	1.0				ug/L	7415	Standard
Kr	83	93.3	13.8				ug/L	106	Standard
Br	81	4374.0	6.6				ug/L	2367	Standard
P	31	303142.6	0.7				ug/L	257843	Standard
S	34	23202.8	1.5				ug/L	25966	Standard
Sr	88	83.3	29.6				ug/L	92	Standard
C	12	6.7	86.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	85.1	12.8				mg/L	10	Standard
Ho-1	165	31.7	50.8				mg/L	2	Standard
Er	166	33.3	45.8				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		107.790	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		99.481	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.404
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.303
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174817
Sample Date/Time: Tuesday, November 05, 2013 14:39:51
Number of Replicates: 3
Autosampler Position: 308
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	217724.4	3.4				ug/L	199689	Standard
	Be	9	48.3	6.0	**0.0126**	0.001	5.2	ug/L	22	Standard
	Al	27	742948.2	3.1	**3.7315**	0.025	0.7	ug/L	615	Standard
	Sc	45	43189.8	2.7				ug/L	46336	Standard
	Ti	47	242.0	12.2	**0.6151**	0.075	12.2	ug/L	20	Standard
	V	51	1196.7	4.0	**0.0585**	0.004	6.8	ug/L	893	Standard
	Cr	52	3885.2	3.0	**0.0834**	0.005	6.4	ug/L	3436	Standard
	Cr	53	315.0	16.7	**0.0087**	0.040	461.1	ug/L	325	Standard
	Mn	55	49384.5	4.4	**5.1949**	0.072	1.4	ug/L	949	Standard
	Co	59	306.7	9.8	**0.0314**	0.005	17.4	ug/L	109	Standard
	Ni	60	957.7	1.9	**0.3383**	0.010	2.8	ug/L	187	Standard
	Cu	65	529.7	7.8	**0.1884**	0.012	6.2	ug/L	95	Standard
	Zn	66	2573.9	3.8	**1.7612**	0.017	1.0	ug/L	320	Standard
>	**Ge**	72	474649.4	3.1				ug/L	478028	Standard
	As	75	-177.8	23.1	**0.0608**	0.030	48.9	ug/L	-247	Standard
	Se	82	-32.6	43.4	**0.0896**	0.090	100.8	ug/L	-45	Standard
	Se-1	77	94.3	15.4	**0.0285**	0.162	568.2	ug/L	101	Standard
>	**Ga**	71	70.0	12.4				mg/L	38	Standard
	Rb	85	4115.6	8.3				ug/L	27	Standard
	Y	89	414557.4	3.5				ug/L	457712	Standard
>	**Rh**	103	15.0	88.2				ug/L	7	Standard
	Mo	98	37.8	18.5	**-0.0044**	0.003	63.9	ug/L	7	Standard
	Ag	107	58.7	14.5	**-0.0016**	0.001	85.9	ug/L	60	Standard
	Cd	111	5.3	61.0	**-0.0030**	0.002	56.1	mg/L	2	Standard
	Cd	114	35.8	62.7	**-0.0058**	0.004	75.8	ug/L	28	Standard
>	**In**	115	482459.0	2.1				ug/L	514607	Standard
	Sn	118	156.7	14.6	**0.0296**	0.018	61.8	ug/L	125	Standard
	Sb	123	34.2	16.8	**0.0009**	0.002	174.4	ug/L	14	Standard
	Ba	135	6968.9	3.3	**3.8088**	0.051	1.3	ug/L	10	Standard
	Ce	140	2011.8	4.3				ug/L	25	Standard
>	**Tb**	159	573940.3	3.5				ug/L	648946	Standard
	Ho	165	43.3	13.3				ug/L	2	Standard
	Tl	203	14.7	23.9	**-0.0005**	0.001	129.0	ug/L	4	Standard
	Tl	205	18.3	31.5	**0.0009**	0.001	94.8	ug/L	0	Standard
	Pb	206	182.3	13.8	**0.0312**	0.008	26.9	ug/L	113	Standard
	Pb	207	140.7	3.6	**0.0141**	0.002	17.4	ug/L	88	Standard
	Pb	208	386.0	8.1	**0.0230**	0.005	22.9	ug/L	233	Standard
	U	238	10.3	31.1	**-0.0009**	0.001	101.7	ug/L	1	Standard
>	**Bi**	209	294410.3	2.5				ug/L	321163	Standard

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	Na	23	5.0	100.0	**1.9583**	1.978	101.0	mg/L	2	Standard
	Mg	24	881.7	9.7	**0.9131**	0.118	12.9	mg/L	48	Standard
	K	39	10.0	86.6	**0.0831**	0.126	151.4	mg/L	2	Standard
	Ca	43	31.7	18.2	**0.0452**	0.553	1224.2	mg/L	38	Standard
	Fe	54	363.0	6.8	**0.1134**	0.020	17.8	mg/L	218	Standard
	Fe	57	288.3	8.2	**0.0660**	0.071	107.4	mg/L	283	Standard
>	**Sc-1**	45	43189.8	2.7				mg/L	46336	Standard
	Cl	35	7388.5	3.1				ug/L	7415	Standard
	Kr	83	92.3	12.3				ug/L	106	Standard
	Br	81	3190.3	4.9				ug/L	2367	Standard
	P	31	310908.3	1.9				ug/L	257843	Standard
	S	34	23746.9	0.7				ug/L	25966	Standard
	Sr	88	73.3	3.9				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	72.1	15.7				mg/L	10	Standard
	Ho-1	165	43.3	13.3				mg/L	2	Standard
	Er	166	26.7	43.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		109.032	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.293	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.753
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.670
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174820
Sample Date/Time: Tuesday, November 05, 2013 14:42:55
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	212278.9	2.4				ug/L	199689	Standard
	Be	9	36.7	43.8	**0.0081**	0.008	93.5	ug/L	22	Standard
	Al	27	7552.1	40.3	**0.0353**	0.016	43.9	ug/L	615	Standard
	Sc	45	40641.2	4.1				ug/L	46336	Standard
	Ti	47	26.7	15.6	**0.0149**	0.011	70.5	ug/L	20	Standard
	V	51	1001.1	3.3	**0.0262**	0.008	31.6	ug/L	893	Standard
	Cr	52	3888.8	0.9	**0.1086**	0.030	27.7	ug/L	3436	Standard
	Cr	53	195.0	11.2	**-0.0975**	0.015	15.1	ug/L	325	Standard
	Mn	55	1791.8	1.1	**0.0832**	0.009	10.5	ug/L	949	Standard
	Co	59	104.0	16.1	**-0.0034**	0.003	83.6	ug/L	109	Standard
	Ni	60	572.7	5.8	**0.1743**	0.018	10.5	ug/L	187	Standard
	Cu	65	644.3	3.3	**0.2497**	0.005	2.0	ug/L	95	Standard
	Zn	66	4378.0	1.2	**3.3458**	0.086	2.6	ug/L	320	Standard
>	**Ge**	72	460801.8	3.6				ug/L	478028	Standard
	As	75	-251.3	24.6	**0.0015**	0.047	3129.1	ug/L	-247	Standard
	Se	82	-32.5	3.9	**0.0818**	0.009	11.1	ug/L	-45	Standard
	Se-1	77	96.0	5.4	**0.0810**	0.095	116.9	ug/L	101	Standard
>	**Ga**	71	25.0	52.9				mg/L	38	Standard
	Rb	85	46.7	30.9				ug/L	27	Standard
	Y	89	413545.0	4.0				ug/L	457712	Standard
>	**Rh**	103	10.0	100.0				ug/L	7	Standard
	Mo	98	23.2	36.1	**-0.0097**	0.003	29.5	ug/L	7	Standard
	Ag	107	74.7	17.2	**0.0015**	0.002	142.0	ug/L	60	Standard
	Cd	111	6.3	78.4	**-0.0024**	0.003	107.6	mg/L	2	Standard
	Cd	114	38.4	30.6	**-0.0051**	0.003	49.8	ug/L	28	Standard
>	**In**	115	470224.9	3.5				ug/L	514607	Standard
	Sn	118	183.3	4.6	**0.0563**	0.005	9.3	ug/L	125	Standard
	Sb	123	47.2	63.9	**0.0053**	0.010	182.8	ug/L	14	Standard
	Ba	135	443.3	8.8	**0.2310**	0.014	5.9	ug/L	10	Standard
	Ce	140	36.7	7.9				ug/L	25	Standard
>	**Tb**	159	566566.4	2.6				ug/L	648946	Standard
	Ho	165	8.3	91.7				ug/L	2	Standard
	Tl	203	7.0	37.8	**-0.0017**	0.000	22.8	ug/L	4	Standard
	Tl	205	28.3	127.7	**0.0028**	0.006	226.5	ug/L	0	Standard
	Pb	206	120.7	6.7	**0.0075**	0.002	22.0	ug/L	113	Standard
	Pb	207	95.7	9.7	**-0.0052**	0.002	47.1	ug/L	88	Standard
	Pb	208	278.3	16.0	**0.0057**	0.008	143.1	ug/L	233	Standard
	U	238	12.7	152.7	**-0.0002**	0.005	3120.6	ug/L	1	Standard
>	**Bi**	209	286413.7	4.1				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	316.7	11.2	**0.3287**	0.053	16.2	mg/L	48	Standard
K	39	1.7	173.2	**-0.0362**	0.045	123.9	mg/L	2	Standard
Ca	43	13.3	43.3	**-1.5557**	0.589	37.9	mg/L	38	Standard
Fe	54	210.7	19.4	**0.0281**	0.026	93.2	mg/L	218	Standard
Fe	57	206.7	7.0	**-0.0880**	0.028	31.5	mg/L	283	Standard
Sc-1	45	40641.2	4.1				mg/L	46336	Standard
Cl	35	7756.7	1.8				ug/L	7415	Standard
Kr	83	83.0	6.3				ug/L	106	Standard
Br	81	2600.2	3.1				ug/L	2367	Standard
P	31	286062.0	0.8				ug/L	257843	Standard
S	34	25135.8	1.0				ug/L	25966	Standard
Sr	88	78.3	31.5				ug/L	92	Standard
C	12	10.0	100.0				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	12.7	43.3				mg/L	10	Standard
Ho-1	165	8.3	91.7				mg/L	2	Standard
Er	166	13.3	43.3				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		106.305	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		96.396	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.376
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.180
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310174823
Sample Date/Time: Tuesday, November 05, 2013 14:46:00
Number of Replicates: 3
Autosampler Position: 310
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	208279.3	3.0				ug/L	199689	Standard
	Be	9	40.0	54.5	**0.0096**	0.009	95.1	ug/L	22	Standard
	Al	27	32690.2	2.5	**0.1682**	0.001	0.5	ug/L	615	Standard
	Sc	45	40671.2	3.0				ug/L	46336	Standard
	Ti	47	26.0	17.6	**0.0122**	0.011	86.6	ug/L	20	Standard
	V	51	1079.2	3.2	**0.0401**	0.012	31.1	ug/L	893	Standard
	Cr	52	4031.9	1.3	**0.1305**	0.023	17.3	ug/L	3436	Standard
	Cr	53	283.3	8.9	**-0.0141**	0.031	218.5	ug/L	325	Standard
	Mn	55	4153.9	5.4	**0.3402**	0.011	3.2	ug/L	949	Standard
	Co	59	117.7	2.1	**-0.0011**	0.001	100.4	ug/L	109	Standard
	Ni	60	661.7	6.8	**0.2126**	0.027	12.5	ug/L	187	Standard
	Cu	65	667.3	3.1	**0.2575**	0.002	0.9	ug/L	95	Standard
	Zn	66	2198.8	2.1	**1.4924**	0.024	1.6	ug/L	320	Standard
>	**Ge**	72	465102.5	3.4				ug/L	478028	Standard
	As	75	-238.4	14.0	**0.0133**	0.021	154.4	ug/L	-247	Standard
	Se	82	-40.9	26.1	**0.0262**	0.067	253.7	ug/L	-45	Standard
	Se-1	77	96.3	2.2	**0.0732**	0.039	53.4	ug/L	101	Standard
>	**Ga**	71	23.3	81.1				mg/L	38	Standard
	Rb	85	90.0	29.4				ug/L	27	Standard
	Y	89	404860.3	4.1				ug/L	457712	Standard
>	**Rh**	103	8.3	34.6				ug/L	7	Standard
	Mo	98	27.2	31.7	**-0.0081**	0.003	36.5	ug/L	7	Standard
	Ag	107	62.0	19.6	**-0.0007**	0.002	334.8	ug/L	60	Standard
	Cd	111	11.6	13.1	**0.0003**	0.001	223.5	mg/L	2	Standard
	Cd	114	59.3	38.5	**-0.0009**	0.005	531.9	ug/L	28	Standard
>	**In**	115	471415.8	3.4				ug/L	514607	Standard
	Sn	118	149.0	13.0	**0.0260**	0.015	58.5	ug/L	125	Standard
	Sb	123	29.1	4.0	**-0.0005**	0.000	92.3	ug/L	14	Standard
	Ba	135	489.3	6.1	**0.2564**	0.007	2.8	ug/L	10	Standard
	Ce	140	211.7	13.4				ug/L	25	Standard
>	**Tb**	159	560405.6	3.9				ug/L	648946	Standard
	Ho	165	3.3	86.6				ug/L	2	Standard
	Tl	203	10.0		**-0.0012**	0.000	6.0	ug/L	4	Standard
	Tl	205	13.3	57.3	**0.0002**	0.001	814.6	ug/L	0	Standard
	Pb	206	135.0	3.2	**0.0136**	0.003	25.3	ug/L	113	Standard
	Pb	207	118.7	8.5	**0.0055**	0.003	61.5	ug/L	88	Standard
	Pb	208	307.0	5.4	**0.0107**	0.001	6.5	ug/L	233	Standard
	U	238	5.7	44.4	**-0.0021**	0.001	34.4	ug/L	1	Standard
>	**Bi**	209	286540.7	4.3				ug/L	321163	Standard

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	Na	23	6.7	43.3	**2.7439**	1.271	46.3	mg/L	2	Standard
	Mg	24	306.7	2.5	**0.3158**	0.009	2.9	mg/L	48	Standard
	K	39	1.7	173.2	**-0.0359**	0.045	126.6	mg/L	2	Standard
	Ca	43	25.0	40.0	**-0.4188**	0.989	236.2	mg/L	38	Standard
	Fe	54	207.4	32.3	**0.0252**	0.040	156.7	mg/L	218	Standard
	Fe	57	220.0	14.2	**-0.0552**	0.088	159.3	mg/L	283	Standard
>	**Sc-1**	45	40671.2	3.0				mg/L	46336	Standard
	Cl	35	7851.4	2.2				ug/L	7415	Standard
	Kr	83	92.3	18.6				ug/L	106	Standard
	Br	81	2513.5	9.3				ug/L	2367	Standard
	P	31	282151.9	2.0				ug/L	257843	Standard
	S	34	24823.7	1.2				ug/L	25966	Standard
	Sr	88	83.3	40.0				ug/L	92	Standard
	C	12	20.0	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0					mg/L	0	Standard
	Dy	164	3.2	186.4				mg/L	10	Standard
	Ho-1	165	3.3	86.6				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.302	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		97.296	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.607
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.220
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 14:49:06
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	206971.2	2.4				ug/L	199689	Standard
	Be	9	107312.1	2.1	**48.8142**	0.479	1.0	ug/L	22	Standard
	Al	27	8301610.0	2.8	**43.8941**	0.153	0.3	ug/L	615	Standard
	Sc	45	41620.5	2.9				ug/L	46336	Standard
	Ti	47	33200.4	2.6	**94.9269**	0.889	0.9	ug/L	20	Standard
	V	51	235067.3	3.2	**46.9234**	0.017	0.0	ug/L	893	Standard
	Cr	52	234133.7	2.7	**47.9812**	0.329	0.7	ug/L	3436	Standard
	Cr	53	51253.3	3.1	**48.7353**	1.405	2.9	ug/L	325	Standard
	Mn	55	457730.9	3.2	**50.2077**	0.047	0.1	ug/L	949	Standard
	Co	59	279160.5	3.4	**49.8092**	0.896	1.8	ug/L	109	Standard
	Ni	60	107533.0	2.2	**48.9743**	0.951	1.9	ug/L	187	Standard
	Cu	65	107064.7	2.2	**49.7910**	0.794	1.6	ug/L	95	Standard
	Zn	66	62009.0	2.7	**51.4727**	0.299	0.6	ug/L	320	Standard
>	**Ge**	72	464391.5	3.2				ug/L	478028	Standard
	As	75	67345.1	2.8	**50.5114**	0.244	0.5	ug/L	-247	Standard
	Se	82	6658.3	3.1	**47.2723**	0.074	0.2	ug/L	-45	Standard
	Se-1	77	4654.7	2.2	**51.8908**	0.962	1.9	ug/L	101	Standard
>	**Ga**	71	53.3	14.3				mg/L	38	Standard
	Rb	85	986.7	4.1				ug/L	27	Standard
	Y	89	402267.8	1.7				ug/L	457712	Standard
>	**Rh**	103	28.3	53.9				ug/L	7	Standard
	Mo	98	310263.6	2.6	**118.8044**	0.897	0.8	ug/L	7	Standard
	Ag	107	297325.7	3.3	**53.6215**	0.573	1.1	ug/L	60	Standard
	Cd	111	100651.0	2.4	**52.2124**	0.180	0.3	mg/L	2	Standard
	Cd	114	260019.0	2.1	**51.2980**	0.088	0.2	ug/L	28	Standard
>	**In**	115	469252.3	2.3				ug/L	514607	Standard
	Sn	118	60818.2	0.5	**52.8564**	1.045	2.0	ug/L	125	Standard
	Sb	123	152321.0	2.8	**48.7860**	0.246	0.5	ug/L	14	Standard
	Ba	135	89320.9	1.4	**50.4309**	0.509	1.0	ug/L	10	Standard
	Ce	140	71.7	4.0				ug/L	25	Standard
>	**Tb**	159	571100.2	3.0				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	291487.2	2.4	**50.6560**	0.385	0.8	ug/L	4	Standard
	Tl	205	317083.6	4.0	**54.8376**	0.715	1.3	ug/L	0	Standard
	Pb	206	124708.4	2.8	**53.0390**	0.209	0.4	ug/L	113	Standard
	Pb	207	111649.7	2.2	**52.8041**	0.514	1.0	ug/L	88	Standard
	Pb	208	288193.5	2.2	**52.0066**	0.446	0.9	ug/L	233	Standard
	U	238	182972.8	2.2	**49.9289**	0.469	0.9	ug/L	1	Standard
>	**Bi**	209	283071.1	3.1				ug/L	321163	Standard

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	Na	23	10.0	50.0	**4.0125**	2.043	50.9	mg/L	2	Standard
	Mg	24	4277.3	4.0	**4.7189**	0.129	2.7	mg/L	48	Standard
	K	39	175.0	13.1	**2.5404**	0.309	12.2	mg/L	2	Standard
	Ca	43	80.0	27.2	**4.7416**	2.021	42.6	mg/L	38	Standard
	Fe	54	7867.7	1.5	**4.8801**	0.123	2.5	mg/L	218	Standard
	Fe	57	2436.9	4.7	**5.0427**	0.167	3.3	mg/L	283	Standard
>	**Sc-1**	45	41620.5	2.9				mg/L	46336	Standard
	Cl	35	7441.2	2.8				ug/L	7415	Standard
	Kr	83	85.7	1.3				ug/L	106	Standard
	Br	81	2300.2	7.9				ug/L	2367	Standard
	P	31	286747.8	2.9				ug/L	257843	Standard
	S	34	27833.9	3.9				ug/L	25966	Standard
	Sr	88	103.3	21.8				ug/L	92	Standard
	C	12	10.0	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	-0.2	173.2				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		103.647	
	Be	9	97.628		
	Al	27	87.788		
	Sc	45			
	Ti	47	94.927		
	V	51	93.847		
	Cr	52	95.962		
	Cr	53			
	Mn	55	100.415		
	Co	59	99.618		
	Ni	60	97.949		
	Cu	65	99.582		
	Zn	66	102.945		
>	Ge	72		97.147	
	As	75	101.023		
	Se	82	94.545		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	118.804	
|	Ag	107	107.243	
|	Cd	111	104.425	
|	Cd	114		
|>	In	115		91.187
|	Sn	118	105.713	
|	Sb	123	97.572	
⌊	Ba	135	100.862	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	101.312	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	104.013	
|	U	238	99.858	
⌊>	Bi	209		88.139
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 14:52:11
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	193840.7	4.9				ug/L	199689	Standard
	Be	9	58.3	62.0	**0.0206**	0.019	92.8	ug/L	22	Standard
	Al	27	5613.4	101.8	**0.0290**	0.034	118.3	ug/L	615	Standard
	Sc	45	37725.6	10.2				ug/L	46336	Standard
	Ti	47	20.3	65.5	**0.0010**	0.042	4103.6	ug/L	20	Standard
	V	51	779.2	4.0	**-0.0073**	0.005	69.2	ug/L	893	Standard
	Cr	52	3119.0	0.5	**-0.0048**	0.046	969.7	ug/L	3436	Standard
	Cr	53	225.0	8.9	**-0.0527**	0.017	31.3	ug/L	325	Standard
	Mn	55	936.7	5.0	**-0.0042**	0.006	152.0	ug/L	949	Standard
	Co	59	105.0	22.5	**-0.0018**	0.005	281.9	ug/L	109	Standard
	Ni	60	497.7	5.1	**0.1570**	0.027	17.5	ug/L	187	Standard
	Cu	65	250.0	25.0	**0.0743**	0.039	52.2	ug/L	95	Standard
	Zn	66	323.3	6.4	**-0.0497**	0.031	62.3	ug/L	320	Standard
>	**Ge**	72	430152.9	6.9				ug/L	478028	Standard
	As	75	-212.2	15.3	**0.0183**	0.035	189.5	ug/L	-247	Standard
	Se	82	-37.9	31.8	**0.0229**	0.096	420.3	ug/L	-45	Standard
	Se-1	77	86.0	3.1	**0.0373**	0.070	186.7	ug/L	101	Standard
>	**Ga**	71	43.3	29.0				mg/L	38	Standard
	Rb	85	23.3	12.4				ug/L	27	Standard
	Y	89	378920.5	6.4				ug/L	457712	Standard
>	**Rh**	103	13.3	57.3				ug/L	7	Standard
	Mo	98	68.1	55.7	**0.0089**	0.013	150.3	ug/L	7	Standard
	Ag	107	94.0	22.6	**0.0063**	0.005	75.3	ug/L	60	Standard
	Cd	111	17.5	82.5	**0.0042**	0.009	204.3	mg/L	2	Standard
	Cd	114	80.0	63.4	**0.0042**	0.011	257.2	ug/L	28	Standard
>	**In**	115	438796.7	6.8				ug/L	514607	Standard
	Sn	118	125.3	15.3	**0.0132**	0.011	79.3	ug/L	125	Standard
	Sb	123	304.3	33.4	**0.0932**	0.028	29.7	ug/L	14	Standard
	Ba	135	25.0	64.4	**-0.0031**	0.011	341.6	ug/L	10	Standard
	Ce	140	16.7	96.4				ug/L	25	Standard
>	**Tb**	159	528227.8	6.9				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	35.7	63.1	**0.0037**	0.004	121.8	ug/L	4	Standard
	Tl	205	35.0	37.8	**0.0042**	0.002	46.2	ug/L	0	Standard
	Pb	206	100.0	9.5	**0.0016**	0.005	314.9	ug/L	113	Standard
	Pb	207	88.0	11.2	**-0.0062**	0.002	30.7	ug/L	88	Standard
	Pb	208	230.7	13.8	**-0.0004**	0.003	821.5	ug/L	233	Standard
	U	238	11.3	97.6	**-0.0005**	0.003	645.7	ug/L	1	Standard
>	**Bi**	209	269392.1	6.8				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.8059**	1.387	172.1	mg/L	2	Standard
	Mg	24	58.3	43.1	**0.0400**	0.037	91.5	mg/L	48	Standard
	K	39	10.0		**0.1032**	0.016	15.8	mg/L	2	Standard
	Ca	43	25.0	40.0	**-0.1515**	1.303	860.0	mg/L	38	Standard
	Fe	54	201.3	7.6	**0.0338**	0.025	72.6	mg/L	218	Standard
	Fe	57	218.3	8.7	**-0.0146**	0.097	660.4	mg/L	283	Standard
>	**Sc-1**	45	37725.6	10.2				mg/L	46336	Standard
	Cl	35	7244.4	2.2				ug/L	7415	Standard
	Kr	83	94.7	8.6				ug/L	106	Standard
	Br	81	1923.5	5.0				ug/L	2367	Standard
	P	31	237324.9	4.4				ug/L	257843	Standard
	S	34	26165.9	1.4				ug/L	25966	Standard
	Sr	88	63.3	31.9				ug/L	92	Standard
	C	12	13.3	114.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	9.8	99.2				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		97.071	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		89.985	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.268
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.880
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
Report Date/Time: Tuesday, November 05, 2013 14:54:24
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Method 6020 - Summary Report

Sample ID: L1310187705
Sample Date/Time: Tuesday, November 05, 2013 14:55:17
Number of Replicates: 3
Autosampler Position: 311
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	205704.8	3.6				ug/L	199689	Standard
	Be	9	116.7	17.8	**0.0453**	0.011	23.8	ug/L	22	Standard
	Al	27	5633520.1	1.4	**29.9865**	0.685	2.3	ug/L	615	Standard
	Sc	45	42008.2	4.6				ug/L	46336	Standard
	Ti	47	920.0	6.1	**2.6237**	0.068	2.6	ug/L	20	Standard
	V	51	8991.4	4.1	**1.6631**	0.015	0.9	ug/L	893	Standard
	Cr	52	8058.5	6.5	**1.0023**	0.039	3.8	ug/L	3436	Standard
	Cr	53	1415.1	8.0	**1.0987**	0.140	12.7	ug/L	325	Standard
	Mn	55	216517.8	4.5	**24.1834**	0.299	1.2	ug/L	949	Standard
	Co	59	3046.3	3.8	**0.5330**	0.003	0.5	ug/L	109	Standard
	Ni	60	5529.3	2.0	**2.4875**	0.086	3.5	ug/L	187	Standard
	Cu	65	7172.4	3.8	**3.3556**	0.037	1.1	ug/L	95	Standard
	Zn	66	80251.2	4.0	**68.1090**	0.364	0.5	ug/L	320	Standard
>	**Ge**	72	454923.5	4.3				ug/L	478028	Standard
	As	75	1095.1	4.7	**1.0264**	0.036	3.5	ug/L	-247	Standard
	Se	82	89.3	5.9	**0.9569**	0.062	6.5	ug/L	-45	Standard
	Se-1	77	139.3	7.5	**0.5967**	0.123	20.6	ug/L	101	Standard
>	**Ga**	71	445.0	10.3				mg/L	38	Standard
	Rb	85	12968.9	2.2				ug/L	27	Standard
	Y	89	405402.8	5.1				ug/L	457712	Standard
>	**Rh**	103	45.0	0.0				ug/L	7	Standard
	Mo	98	1017.3	4.9	**0.3810**	0.010	2.5	ug/L	7	Standard
	Ag	107	198.7	14.7	**0.0247**	0.004	16.9	ug/L	60	Standard
	Cd	111	1630.8	3.3	**0.8621**	0.015	1.7	mg/L	2	Standard
	Cd	114	4067.5	3.6	**0.8105**	0.013	1.6	ug/L	28	Standard
>	**In**	115	457562.6	3.2				ug/L	514607	Standard
	Sn	118	300.7	6.8	**0.1654**	0.015	9.2	ug/L	125	Standard
	Sb	123	406.0	11.9	**0.1234**	0.011	9.3	ug/L	14	Standard
	Ba	135	224901.6	3.1	**130.2376**	0.651	0.5	ug/L	10	Standard
	Ce	140	30592.5	2.3				ug/L	25	Standard
>	**Tb**	159	551203.6	2.8				ug/L	648946	Standard
	Ho	165	318.3	17.2				ug/L	2	Standard
	Tl	203	125.7	13.4	**0.0195**	0.003	15.7	ug/L	4	Standard
	Tl	205	131.7	2.2	**0.0213**	0.000	2.1	ug/L	0	Standard
	Pb	206	3626.1	3.5	**1.5403**	0.011	0.7	ug/L	113	Standard
	Pb	207	3046.6	7.6	**1.4281**	0.054	3.8	ug/L	88	Standard
	Pb	208	8158.2	3.6	**1.4675**	0.006	0.4	ug/L	233	Standard
	U	238	1519.1	5.5	**0.4217**	0.019	4.6	ug/L	1	Standard
>	**Bi**	209	275918.1	3.9				ug/L	321163	Standard

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	Na	23	125.0	21.2	**49.6246**	12.606	25.4	mg/L	2	Standard
	Mg	24	7348.4	1.7	**8.0659**	0.356	4.4	mg/L	48	Standard
	K	39	10.0	86.6	**0.0891**	0.137	153.8	mg/L	2	Standard
	Ca	43	491.7	10.4	**43.5179**	4.794	11.0	mg/L	38	Standard
	Fe	54	700.1	2.3	**0.3317**	0.023	7.0	mg/L	218	Standard
	Fe	57	620.0	12.2	**0.8402**	0.156	18.6	mg/L	283	Standard
>	**Sc-1**	45	42008.2	4.6				mg/L	46336	Standard
	Cl	35	7437.8	4.7				ug/L	7415	Standard
	Kr	83	95.3	10.7				ug/L	106	Standard
	Br	81	25798.6	1.8				ug/L	2367	Standard
	P	31	339599.4	3.2				ug/L	257843	Standard
	S	34	25087.4	3.7				ug/L	25966	Standard
	Sr	88	270.0	15.8				ug/L	92	Standard
	C	12	73.3	15.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	0	Standard
	Dy	164	474.2	12.4				mg/L	10	Standard
	Ho-1	165	318.3	17.2				mg/L	2	Standard
	Er	166	260.0	6.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		103.013	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		95.167	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.915
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.912
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1310187707
Sample Date/Time: Tuesday, November 05, 2013 14:58:22
Number of Replicates: 3
Autosampler Position: 312
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	209349.0	3.3				ug/L	199689	Standard
	Be	9	41.7	66.1	**0.0103**	0.012	117.4	ug/L	22	Standard
	Al	27	28703949.3	1.2	**150.1304**	3.105	2.1	ug/L	615	Standard
	Sc	45	41443.4	5.0				ug/L	46336	Standard
	Ti	47	300.0	8.0	**0.8201**	0.033	4.1	ug/L	20	Standard
	V	51	2063.3	6.6	**0.2490**	0.010	4.1	ug/L	893	Standard
	Cr	52	6311.0	2.9	**0.6435**	0.019	3.0	ug/L	3436	Standard
	Cr	53	1743.4	6.8	**1.4350**	0.189	13.2	ug/L	325	Standard
	Mn	55	869691.4	3.1	**98.2849**	1.206	1.2	ug/L	949	Standard
	Co	59	5856.8	4.2	**1.0534**	0.012	1.2	ug/L	109	Standard
	Ni	60	4403.3	4.0	**1.9773**	0.021	1.0	ug/L	187	Standard
	Cu	65	1068.7	5.0	**0.4590**	0.005	1.1	ug/L	95	Standard
	Zn	66	2819.3	4.5	**2.0820**	0.095	4.6	ug/L	320	Standard
>	**Ge**	72	451391.4	4.3				ug/L	478028	Standard
	As	75	2583.5	4.5	**2.1780**	0.093	4.3	ug/L	-247	Standard
	Se	82	647.1	5.0	**5.0159**	0.353	7.0	ug/L	-45	Standard
	Se-1	77	237.7	12.1	**1.7705**	0.449	25.4	ug/L	101	Standard
>	**Ga**	71	35.0	37.8				mg/L	38	Standard
	Rb	85	2631.9	2.7				ug/L	27	Standard
	Y	89	393998.9	4.0				ug/L	457712	Standard
>	**Rh**	103	118.3	27.2				ug/L	7	Standard
	Mo	98	641.1	6.3	**0.2363**	0.007	3.0	ug/L	7	Standard
	Ag	107	107.3	40.8	**0.0080**	0.007	92.6	ug/L	60	Standard
	Cd	111	30.6	77.9	**0.0105**	0.012	116.6	mg/L	2	Standard
	Cd	114	111.3	63.2	**0.0098**	0.013	137.5	ug/L	28	Standard
>	**In**	115	451923.1	3.8				ug/L	514607	Standard
	Sn	118	139.7	8.0	**0.0232**	0.007	30.3	ug/L	125	Standard
	Sb	123	87.6	35.1	**0.0192**	0.009	48.0	ug/L	14	Standard
	Ba	135	84308.1	3.7	**49.4212**	0.292	0.6	ug/L	10	Standard
	Ce	140	816.7	9.6				ug/L	25	Standard
>	**Tb**	159	556378.9	3.5				ug/L	648946	Standard
	Ho	165	36.7	15.7				ug/L	2	Standard
	Tl	203	182.3	38.6	**0.0301**	0.012	38.2	ug/L	4	Standard
	Tl	205	150.0	10.0	**0.0253**	0.003	13.4	ug/L	0	Standard
	Pb	206	151.7	10.1	**0.0246**	0.005	19.6	ug/L	113	Standard
	Pb	207	125.0	19.6	**0.0121**	0.010	81.0	ug/L	88	Standard
	Pb	208	275.0	4.5	**0.0083**	0.001	14.6	ug/L	233	Standard
	U	238	7968.8	2.0	**2.2861**	0.039	1.7	ug/L	1	Standard
>	**Bi**	209	268912.2	3.7				ug/L	321163	Standard

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	Na	23	143.3	10.1	**57.3885**	6.277	10.9	mg/L	2	Standard
	Mg	24	34739.8	2.0	**38.7714**	1.413	3.6	mg/L	48	Standard
	K	39	11.7	137.8	**0.1190**	0.254	213.8	mg/L	2	Standard
	Ca	43	598.3	1.3	**54.3992**	2.750	5.1	mg/L	38	Standard
	Fe	54	385.4	23.6	**0.1364**	0.055	40.6	mg/L	218	Standard
	Fe	57	571.7	6.7	**0.7512**	0.131	17.4	mg/L	283	Standard
>	**Sc-1**	45	41443.4	5.0				mg/L	46336	Standard
	Cl	35	8030.1	2.1				ug/L	7415	Standard
	Kr	83	96.3	12.7				ug/L	106	Standard
	Br	81	138810.2	3.6				ug/L	2367	Standard
	P	31	351379.2	2.4				ug/L	257843	Standard
	S	34	24187.6	3.3				ug/L	25966	Standard
	Sr	88	588.3	10.6				ug/L	92	Standard
	C	12	130.0	7.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	35.9	97.2				mg/L	10	Standard
	Ho-1	165	36.7	15.7				mg/L	2	Standard
	Er	166	16.7	34.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.838	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		94.428	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.819
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.731
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	

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Method 6020 - Summary Report

Sample ID: L1310187710
Sample Date/Time: Tuesday, November 05, 2013 15:01:26
Number of Replicates: 3
Autosampler Position: 313
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	208770.8	5.0				ug/L	199689	Standard
	Be	9	88.3	23.6	**0.0315**	0.009	27.5	ug/L	22	Standard
	Al	27	10439890.6	2.6	**54.7737**	1.502	2.7	ug/L	615	Standard
	Sc	45	41988.2	4.6				ug/L	46336	Standard
	Ti	47	706.4	14.8	**1.9685**	0.228	11.6	ug/L	20	Standard
	V	51	4756.9	6.0	**0.7836**	0.024	3.1	ug/L	893	Standard
	Cr	52	6789.9	6.0	**0.7144**	0.037	5.2	ug/L	3436	Standard
	Cr	53	1250.1	2.9	**0.9195**	0.038	4.2	ug/L	325	Standard
	Mn	55	492259.2	5.7	**54.3758**	1.236	2.3	ug/L	949	Standard
	Co	59	676.0	7.2	**0.0993**	0.005	5.2	ug/L	109	Standard
	Ni	60	3844.2	7.4	**1.6758**	0.082	4.9	ug/L	187	Standard
	Cu	65	2818.6	2.5	**1.2692**	0.015	1.2	ug/L	95	Standard
	Zn	66	5371.6	4.5	**4.1777**	0.062	1.5	ug/L	320	Standard
>	**Ge**	72	460976.4	3.4				ug/L	478028	Standard
	As	75	8804.1	4.5	**6.8161**	0.103	1.5	ug/L	-247	Standard
	Se	82	44.8	66.1	**0.6268**	0.199	31.7	ug/L	-45	Standard
	Se-1	77	133.0	10.2	**0.5006**	0.121	24.1	ug/L	101	Standard
>	**Ga**	71	175.0	15.1				mg/L	38	Standard
	Rb	85	10431.9	4.9				ug/L	27	Standard
	Y	89	395526.1	6.0				ug/L	457712	Standard
>	**Rh**	103	55.0	27.3				ug/L	7	Standard
	Mo	98	2071.7	3.8	**0.7919**	0.004	0.5	ug/L	7	Standard
	Ag	107	69.0	15.1	**0.0008**	0.002	217.4	ug/L	60	Standard
	Cd	111	41.8	16.2	**0.0166**	0.004	26.5	mg/L	2	Standard
	Cd	114	146.2	8.9	**0.0169**	0.003	20.0	ug/L	28	Standard
>	**In**	115	459455.9	3.8				ug/L	514607	Standard
	Sn	118	202.3	7.0	**0.0768**	0.009	12.0	ug/L	125	Standard
	Sb	123	181.8	4.3	**0.0499**	0.005	9.5	ug/L	14	Standard
	Ba	135	119483.0	4.8	**68.8793**	0.801	1.2	ug/L	10	Standard
	Ce	140	2623.6	10.7				ug/L	25	Standard
>	**Tb**	159	555952.9	2.9				ug/L	648946	Standard
	Ho	165	91.7	17.5				ug/L	2	Standard
	Tl	203	76.3	7.4	**0.0106**	0.001	8.3	ug/L	4	Standard
	Tl	205	116.7	30.1	**0.0184**	0.005	29.8	ug/L	0	Standard
	Pb	206	700.7	8.8	**0.2606**	0.016	6.2	ug/L	113	Standard
	Pb	207	553.0	5.2	**0.2173**	0.016	7.4	ug/L	88	Standard
	Pb	208	1477.4	3.5	**0.2281**	0.002	0.9	ug/L	233	Standard
	U	238	1308.7	1.2	**0.3609**	0.013	3.6	ug/L	1	Standard
>	**Bi**	209	277528.1	3.8				ug/L	321163	Standard

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	Na	23	110.0	16.4	**43.3626**	6.602	15.2	mg/L	2	Standard
	Mg	24	15701.5	4.6	**17.2598**	0.310	1.8	mg/L	48	Standard
	K	39	11.7	24.7	**0.1090**	0.034	31.3	mg/L	2	Standard
	Ca	43	378.3	8.4	**32.8930**	3.745	11.4	mg/L	38	Standard
	Fe	54	2574.5	2.7	**1.5106**	0.073	4.8	mg/L	218	Standard
	Fe	57	1116.7	6.6	**1.9762**	0.101	5.1	mg/L	283	Standard
>	**Sc-1**	45	41988.2	4.6				mg/L	46336	Standard
	Cl	35	7507.2	5.1				ug/L	7415	Standard
	Kr	83	107.0	5.6				ug/L	106	Standard
	Br	81	20080.0	6.1				ug/L	2367	Standard
	P	31	360127.3	3.1				ug/L	257843	Standard
	S	34	24958.9	1.7				ug/L	25966	Standard
	Sr	88	285.0	9.8				ug/L	92	Standard
	C	12	56.7	40.8				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	86.6				mg/L	0	Standard
	Dy	164	141.1	21.3				mg/L	10	Standard
	Ho-1	165	91.7	17.5				mg/L	2	Standard
	Er	166	116.7	26.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.548	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		96.433	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.283
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.413
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310187711
Sample Date/Time: Tuesday, November 05, 2013 15:04:31
Number of Replicates: 3
Autosampler Position: 314
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	205198.1	3.7				ug/L	199689	Standard
	Be	9	96.7	30.3	**0.0359**	0.012	33.4	ug/L	22	Standard
	Al	27	21887387.5	3.1	**116.7674**	1.792	1.5	ug/L	615	Standard
	Sc	45	43502.4	4.4				ug/L	46336	Standard
	Ti	47	489.7	23.4	**1.3804**	0.272	19.7	ug/L	20	Standard
	V	51	2365.8	9.7	**0.3139**	0.026	8.3	ug/L	893	Standard
	Cr	52	7547.2	8.0	**0.9159**	0.061	6.7	ug/L	3436	Standard
	Cr	53	1693.4	11.9	**1.3904**	0.175	12.6	ug/L	325	Standard
	Mn	55	4443407.9	5.2	**505.4962**	5.753	1.1	ug/L	949	Standard
	Co	59	7415.5	5.7	**1.3476**	0.019	1.4	ug/L	109	Standard
	Ni	60	5693.7	7.4	**2.5971**	0.089	3.4	ug/L	187	Standard
	Cu	65	1108.0	10.8	**0.4803**	0.034	7.1	ug/L	95	Standard
	Zn	66	2685.6	5.1	**1.9800**	0.031	1.6	ug/L	320	Standard
>	**Ge**	72	448574.7	4.4				ug/L	478028	Standard
	As	75	2884.2	4.6	**2.4215**	0.010	0.4	ug/L	-247	Standard
	Se	82	397.7	6.1	**3.2150**	0.065	2.0	ug/L	-45	Standard
	Se-1	77	215.3	17.0	**1.5039**	0.328	21.8	ug/L	101	Standard
>	**Ga**	71	108.3	16.2				mg/L	38	Standard
	Rb	85	2983.6	10.4				ug/L	27	Standard
	Y	89	401525.6	4.9				ug/L	457712	Standard
>	**Rh**	103	98.3	28.0				ug/L	7	Standard
	Mo	98	198.5	3.8	**0.0610**	0.003	4.4	ug/L	7	Standard
	Ag	107	56.7	10.8	**-0.0012**	0.002	128.6	ug/L	60	Standard
	Cd	111	76.7	18.3	**0.0362**	0.009	25.9	mg/L	2	Standard
	Cd	114	257.9	18.6	**0.0404**	0.009	23.4	ug/L	28	Standard
>	**In**	115	449394.0	4.8				ug/L	514607	Standard
	Sn	118	140.0	8.7	**0.0241**	0.005	20.8	ug/L	125	Standard
	Sb	123	57.2	3.6	**0.0094**	0.002	16.8	ug/L	14	Standard
	Ba	135	234344.3	4.0	**138.2122**	2.143	1.6	ug/L	10	Standard
	Ce	140	4864.1	8.1				ug/L	25	Standard
>	**Tb**	159	547512.6	3.4				ug/L	648946	Standard
	Ho	165	190.0	18.4				ug/L	2	Standard
	Tl	203	96.3	10.4	**0.0147**	0.002	11.4	ug/L	4	Standard
	Tl	205	70.0	14.3	**0.0107**	0.002	21.6	ug/L	0	Standard
	Pb	206	223.0	4.6	**0.0569**	0.008	13.6	ug/L	113	Standard
	Pb	207	184.0	4.6	**0.0418**	0.004	9.6	ug/L	88	Standard
	Pb	208	475.0	5.8	**0.0463**	0.002	3.9	ug/L	233	Standard
	U	238	1154.4	3.8	**0.3282**	0.012	3.8	ug/L	1	Standard
>	**Bi**	209	268826.3	4.0				ug/L	321163	Standard

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	Na	23	180.0	12.7	**68.3832**	5.831	8.5	mg/L	2	Standard
	Mg	24	22678.7	4.9	**24.0752**	0.667	2.8	mg/L	48	Standard
	K	39	6.7	43.3	**0.0326**	0.039	121.2	mg/L	2	Standard
	Ca	43	595.0	8.3	**51.2518**	2.587	5.0	mg/L	38	Standard
	Fe	54	1510.4	4.5	**0.8075**	0.024	3.0	mg/L	218	Standard
	Fe	57	965.0	8.6	**1.5505**	0.092	5.9	mg/L	283	Standard
>	**Sc-1**	45	43502.4	4.4				mg/L	46336	Standard
	Cl	35	7404.5	4.7				ug/L	7415	Standard
	Kr	83	106.0	15.9				ug/L	106	Standard
	Br	81	92313.9	3.6				ug/L	2367	Standard
	P	31	378398.5	4.1				ug/L	257843	Standard
	S	34	24571.6	1.0				ug/L	25966	Standard
	Sr	88	403.3	6.2				ug/L	92	Standard
	C	12	140.0	24.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	225.2	19.0				mg/L	10	Standard
	Ho-1	165	190.0	18.4				mg/L	2	Standard
	Er	166	170.0	15.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		102.759	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		93.839	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.328
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	83.704
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1310187713
Sample Date/Time: Tuesday, November 05, 2013 15:07:35
Number of Replicates: 3
Autosampler Position: 315
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	206667.3	2.8				ug/L	199689	Standard
	Be	9	275.0	20.5	**0.1167**	0.023	19.6	ug/L	22	Standard
	Al	27	10035280.5	2.6	**53.1458**	0.457	0.9	ug/L	615	Standard
	Sc	45	43696.4	4.9				ug/L	46336	Standard
	Ti	47	4025.5	3.7	**11.7788**	0.225	1.9	ug/L	20	Standard
	V	51	17631.0	4.2	**3.4554**	0.006	0.2	ug/L	893	Standard
	Cr	52	10272.8	7.1	**1.4873**	0.076	5.1	ug/L	3436	Standard
	Cr	53	2055.1	9.6	**1.7335**	0.148	8.6	ug/L	325	Standard
	Mn	55	380472.8	5.4	**42.8697**	0.628	1.5	ug/L	949	Standard
	Co	59	5566.0	5.8	**0.9987**	0.018	1.8	ug/L	109	Standard
	Ni	60	8455.4	5.8	**3.8737**	0.066	1.7	ug/L	187	Standard
	Cu	65	2905.9	4.6	**1.3377**	0.025	1.9	ug/L	95	Standard
	Zn	66	25224.3	3.9	**21.3240**	0.057	0.3	ug/L	320	Standard
>	**Ge**	72	451734.3	4.1				ug/L	478028	Standard
	As	75	650.5	5.8	**0.6902**	0.010	1.5	ug/L	-247	Standard
	Se	82	50.2	3.6	**0.6766**	0.009	1.4	ug/L	-45	Standard
	Se-1	77	151.7	10.7	**0.7578**	0.252	33.3	ug/L	101	Standard
>	**Ga**	71	2233.5	5.1				mg/L	38	Standard
	Rb	85	38719.4	2.9				ug/L	27	Standard
	Y	89	414401.1	4.4				ug/L	457712	Standard
>	**Rh**	103	53.3	14.3				ug/L	7	Standard
	Mo	98	373.0	14.9	**0.1297**	0.016	12.0	ug/L	7	Standard
	Ag	107	115.7	12.1	**0.0098**	0.003	25.7	ug/L	60	Standard
	Cd	111	44.1	11.1	**0.0181**	0.002	11.6	mg/L	2	Standard
	Cd	114	148.3	22.6	**0.0180**	0.008	45.5	ug/L	28	Standard
>	**In**	115	451270.5	4.4				ug/L	514607	Standard
	Sn	118	186.0	5.2	**0.0654**	0.004	6.9	ug/L	125	Standard
	Sb	123	168.5	30.5	**0.0460**	0.014	31.4	ug/L	14	Standard
	Ba	135	213176.2	4.6	**125.1596**	0.202	0.2	ug/L	10	Standard
	Ce	140	85390.1	3.3				ug/L	25	Standard
>	**Tb**	159	555575.6	3.5				ug/L	648946	Standard
	Ho	165	1011.7	2.7				ug/L	2	Standard
	Tl	203	231.7	11.0	**0.0388**	0.003	7.7	ug/L	4	Standard
	Tl	205	318.3	19.8	**0.0549**	0.009	17.3	ug/L	0	Standard
	Pb	206	2072.5	4.2	**0.8721**	0.009	1.0	ug/L	113	Standard
	Pb	207	1711.1	2.7	**0.7908**	0.014	1.8	ug/L	88	Standard
	Pb	208	4664.3	4.1	**0.8300**	0.005	0.6	ug/L	233	Standard
	U	238	1503.1	4.0	**0.4220**	0.006	1.4	ug/L	1	Standard
>	**Bi**	209	272823.0	4.3				ug/L	321163	Standard

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Na	23	131.7	7.9	**50.0483**	5.414	10.8	mg/L	2	Standard
Mg	24	15691.5	2.3	**16.5870**	0.494	3.0	mg/L	48	Standard
K	39	28.3	20.4	**0.3380**	0.065	19.2	mg/L	2	Standard
Ca	43	571.7	6.4	**48.9226**	1.088	2.2	mg/L	38	Standard
Fe	54	2105.4	4.2	**1.1648**	0.091	7.8	mg/L	218	Standard
Fe	57	1000.0	5.4	**1.6205**	0.038	2.3	mg/L	283	Standard
Sc-1	45	43696.4	4.9				mg/L	46336	Standard
Cl	35	7370.5	5.0				ug/L	7415	Standard
Kr	83	105.7	9.5				ug/L	106	Standard
Br	81	17663.6	0.9				ug/L	2367	Standard
P	31	383245.6	1.7				ug/L	257843	Standard
S	34	24701.8	1.8				ug/L	25966	Standard
Sr	88	316.7	17.6				ug/L	92	Standard
C	12	30.0	57.7				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	1743.7	5.0				mg/L	10	Standard
Ho-1	165	1011.7	2.7				mg/L	2	Standard
Er	166	900.0	6.7				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.495	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		94.499	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.692
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.948
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1310187714
Sample Date/Time: Tuesday, November 05, 2013 15:10:39
Number of Replicates: 3
Autosampler Position: 316
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	202311.3	5.8				ug/L	199689	Standard
	Be	9	50.0	34.6	**0.0150**	0.008	54.2	ug/L	22	Standard
	Al	27	9325700.4	4.2	**50.4782**	0.821	1.6	ug/L	615	Standard
	Sc	45	41338.2	8.4				ug/L	46336	Standard
	Ti	47	581.0	15.3	**1.7214**	0.395	22.9	ug/L	20	Standard
	V	51	5525.3	6.8	**1.0003**	0.002	0.2	ug/L	893	Standard
	Cr	52	7222.7	7.5	**0.8883**	0.014	1.5	ug/L	3436	Standard
	Cr	53	903.4	8.8	**0.6391**	0.143	22.3	ug/L	325	Standard
	Mn	55	1457947.4	7.2	**170.1652**	0.693	0.4	ug/L	949	Standard
	Co	59	5090.9	8.4	**0.9427**	0.015	1.6	ug/L	109	Standard
	Ni	60	9045.4	5.7	**4.2971**	0.079	1.8	ug/L	187	Standard
	Cu	65	1337.4	4.0	**0.6096**	0.019	3.2	ug/L	95	Standard
	Zn	66	5037.8	7.3	**4.1300**	0.134	3.2	ug/L	320	Standard
>	**Ge**	72	437064.4	6.9				ug/L	478028	Standard
	As	75	558.2	4.9	**0.6346**	0.017	2.7	ug/L	-247	Standard
	Se	82	57.1	20.3	**0.7410**	0.083	11.2	ug/L	-45	Standard
	Se-1	77	120.3	8.5	**0.4378**	0.166	38.0	ug/L	101	Standard
>	**Ga**	71	111.7	29.1				mg/L	38	Standard
	Rb	85	5280.9	9.7				ug/L	27	Standard
	Y	89	388096.0	5.6				ug/L	457712	Standard
>	**Rh**	103	45.0	29.4				ug/L	7	Standard
	Mo	98	538.7	4.1	**0.2025**	0.017	8.5	ug/L	7	Standard
	Ag	107	57.3	10.5	**-0.0009**	0.001	56.9	ug/L	60	Standard
	Cd	111	76.9	10.6	**0.0370**	0.005	13.5	mg/L	2	Standard
	Cd	114	239.6	15.8	**0.0380**	0.009	23.8	ug/L	28	Standard
>	**In**	115	439299.3	6.2				ug/L	514607	Standard
	Sn	118	140.3	0.4	**0.0278**	0.008	28.8	ug/L	125	Standard
	Sb	123	76.3	26.3	**0.0162**	0.006	37.9	ug/L	14	Standard
	Ba	135	272281.6	6.3	**164.2263**	0.688	0.4	ug/L	10	Standard
	Ce	140	2903.6	7.4				ug/L	25	Standard
>	**Tb**	159	536745.6	6.1				ug/L	648946	Standard
	Ho	165	58.3	13.1				ug/L	2	Standard
	Tl	203	73.0	14.3	**0.0106**	0.001	13.0	ug/L	4	Standard
	Tl	205	75.0	37.1	**0.0118**	0.005	43.1	ug/L	0	Standard
	Pb	206	319.0	4.1	**0.1024**	0.010	10.1	ug/L	113	Standard
	Pb	207	263.7	7.2	**0.0837**	0.007	8.0	ug/L	88	Standard
	Pb	208	699.0	7.3	**0.0910**	0.003	3.4	ug/L	233	Standard
	U	238	956.4	4.6	**0.2759**	0.009	3.4	ug/L	1	Standard
>	**Bi**	209	264382.1	5.0				ug/L	321163	Standard

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	Na	23	121.7	37.3	**48.0520**	15.473	32.2	mg/L	2	Standard
	Mg	24	13836.3	5.6	**15.4690**	0.450	2.9	mg/L	48	Standard
	K	39	13.3	78.1	**0.1387**	0.152	109.6	mg/L	2	Standard
	Ca	43	615.0	16.0	**56.3513**	10.418	18.5	mg/L	38	Standard
	Fe	54	246.8	9.3	**0.0488**	0.002	4.6	mg/L	218	Standard
	Fe	57	565.0	8.4	**0.7399**	0.124	16.8	mg/L	283	Standard
>	**Sc-1**	45	41338.2	8.4				mg/L	46336	Standard
	Cl	35	7297.8	3.2				ug/L	7415	Standard
	Kr	83	90.7	4.2				ug/L	106	Standard
	Br	81	18177.6	2.9				ug/L	2367	Standard
	P	31	347277.3	4.8				ug/L	257843	Standard
	S	34	24044.1	3.8				ug/L	25966	Standard
	Sr	88	261.7	2.9				ug/L	92	Standard
	C	12	113.3	27.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	74.6	15.7				mg/L	10	Standard
	Ho-1	165	58.3	13.1				mg/L	2	Standard
	Er	166	43.3	13.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		101.313	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		91.431	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	85.366
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	82.320
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 15:13:46
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	193595.8	9.2				ug/L	199689	Standard
	Be	9	99549.8	9.9	**48.4026**	1.677	3.5	ug/L	22	Standard
	Al	27	7889749.8	6.8	**44.6682**	1.295	2.9	ug/L	615	Standard
	Sc	45	37545.1	9.5				ug/L	46336	Standard
	Ti	47	30822.8	8.3	**94.3941**	0.966	1.0	ug/L	20	Standard
	V	51	225914.3	10.4	**48.2630**	1.093	2.3	ug/L	893	Standard
	Cr	52	217572.1	10.7	**47.6938**	1.271	2.7	ug/L	3436	Standard
	Cr	53	47437.9	8.9	**48.2896**	0.538	1.1	ug/L	325	Standard
	Mn	55	423558.2	9.1	**49.7473**	0.512	1.0	ug/L	949	Standard
	Co	59	256390.2	10.2	**48.9526**	1.047	2.1	ug/L	109	Standard
	Ni	60	101634.7	9.4	**49.5434**	0.660	1.3	ug/L	187	Standard
	Cu	65	100278.6	8.2	**49.9466**	0.094	0.2	ug/L	95	Standard
	Zn	66	58555.3	7.5	**52.0898**	0.452	0.9	ug/L	320	Standard
>	**Ge**	72	433442.9	8.0				ug/L	478028	Standard
	As	75	62655.4	7.8	**50.3499**	0.151	0.3	ug/L	-247	Standard
	Se	82	6307.8	7.1	**47.9980**	0.492	1.0	ug/L	-45	Standard
	Se-1	77	4359.0	8.8	**52.0309**	0.873	1.7	ug/L	101	Standard
>	**Ga**	71	48.3	51.0				mg/L	38	Standard
	Rb	85	875.0	14.1				ug/L	27	Standard
	Y	89	381174.6	8.0				ug/L	457712	Standard
>	**Rh**	103	28.3	20.4				ug/L	7	Standard
	Mo	98	283999.1	8.8	**114.8166**	1.203	1.0	ug/L	7	Standard
	Ag	107	278083.7	8.3	**52.9705**	0.388	0.7	ug/L	60	Standard
	Cd	111	94101.7	8.3	**51.5515**	0.518	1.0	mg/L	2	Standard
	Cd	114	246726.5	9.4	**51.3734**	0.853	1.7	ug/L	28	Standard
>	**In**	115	444276.9	7.9				ug/L	514607	Standard
	Sn	118	57509.8	8.2	**52.7706**	0.649	1.2	ug/L	125	Standard
	Sb	123	145047.8	7.2	**49.0958**	0.817	1.7	ug/L	14	Standard
	Ba	135	84044.7	7.6	**50.1216**	0.368	0.7	ug/L	10	Standard
	Ce	140	53.3	21.7				ug/L	25	Standard
>	**Tb**	159	530706.8	7.8				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	272322.2	7.4	**50.0145**	0.404	0.8	ug/L	4	Standard
	Tl	205	296153.4	6.8	**54.1601**	0.421	0.8	ug/L	0	Standard
	Pb	206	116242.2	5.9	**52.2874**	0.523	1.0	ug/L	113	Standard
	Pb	207	103588.7	7.0	**51.7835**	0.452	0.9	ug/L	88	Standard
	Pb	208	269713.9	7.3	**51.4380**	0.324	0.6	ug/L	233	Standard
	U	238	172625.2	6.9	**49.7901**	0.122	0.2	ug/L	1	Standard
>	**Bi**	209	267737.6	6.8				ug/L	321163	Standard

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	Na	23	21.7	35.3	**9.7754**	4.277	43.8	mg/L	2	Standard
	Mg	24	3918.8	8.3	**4.7992**	0.171	3.6	mg/L	48	Standard
	K	39	196.7	16.9	**3.1745**	0.332	10.4	mg/L	2	Standard
	Ca	43	70.0	24.7	**4.5738**	2.045	44.7	mg/L	38	Standard
	Fe	54	7585.8	11.1	**5.2162**	0.151	2.9	mg/L	218	Standard
	Fe	57	2341.8	12.4	**5.4029**	0.258	4.8	mg/L	283	Standard
>	**Sc-1**	45	37545.1	9.5				mg/L	46336	Standard
	Cl	35	7313.1	7.7				ug/L	7415	Standard
	Kr	83	90.7	13.8				ug/L	106	Standard
	Br	81	2513.5	22.3				ug/L	2367	Standard
	P	31	271689.9	5.0				ug/L	257843	Standard
	S	34	27338.0	4.9				ug/L	25966	Standard
	Sr	88	85.0	30.6				ug/L	92	Standard
	C	12	13.3	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	-0.2	173.2				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		96.949	
	Be	9	96.805		
	Al	27	89.336		
	Sc	45			
	Ti	47	94.394		
	V	51	96.526		
	Cr	52	95.388		
	Cr	53			
	Mn	55	99.495		
	Co	59	97.905		
	Ni	60	99.087		
	Cu	65	99.893		
	Zn	66	104.180		
>	Ge	72		90.673	
	As	75	100.700		
	Se	82	95.996		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	114.817	
|	Ag	107	105.941	
|	Cd	111	103.103	
|	Cd	114		
|>	In	115		86.333
|	Sn	118	105.541	
|	Sb	123	98.192	
⌊	Ba	135	100.243	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.029	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	102.876	
|	U	238	99.580	
⌊>	Bi	209		83.365
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 15:16:50
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	190190.6	5.9				ug/L	199689	Standard
	Be	9	58.3	62.0	**0.0200**	0.016	78.8	ug/L	22	Standard
	Al	27	7421.6	109.9	**0.0376**	0.043	115.0	ug/L	615	Standard
	Sc	45	37558.3	6.8				ug/L	46336	Standard
	Ti	47	22.7	68.5	**0.0072**	0.042	583.9	ug/L	20	Standard
	V	51	817.3	6.0	**0.0033**	0.008	230.2	ug/L	893	Standard
	Cr	52	3106.0	1.9	**0.0015**	0.047	3027.5	ug/L	3436	Standard
	Cr	53	225.0	6.7	**-0.0480**	0.035	73.0	ug/L	325	Standard
	Mn	55	1063.7	31.7	**0.0107**	0.029	269.2	ug/L	949	Standard
	Co	59	120.0	26.9	**0.0010**	0.004	402.5	ug/L	109	Standard
	Ni	60	473.0	15.4	**0.1462**	0.024	16.6	ug/L	187	Standard
	Cu	65	192.3	48.5	**0.0432**	0.038	87.8	ug/L	95	Standard
	Zn	66	288.3	20.6	**-0.0809**	0.031	38.5	ug/L	320	Standard
>	**Ge**	72	424840.7	8.5				ug/L	478028	Standard
	As	75	-161.2	29.3	**0.0564**	0.049	87.5	ug/L	-247	Standard
	Se	82	-28.8	42.0	**0.0877**	0.106	120.5	ug/L	-45	Standard
	Se-1	77	95.0	10.0	**0.1604**	0.086	53.4	ug/L	101	Standard
>	**Ga**	71	18.3	41.7				mg/L	38	Standard
	Rb	85	31.7	59.8				ug/L	27	Standard
	Y	89	375550.1	7.7				ug/L	457712	Standard
>	**Rh**	103	10.0	100.0				ug/L	7	Standard
	Mo	98	63.2	83.1	**0.0068**	0.019	276.1	ug/L	7	Standard
	Ag	107	76.3	56.5	**0.0027**	0.007	259.2	ug/L	60	Standard
	Cd	111	21.5	129.5	**0.0057**	0.014	248.3	mg/L	2	Standard
	Cd	114	63.5	119.3	**0.0001**	0.014	10628.0	ug/L	28	Standard
>	**In**	115	431194.5	8.5				ug/L	514607	Standard
	Sn	118	119.3	26.2	**0.0090**	0.019	214.3	ug/L	125	Standard
	Sb	123	284.5	40.2	**0.0877**	0.030	34.5	ug/L	14	Standard
	Ba	135	74.3	137.2	**0.0241**	0.056	234.3	ug/L	10	Standard
	Ce	140	18.3	83.3				ug/L	25	Standard
>	**Tb**	159	517181.5	7.9				ug/L	648946	Standard
	Ho	165	3.3	86.6				ug/L	2	Standard
	Tl	203	41.0	124.8	**0.0042**	0.008	202.2	ug/L	4	Standard
	Tl	205	41.7	68.2	**0.0056**	0.006	98.4	ug/L	0	Standard
	Pb	206	104.0	29.1	**0.0034**	0.010	282.0	ug/L	113	Standard
	Pb	207	80.7	22.3	**-0.0096**	0.005	56.4	ug/L	88	Standard
	Pb	208	236.7	12.4	**0.0018**	0.008	434.7	ug/L	233	Standard
	U	238	16.0	70.4	**0.0010**	0.003	323.7	ug/L	1	Standard
>	**Bi**	209	265849.8	8.6				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	66.7	37.0	**0.0499**	0.033	65.4	mg/L	48	Standard
K	39	1.7	173.2	**-0.0330**	0.050	152.6	mg/L	2	Standard
Ca	43	31.7	39.7	**0.5223**	1.444	276.5	mg/L	38	Standard
Fe	54	171.2	20.0	**0.0109**	0.016	142.4	mg/L	218	Standard
Fe	57	216.7	4.8	**-0.0213**	0.032	152.2	mg/L	283	Standard
> **Sc-1**	45	37558.3	6.8				mg/L	46336	Standard
Cl	35	7617.9	4.6				ug/L	7415	Standard
Kr	83	84.3	14.9				ug/L	106	Standard
Br	81	2200.2	4.9				ug/L	2367	Standard
P	31	247597.5	5.6				ug/L	257843	Standard
S	34	27768.8	2.0				ug/L	25966	Standard
Sr	88	121.7	20.3				ug/L	92	Standard
C	12	16.7	91.7				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	6.3	86.6				mg/L	10	Standard
Ho-1	165	3.3	86.6				mg/L	2	Standard
Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		95.243	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		88.874	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	83.791
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	82.777
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: PBS 87 WG451326-01
Sample Date/Time: Tuesday, November 05, 2013 15:27:52
Number of Replicates: 3
Autosampler Position: 301
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	179677.4	10.9				ug/L	199689	Standard
	Be	9	18.3	83.3	**0.0013**	0.008	628.0	ug/L	22	Standard
	Al	27	3465.4	19.1	**0.0179**	0.006	33.3	ug/L	615	Standard
	Sc	45	34735.1	11.3				ug/L	46336	Standard
	Ti	47	14.7	58.0	**-0.0142**	0.027	189.1	ug/L	20	Standard
	V	51	837.7	2.5	**0.0194**	0.015	77.5	ug/L	893	Standard
	Cr	52	3111.3	3.3	**0.0459**	0.047	102.1	ug/L	3436	Standard
	Cr	53	223.3	6.8	**-0.0372**	0.007	18.8	ug/L	325	Standard
	Mn	55	1607.8	11.8	**0.0912**	0.038	41.7	ug/L	949	Standard
	Co	59	109.3	6.1	**0.0007**	0.003	501.2	ug/L	109	Standard
	Ni	60	438.7	9.7	**0.1427**	0.001	0.9	ug/L	187	Standard
	Cu	65	477.3	12.8	**0.2044**	0.008	4.0	ug/L	95	Standard
	Zn	66	2282.8	6.4	**1.8729**	0.070	3.7	ug/L	320	Standard
>	**Ge**	72	400619.9	9.6				ug/L	478028	Standard
	As	75	-230.8	15.0	**-0.0089**	0.019	211.2	ug/L	-247	Standard
	Se	82	-31.1	7.0	**0.0574**	0.016	28.1	ug/L	-45	Standard
	Se-1	77	83.3	14.8	**0.0762**	0.105	137.8	ug/L	101	Standard
>	**Ga**	71	25.0	20.0				mg/L	38	Standard
	Rb	85	36.7	20.8				ug/L	27	Standard
	Y	89	359779.5	8.5				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	48.2	39.6	**0.0032**	0.010	305.6	ug/L	7	Standard
	Ag	107	69.0	20.1	**0.0025**	0.003	128.1	ug/L	60	Standard
	Cd	111	10.9	102.5	**0.0012**	0.008	621.2	mg/L	2	Standard
	Cd	114	51.9	91.8	**-0.0003**	0.012	4598.1	ug/L	28	Standard
>	**In**	115	405779.5	9.3				ug/L	514607	Standard
	Sn	118	117.0	12.1	**0.0150**	0.013	87.2	ug/L	125	Standard
	Sb	123	40.1	10.8	**0.0052**	0.002	38.1	ug/L	14	Standard
	Ba	135	157.3	68.7	**0.0879**	0.081	92.5	ug/L	10	Standard
	Ce	140	23.3	65.5				ug/L	25	Standard
>	**Tb**	159	494558.6	10.2				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	29.0	138.1	**0.0031**	0.009	277.9	ug/L	4	Standard
	Tl	205	6.7	43.3	**-0.0008**	0.001	88.9	ug/L	0	Standard
	Pb	206	157.0	5.0	**0.0318**	0.004	12.8	ug/L	113	Standard
	Pb	207	135.0	8.3	**0.0217**	0.003	13.4	ug/L	88	Standard
	Pb	208	321.7	5.0	**0.0212**	0.003	15.1	ug/L	233	Standard
	U	238	4.3	74.2	**-0.0022**	0.001	50.5	ug/L	1	Standard
>	**Bi**	209	252860.4	10.1				ug/L	321163	Standard

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	Na	23	3.3	173.2	**1.6568**	2.861	172.7	mg/L	2	Standard
	Mg	24	66.7	30.3	**0.0579**	0.036	61.6	mg/L	48	Standard
	K	39	13.3	21.7	**0.1767**	0.054	30.7	mg/L	2	Standard
	Ca	43	40.0	12.5	**1.7467**	0.889	50.9	mg/L	38	Standard
	Fe	54	153.0	31.7	**0.0072**	0.035	490.5	mg/L	218	Standard
	Fe	57	241.7	6.3	**0.1003**	0.113	113.1	mg/L	283	Standard
>	**Sc-1**	45	34735.1	11.3				mg/L	46336	Standard
	Cl	35	7419.8	5.0				ug/L	7415	Standard
	Kr	83	82.3	2.5				ug/L	106	Standard
	Br	81	2046.8	2.8				ug/L	2367	Standard
	P	31	183194.7	5.5				ug/L	257843	Standard
	S	34	25199.3	3.8				ug/L	25966	Standard
	Sr	88	93.3	21.7				ug/L	92	Standard
	C	12	6.7	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	16.3	94.7				mg/L	10	Standard
	Ho-1	165	1.7	173.2				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		89.979	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		83.807	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	78.852
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	78.733
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: LCSS 87 WG451326-02
Sample Date/Time: Tuesday, November 05, 2013 15:30:56
Number of Replicates: 3
Autosampler Position: 302
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	185034.9	7.0				ug/L	199689	Standard
	Be	9	47417.8	9.4	**24.1067**	1.048	4.3	ug/L	22	Standard
	Al	27	13563.6	46.1	**0.0764**	0.036	46.9	ug/L	615	Standard
	Sc	45	36196.8	9.6				ug/L	46336	Standard
	Ti	47	18.3	30.0	**-0.0011**	0.020	1872.7	ug/L	20	Standard
	V	51	103947.4	10.2	**23.6425**	0.594	2.5	ug/L	893	Standard
	Cr	52	100890.4	10.8	**23.2746**	0.679	2.9	ug/L	3436	Standard
	Cr	53	21837.5	9.9	**23.5944**	0.511	2.2	ug/L	325	Standard
	Mn	55	195764.4	8.8	**24.5146**	0.340	1.4	ug/L	949	Standard
	Co	59	117666.5	10.6	**23.9898**	0.639	2.7	ug/L	109	Standard
	Ni	60	47244.7	9.5	**24.5616**	0.395	1.6	ug/L	187	Standard
	Cu	65	47460.9	8.4	**25.2316**	0.262	1.0	ug/L	95	Standard
	Zn	66	28097.2	8.7	**26.5232**	0.222	0.8	ug/L	320	Standard
>	**Ge**	72	405616.0	7.9				ug/L	478028	Standard
	As	75	29602.7	9.1	**25.5010**	0.557	2.2	ug/L	-247	Standard
	Se	82	3022.2	8.9	**24.7042**	0.378	1.5	ug/L	-45	Standard
	Se-1	77	2108.8	9.4	**26.3977**	0.553	2.1	ug/L	101	Standard
>	**Ga**	71	13.3	57.3				mg/L	38	Standard
	Rb	85	41.7	30.2				ug/L	27	Standard
	Y	89	365322.6	8.2				ug/L	457712	Standard
>	**Rh**	103	13.3	94.4				ug/L	7	Standard
	Mo	98	31.3	26.9	**-0.0050**	0.003	69.7	ug/L	7	Standard
	Ag	107	128255.7	8.8	**26.0388**	0.158	0.6	ug/L	60	Standard
	Cd	111	43436.1	8.3	**25.3739**	0.327	1.3	mg/L	2	Standard
	Cd	114	109320.9	9.4	**24.2656**	0.173	0.7	ug/L	28	Standard
>	**In**	115	416962.1	9.5				ug/L	514607	Standard
	Sn	118	226.3	6.8	**0.1191**	0.007	5.7	ug/L	125	Standard
	Sb	123	68479.7	7.5	**24.7101**	0.478	1.9	ug/L	14	Standard
	Ba	135	38872.1	8.8	**24.6972**	0.181	0.7	ug/L	10	Standard
	Ce	140	38.3	19.9				ug/L	25	Standard
>	**Tb**	159	504164.6	9.3				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	128627.2	9.4	**24.5998**	0.253	1.0	ug/L	4	Standard
	Tl	205	137268.6	8.4	**26.1490**	0.416	1.6	ug/L	0	Standard
	Pb	206	55696.9	10.2	**26.0394**	0.542	2.1	ug/L	113	Standard
	Pb	207	47627.2	9.2	**24.7652**	0.259	1.0	ug/L	88	Standard
	Pb	208	126970.4	8.9	**25.2003**	0.264	1.0	ug/L	233	Standard
	U	238	78573.6	8.7	**23.6021**	0.096	0.4	ug/L	1	Standard
>	**Bi**	209	257022.8	8.3				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.7723**	1.329	172.1	mg/L	2	Standard
	Mg	24	63.3	29.9	**0.0499**	0.033	65.2	mg/L	48	Standard
	K	39	6.7	43.3	**0.0527**	0.050	95.5	mg/L	2	Standard
	Ca	43	18.3	56.8	**-0.8265**	1.170	141.5	mg/L	38	Standard
	Fe	54	153.7	9.9	**0.0041**	0.016	379.1	mg/L	218	Standard
	Fe	57	235.0	9.8	**0.0548**	0.122	222.0	mg/L	283	Standard
>	**Sc-1**	45	36196.8	9.6				mg/L	46336	Standard
	Cl	35	7195.0	2.5				ug/L	7415	Standard
	Kr	83	96.7	8.4				ug/L	106	Standard
	Br	81	2153.5	15.1				ug/L	2367	Standard
	P	31	195003.3	7.7				ug/L	257843	Standard
	S	34	25523.2	5.1				ug/L	25966	Standard
	Sr	88	81.7	7.1				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.2	93.6				mg/L	10	Standard
	Ho-1	165	1.7	173.2				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		92.662	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		84.852	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	81.025
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	80.029
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: LCSS 87 WG451326-03
Sample Date/Time: Tuesday, November 05, 2013 15:34:01
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	197189.4	11.5				ug/L	199689	Standard
	Be	9	51454.4	9.0	**24.6063**	0.597	2.4	ug/L	22	Standard
	Al	27	3153.7	9.1	**0.0140**	0.000	3.6	ug/L	615	Standard
	Sc	45	38387.3	11.5				ug/L	46336	Standard
	Ti	47	20.7	27.5	**0.0029**	0.023	805.1	ug/L	20	Standard
	V	51	112482.2	12.5	**23.9463**	0.800	3.3	ug/L	893	Standard
	Cr	52	111056.5	12.2	**24.0117**	0.720	3.0	ug/L	3436	Standard
	Cr	53	23788.8	9.2	**24.1089**	0.114	0.5	ug/L	325	Standard
	Mn	55	212199.8	11.8	**24.8639**	0.582	2.3	ug/L	949	Standard
	Co	59	128503.2	12.4	**24.5275**	0.765	3.1	ug/L	109	Standard
	Ni	60	50796.9	9.8	**24.7498**	0.139	0.6	ug/L	187	Standard
	Cu	65	50913.2	11.8	**25.3194**	0.599	2.4	ug/L	95	Standard
	Zn	66	30036.3	11.2	**26.5386**	0.568	2.1	ug/L	320	Standard
>	**Ge**	72	433074.4	9.4				ug/L	478028	Standard
	As	75	31623.0	9.5	**25.5252**	0.222	0.9	ug/L	-247	Standard
	Se	82	3256.1	10.8	**24.9164**	0.379	1.5	ug/L	-45	Standard
	Se-1	77	2266.8	8.7	**26.6145**	0.201	0.8	ug/L	101	Standard
>	**Ga**	71	28.3	10.2				mg/L	38	Standard
	Rb	85	23.3	32.7				ug/L	27	Standard
	Y	89	382908.3	10.1				ug/L	457712	Standard
>	**Rh**	103	13.3	78.1				ug/L	7	Standard
	Mo	98	34.2	9.0	**-0.0043**	0.002	54.1	ug/L	7	Standard
	Ag	107	138086.3	9.7	**26.6045**	0.185	0.7	ug/L	60	Standard
	Cd	111	46381.0	10.3	**25.6943**	0.177	0.7	mg/L	2	Standard
	Cd	114	117780.3	10.2	**24.8107**	0.249	1.0	ug/L	28	Standard
>	**In**	115	439169.8	9.6				ug/L	514607	Standard
	Sn	118	145.7	20.6	**0.0320**	0.022	68.4	ug/L	125	Standard
	Sb	123	71651.5	9.7	**24.5163**	0.128	0.5	ug/L	14	Standard
	Ba	135	41139.6	11.6	**24.7752**	0.487	2.0	ug/L	10	Standard
	Ce	140	28.3	53.9				ug/L	25	Standard
>	**Tb**	159	522070.6	9.8				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	135933.4	9.6	**24.8421**	0.189	0.8	ug/L	4	Standard
	Tl	205	146785.6	11.6	**26.6738**	0.722	2.7	ug/L	0	Standard
	Pb	206	59418.3	9.8	**26.5548**	0.272	1.0	ug/L	113	Standard
	Pb	207	50552.4	10.1	**25.1092**	0.315	1.3	ug/L	88	Standard
	Pb	208	134405.5	9.6	**25.4840**	0.342	1.3	ug/L	233	Standard
	U	238	82174.3	8.7	**23.5910**	0.171	0.7	ug/L	1	Standard
>	**Bi**	209	269006.8	8.8				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.8027**	1.382	172.1	mg/L	2	Standard
	Mg	24	46.7	16.4	**0.0232**	0.006	24.7	mg/L	48	Standard
	K	39	1.7	173.2	**-0.0322**	0.052	160.2	mg/L	2	Standard
	Ca	43	11.7	24.7	**-1.6309**	0.426	26.1	mg/L	38	Standard
	Fe	54	190.6	11.5	**0.0225**	0.009	39.8	mg/L	218	Standard
	Fe	57	245.0	9.4	**0.0426**	0.101	236.8	mg/L	283	Standard
>	**Sc-1**	45	38387.3	11.5				mg/L	46336	Standard
	Cl	35	7689.3	6.7				ug/L	7415	Standard
	Kr	83	96.0	1.0				ug/L	106	Standard
	Br	81	3250.3	3.9				ug/L	2367	Standard
	P	31	205091.8	5.8				ug/L	257843	Standard
	S	34	25940.6	5.2				ug/L	25966	Standard
	Sr	88	61.7	57.5				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	9.5	110.1				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		98.748	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.596	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.341
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.760
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310185401
Sample Date/Time: Tuesday, November 05, 2013 15:37:05
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	201787.2	8.1				ug/L	199689	Standard
	Be	9	23.3	44.6	**0.0024**	0.004	160.5	ug/L	22	Standard
	Al	27	221139.0	7.1	**1.1966**	0.019	1.6	ug/L	615	Standard
	Sc	45	40656.2	4.7				ug/L	46336	Standard
	Ti	47	146.7	6.6	**0.3752**	0.020	5.3	ug/L	20	Standard
	V	51	19364.7	8.8	**3.8585**	0.055	1.4	ug/L	893	Standard
	Cr	52	3879.2	6.0	**0.1329**	0.021	16.1	ug/L	3436	Standard
	Cr	53	323.3	17.0	**0.0354**	0.034	95.5	ug/L	325	Standard
	Mn	55	6966.9	9.4	**0.6806**	0.015	2.2	ug/L	949	Standard
	Co	59	834.4	10.9	**0.1326**	0.005	4.1	ug/L	109	Standard
	Ni	60	3374.0	8.4	**1.5114**	0.022	1.5	ug/L	187	Standard
	Cu	65	1491.7	7.1	**0.6702**	0.025	3.7	ug/L	95	Standard
	Zn	66	1863.8	5.6	**1.2793**	0.031	2.4	ug/L	320	Standard
>	**Ge**	72	446332.3	7.6				ug/L	478028	Standard
	As	75	882.9	1.6	**0.8792**	0.040	4.5	ug/L	-247	Standard
	Se	82	-10.1	101.5	**0.2418**	0.067	27.8	ug/L	-45	Standard
	Se-1	77	117.7	21.2	**0.3628**	0.197	54.2	ug/L	101	Standard
>	**Ga**	71	105.0	9.5				mg/L	38	Standard
	Rb	85	9873.2	10.8				ug/L	27	Standard
	Y	89	388087.3	8.9				ug/L	457712	Standard
>	**Rh**	103	15.0	0.0				ug/L	7	Standard
	Mo	98	1164.3	10.4	**0.4457**	0.010	2.1	ug/L	7	Standard
	Ag	107	73.7	40.7	**0.0017**	0.005	269.6	ug/L	60	Standard
	Cd	111	9.8	11.9	**-0.0003**	0.001	266.8	mg/L	2	Standard
	Cd	114	45.2	59.9	**-0.0036**	0.005	134.1	ug/L	28	Standard
>	**In**	115	450292.9	8.3				ug/L	514607	Standard
	Sn	118	116.0	15.8	**0.0020**	0.012	598.4	ug/L	125	Standard
	Sb	123	476.5	8.6	**0.1494**	0.005	3.6	ug/L	14	Standard
	Ba	135	2552.9	7.1	**1.4851**	0.038	2.5	ug/L	10	Standard
	Ce	140	20.0	0.0				ug/L	25	Standard
>	**Tb**	159	538493.0	7.5				ug/L	648946	Standard
	Ho	165	3.3	173.2				ug/L	2	Standard
	Tl	203	134.3	4.1	**0.0211**	0.001	6.3	ug/L	4	Standard
	Tl	205	121.7	35.0	**0.0193**	0.006	30.7	ug/L	0	Standard
	Pb	206	110.7	11.8	**0.0051**	0.003	54.5	ug/L	113	Standard
	Pb	207	101.3	25.0	**-0.0010**	0.008	814.6	ug/L	88	Standard
	Pb	208	254.0	14.9	**0.0030**	0.004	133.8	ug/L	233	Standard
	U	238	10.7	100.2	**-0.0008**	0.003	355.3	ug/L	1	Standard
>	**Bi**	209	275362.5	7.4				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	1565.1	10.8	**1.7479**	0.189	10.8	mg/L	48	Standard
K	39	20.0	25.0	**0.2412**	0.065	26.7	mg/L	2	Standard
Ca	43	26.7	54.1	**-0.2784**	1.382	496.5	mg/L	38	Standard
Fe	54	159.0	14.7	**-0.0049**	0.019	389.5	mg/L	218	Standard
Fe	57	231.7	14.4	**-0.0270**	0.096	353.4	mg/L	283	Standard
> **Sc-1**	45	40656.2	4.7				mg/L	46336	Standard
Cl	35	7399.8	5.0				ug/L	7415	Standard
Kr	83	100.0	19.1				ug/L	106	Standard
Br	81	2533.5	6.1				ug/L	2367	Standard
P	31	250149.6	7.8				ug/L	257843	Standard
S	34	25084.1	1.1				ug/L	25966	Standard
Sr	88	110.0	25.3				ug/L	92	Standard
C	12	23.3	65.5				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	9.4	101.7				mg/L	10	Standard
Ho-1	165	3.3	173.2				mg/L	2	Standard
Er	166	13.3	86.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		101.051	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		93.369	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.502
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.739
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310185402
Sample Date/Time: Tuesday, November 05, 2013 15:40:10
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	204433.1	9.5				ug/L	199689	Standard
	Be	9	31.7	32.9	**0.0061**	0.004	60.1	ug/L	22	Standard
	Al	27	449662.2	7.0	**2.4079**	0.068	2.8	ug/L	615	Standard
	Sc	45	39973.2	12.2				ug/L	46336	Standard
	Ti	47	249.0	6.6	**0.6912**	0.067	9.6	ug/L	20	Standard
	V	51	66153.8	11.7	**13.7631**	0.453	3.3	ug/L	893	Standard
	Cr	52	7137.4	8.4	**0.8567**	0.026	3.0	ug/L	3436	Standard
	Cr	53	1136.7	8.9	**0.8601**	0.039	4.6	ug/L	325	Standard
	Mn	55	20878.8	9.4	**2.3014**	0.032	1.4	ug/L	949	Standard
	Co	59	552.3	12.8	**0.0816**	0.006	7.9	ug/L	109	Standard
	Ni	60	5257.3	9.3	**2.4361**	0.051	2.1	ug/L	187	Standard
	Cu	65	2595.6	9.2	**1.2194**	0.013	1.1	ug/L	95	Standard
	Zn	66	3243.7	9.2	**2.5119**	0.058	2.3	ug/L	320	Standard
>	**Ge**	72	440950.0	9.0				ug/L	478028	Standard
	As	75	1240.5	11.5	**1.1655**	0.027	2.3	ug/L	-247	Standard
	Se	82	-11.3	36.0	**0.2299**	0.025	11.1	ug/L	-45	Standard
	Se-1	77	123.7	10.4	**0.4594**	0.082	17.8	ug/L	101	Standard
>	**Ga**	71	78.3	47.9				mg/L	38	Standard
	Rb	85	15020.8	11.1				ug/L	27	Standard
	Y	89	391876.0	7.1				ug/L	457712	Standard
>	**Rh**	103	10.0					ug/L	7	Standard
	Mo	98	4052.3	8.8	**1.6203**	0.028	1.7	ug/L	7	Standard
	Ag	107	94.3	63.2	**0.0056**	0.010	173.4	ug/L	60	Standard
	Cd	111	97.3	12.3	**0.0475**	0.002	4.6	mg/L	2	Standard
	Cd	114	253.4	28.2	**0.0399**	0.012	30.2	ug/L	28	Standard
>	**In**	115	444335.3	8.3				ug/L	514607	Standard
	Sn	118	121.0	2.9	**0.0087**	0.009	108.6	ug/L	125	Standard
	Sb	123	1000.8	9.5	**0.3287**	0.004	1.2	ug/L	14	Standard
	Ba	135	3342.4	7.8	**1.9758**	0.047	2.4	ug/L	10	Standard
	Ce	140	146.7	18.8				ug/L	25	Standard
>	**Tb**	159	532824.8	8.3				ug/L	648946	Standard
	Ho	165	21.7	70.5				ug/L	2	Standard
	Tl	203	383.0	23.2	**0.0658**	0.012	18.2	ug/L	4	Standard
	Tl	205	370.0	9.5	**0.0643**	0.002	3.3	ug/L	0	Standard
	Pb	206	128.3	17.3	**0.0133**	0.008	56.3	ug/L	113	Standard
	Pb	207	114.7	23.7	**0.0060**	0.009	156.8	ug/L	88	Standard
	Pb	208	274.7	8.8	**0.0074**	0.001	7.3	ug/L	233	Standard
	U	238	13.3	45.2	**0.0001**	0.002	1108.0	ug/L	1	Standard
>	**Bi**	209	272853.4	7.9				ug/L	321163	Standard

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Na	23	8.3	69.3	**3.6772**	2.975	80.9	mg/L	2	Standard
Mg	24	1330.1	9.2	**1.5097**	0.063	4.2	mg/L	48	Standard
K	39	61.7	33.8	**0.8936**	0.305	34.2	mg/L	2	Standard
Ca	43	58.3	34.6	**2.8887**	1.632	56.5	mg/L	38	Standard
Fe	54	171.8	16.3	**0.0074**	0.034	454.0	mg/L	218	Standard
Fe	57	235.0	6.4	**-0.0078**	0.055	701.3	mg/L	283	Standard
Sc-1	45	39973.2	12.2				mg/L	46336	Standard
Cl	35	7393.8	7.2				ug/L	7415	Standard
Kr	83	81.7	0.7				ug/L	106	Standard
Br	81	3000.3	4.7				ug/L	2367	Standard
P	31	241414.2	7.0				ug/L	257843	Standard
S	34	25925.5	3.0				ug/L	25966	Standard
Sr	88	101.7	49.8				ug/L	92	Standard
C	12	33.3	45.8				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	0	Standard
Dy	164	22.4	48.1				mg/L	10	Standard
Ho-1	165	21.7	70.5				mg/L	2	Standard
Er	166	20.0	132.3				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		102.376	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		92.243	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.345
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.958
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310185403
Sample Date/Time: Tuesday, November 05, 2013 15:43:14
Number of Replicates: 3
Autosampler Position: 306
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	200152.7	9.4				ug/L	199689	Standard
	Be	9	36.7	55.1	**0.0088**	0.009	106.9	ug/L	22	Standard
	Al	27	296058.5	6.9	**1.6179**	0.045	2.8	ug/L	615	Standard
	Sc	45	39491.8	10.4				ug/L	46336	Standard
	Ti	47	113.0	9.4	**0.2849**	0.018	6.3	ug/L	20	Standard
	V	51	60386.3	9.3	**12.7931**	0.149	1.2	ug/L	893	Standard
	Cr	52	3652.1	7.2	**0.1078**	0.008	7.3	ug/L	3436	Standard
	Cr	53	338.3	26.9	**0.0606**	0.086	141.9	ug/L	325	Standard
	Mn	55	8310.3	10.2	**0.8633**	0.020	2.4	ug/L	949	Standard
	Co	59	428.0	10.4	**0.0598**	0.004	7.0	ug/L	109	Standard
	Ni	60	6364.7	10.4	**3.0208**	0.084	2.8	ug/L	187	Standard
	Cu	65	3117.3	8.4	**1.5034**	0.035	2.3	ug/L	95	Standard
	Zn	66	2978.6	8.1	**2.3269**	0.038	1.7	ug/L	320	Standard
>	**Ge**	72	432976.7	8.1				ug/L	478028	Standard
	As	75	1107.4	11.1	**1.0769**	0.027	2.5	ug/L	-247	Standard
	Se	82	-28.3	38.2	**0.0948**	0.097	102.5	ug/L	-45	Standard
	Se-1	77	96.0	9.3	**0.1564**	0.161	102.9	ug/L	101	Standard
>	**Ga**	71	48.3	26.0				mg/L	38	Standard
	Rb	85	11514.4	7.5				ug/L	27	Standard
	Y	89	377709.3	9.6				ug/L	457712	Standard
>	**Rh**	103	8.3	124.9				ug/L	7	Standard
	Mo	98	1344.6	12.5	**0.5307**	0.020	3.8	ug/L	7	Standard
	Ag	107	70.3	26.8	**0.0017**	0.004	229.1	ug/L	60	Standard
	Cd	111	172.3	8.6	**0.0898**	0.001	0.6	mg/L	2	Standard
	Cd	114	478.4	5.0	**0.0886**	0.009	9.7	ug/L	28	Standard
>	**In**	115	439078.8	8.7				ug/L	514607	Standard
	Sn	118	123.7	10.4	**0.0122**	0.010	78.7	ug/L	125	Standard
	Sb	123	959.9	6.4	**0.3194**	0.013	4.0	ug/L	14	Standard
	Ba	135	3087.0	5.6	**1.8480**	0.060	3.3	ug/L	10	Standard
	Ce	140	26.7	54.1				ug/L	25	Standard
>	**Tb**	159	525105.0	7.7				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	682.0	8.9	**0.1213**	0.002	1.3	ug/L	4	Standard
	Tl	205	758.4	12.0	**0.1352**	0.005	3.8	ug/L	0	Standard
	Pb	206	113.3	4.0	**0.0076**	0.006	78.0	ug/L	113	Standard
	Pb	207	94.0	10.5	**-0.0031**	0.007	214.5	ug/L	88	Standard
	Pb	208	264.0	4.4	**0.0061**	0.004	60.1	ug/L	233	Standard
	U	238	2.3	65.5	**-0.0029**	0.000	15.6	ug/L	1	Standard
>	**Bi**	209	269960.0	8.1				ug/L	321163	Standard

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	Na	23	6.7	43.3	**2.7541**	0.934	33.9	mg/L	2	Standard
	Mg	24	660.0	15.9	**0.7407**	0.098	13.2	mg/L	48	Standard
	K	39	68.3	52.9	**0.9840**	0.453	46.1	mg/L	2	Standard
	Ca	43	38.3	30.1	**0.9338**	0.870	93.2	mg/L	38	Standard
	Fe	54	151.1	29.6	**-0.0089**	0.022	245.3	mg/L	218	Standard
	Fe	57	213.3	18.8	**-0.0515**	0.121	234.7	mg/L	283	Standard
>	**Sc-1**	45	39491.8	10.4				mg/L	46336	Standard
	Cl	35	7537.2	5.8				ug/L	7415	Standard
	Kr	83	86.3	11.9				ug/L	106	Standard
	Br	81	2616.9	9.4				ug/L	2367	Standard
	P	31	231695.4	7.0				ug/L	257843	Standard
	S	34	26336.2	4.4				ug/L	25966	Standard
	Sr	88	100.0	30.4				ug/L	92	Standard
	C	12	13.3	43.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	9.5	5.0				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		100.232	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.576	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.323
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.057
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310185404
Sample Date/Time: Tuesday, November 05, 2013 15:46:18
Number of Replicates: 3
Autosampler Position: 307
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	194404.1	11.0				ug/L	199689	Standard
	Be	9	31.7	50.8	**0.0073**	0.008	115.9	ug/L	22	Standard
	Al	27	87789.5	7.2	**0.4921**	0.021	4.2	ug/L	615	Standard
	Sc	45	38399.0	10.6				ug/L	46336	Standard
	Ti	47	117.3	11.1	**0.3030**	0.013	4.2	ug/L	20	Standard
	V	51	36672.3	10.9	**7.8099**	0.229	2.9	ug/L	893	Standard
	Cr	52	3536.7	6.8	**0.0940**	0.017	18.2	ug/L	3436	Standard
	Cr	53	311.7	7.4	**0.0407**	0.037	91.6	ug/L	325	Standard
	Mn	55	8211.2	11.7	**0.8654**	0.041	4.7	ug/L	949	Standard
	Co	59	269.0	9.7	**0.0301**	0.002	5.1	ug/L	109	Standard
	Ni	60	2931.6	8.5	**1.3662**	0.032	2.3	ug/L	187	Standard
	Cu	65	951.7	6.7	**0.4300**	0.015	3.4	ug/L	95	Standard
	Zn	66	3025.3	8.6	**2.4078**	0.012	0.5	ug/L	320	Standard
>	**Ge**	72	426721.3	8.3				ug/L	478028	Standard
	As	75	869.2	12.5	**0.8967**	0.045	5.1	ug/L	-247	Standard
	Se	82	-26.4	13.3	**0.1079**	0.044	41.0	ug/L	-45	Standard
	Se-1	77	104.3	20.7	**0.2620**	0.163	62.0	ug/L	101	Standard
>	**Ga**	71	46.7	6.2				mg/L	38	Standard
	Rb	85	5951.2	8.8				ug/L	27	Standard
	Y	89	376257.7	9.1				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	98.4	7.2	**0.0223**	0.004	17.9	ug/L	7	Standard
	Ag	107	55.0	22.8	**-0.0013**	0.002	114.4	ug/L	60	Standard
	Cd	111	11.2	10.4	**0.0006**	0.001	182.5	mg/L	2	Standard
	Cd	114	40.8	0.5	**-0.0040**	0.001	20.6	ug/L	28	Standard
>	**In**	115	435582.4	8.9				ug/L	514607	Standard
	Sn	118	156.3	4.9	**0.0440**	0.006	13.8	ug/L	125	Standard
	Sb	123	534.3	10.4	**0.1745**	0.003	1.6	ug/L	14	Standard
	Ba	135	933.0	6.5	**0.5500**	0.015	2.8	ug/L	10	Standard
	Ce	140	50.0	17.3				ug/L	25	Standard
>	**Tb**	159	518606.3	9.3				ug/L	648946	Standard
	Ho	165	8.3	34.6				ug/L	2	Standard
	Tl	203	59.0	16.3	**0.0079**	0.001	13.3	ug/L	4	Standard
	Tl	205	56.7	13.5	**0.0084**	0.002	25.5	ug/L	0	Standard
	Pb	206	123.0	10.8	**0.0123**	0.001	12.2	ug/L	113	Standard
	Pb	207	98.3	10.6	**-0.0006**	0.001	192.9	ug/L	88	Standard
	Pb	208	278.0	5.7	**0.0094**	0.003	30.5	ug/L	233	Standard
	U	238	7.7	86.8	**-0.0013**	0.002	163.9	ug/L	1	Standard
>	**Bi**	209	266669.7	8.8				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	698.3	9.1	**0.8091**	0.025	3.1	mg/L	48	Standard
K	39	28.3	62.0	**0.3893**	0.256	65.8	mg/L	2	Standard
Ca	43	38.3	15.1	**1.1217**	0.721	64.3	mg/L	38	Standard
Fe	54	137.6	25.7	**-0.0151**	0.016	103.2	mg/L	218	Standard
Fe	57	246.7	27.4	**0.0511**	0.201	392.8	mg/L	283	Standard
Sc-1	45	38399.0	10.6				mg/L	46336	Standard
Cl	35	7449.8	9.4				ug/L	7415	Standard
Kr	83	89.7	6.1				ug/L	106	Standard
Br	81	2420.2	11.8				ug/L	2367	Standard
P	31	226202.7	6.8				ug/L	257843	Standard
S	34	25760.2	3.8				ug/L	25966	Standard
Sr	88	85.0	32.8				ug/L	92	Standard
C	12	16.7	34.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	2.9	217.0				mg/L	10	Standard
Ho-1	165	8.3	34.6				mg/L	2	Standard
Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		97.353	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		89.267	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	84.644
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.033
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310185405
Sample Date/Time: Tuesday, November 05, 2013 15:49:23
Number of Replicates: 3
Autosampler Position: 308
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	201469.7	9.2				ug/L	199689	Standard
	Be	9	45.0	29.4	**0.0126**	0.005	41.7	ug/L	22	Standard
	Al	27	361924.9	6.9	**1.9653**	0.045	2.3	ug/L	615	Standard
	Sc	45	39010.5	9.4				ug/L	46336	Standard
	Ti	47	895.7	21.0	**2.6589**	0.347	13.0	ug/L	20	Standard
	V	51	30357.5	8.7	**6.3284**	0.047	0.7	ug/L	893	Standard
	Cr	52	21051.4	9.3	**3.9723**	0.059	1.5	ug/L	3436	Standard
	Cr	53	4183.9	5.7	**4.0025**	0.219	5.5	ug/L	325	Standard
	Mn	55	62984.2	8.3	**7.2908**	0.014	0.2	ug/L	949	Standard
	Co	59	1780.8	7.0	**0.3181**	0.005	1.6	ug/L	109	Standard
	Ni	60	7340.1	9.6	**3.4891**	0.043	1.2	ug/L	187	Standard
	Cu	65	2199.2	8.6	**1.0420**	0.002	0.2	ug/L	95	Standard
	Zn	66	5295.9	9.4	**4.3874**	0.075	1.7	ug/L	320	Standard
>	**Ge**	72	434217.7	8.5				ug/L	478028	Standard
	As	75	1799.1	5.5	**1.6314**	0.065	4.0	ug/L	-247	Standard
	Se	82	-20.8	78.5	**0.1622**	0.114	70.1	ug/L	-45	Standard
	Se-1	77	98.7	8.2	**0.1876**	0.174	92.9	ug/L	101	Standard
>	**Ga**	71	215.0	10.1				mg/L	38	Standard
	Rb	85	25743.6	7.9				ug/L	27	Standard
	Y	89	383336.9	9.5				ug/L	457712	Standard
>	**Rh**	103	16.7	17.3				ug/L	7	Standard
	Mo	98	2896.2	7.6	**1.1642**	0.012	1.0	ug/L	7	Standard
	Ag	107	83.0	47.4	**0.0045**	0.009	203.0	ug/L	60	Standard
	Cd	111	48.3	54.1	**0.0219**	0.017	78.4	mg/L	2	Standard
	Cd	114	144.4	58.4	**0.0188**	0.021	111.2	ug/L	28	Standard
>	**In**	115	440370.5	8.7				ug/L	514607	Standard
	Sn	118	146.3	2.1	**0.0333**	0.010	30.2	ug/L	125	Standard
	Sb	123	980.5	9.4	**0.3249**	0.010	3.2	ug/L	14	Standard
	Ba	135	1944.8	2.7	**1.1558**	0.069	6.0	ug/L	10	Standard
	Ce	140	1808.5	82.6				ug/L	25	Standard
>	**Tb**	159	529655.9	8.2				ug/L	648946	Standard
	Ho	165	36.7	7.9				ug/L	2	Standard
	Tl	203	655.3	6.4	**0.1167**	0.010	8.6	ug/L	4	Standard
	Tl	205	605.0	2.2	**0.1081**	0.011	9.9	ug/L	0	Standard
	Pb	206	189.7	15.2	**0.0414**	0.011	27.8	ug/L	113	Standard
	Pb	207	186.0	17.7	**0.0428**	0.020	45.9	ug/L	88	Standard
	Pb	208	420.3	5.8	**0.0356**	0.002	5.3	ug/L	233	Standard
	U	238	37.0	7.2	**0.0070**	0.002	21.6	ug/L	1	Standard
>	**Bi**	209	270262.3	8.1				ug/L	321163	Standard

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	Na	23	11.7	65.5	**4.7883**	2.733	57.1	mg/L	2	Standard
	Mg	24	898.4	9.8	**1.0321**	0.036	3.5	mg/L	48	Standard
	K	39	61.7	32.8	**0.9237**	0.336	36.3	mg/L	2	Standard
	Ca	43	50.0	55.7	**2.1731**	2.615	120.3	mg/L	38	Standard
	Fe	54	216.1	6.3	**0.0383**	0.015	40.3	mg/L	218	Standard
	Fe	57	210.0	12.4	**-0.0565**	0.081	143.6	mg/L	283	Standard
>	**Sc-1**	45	39010.5	9.4				mg/L	46336	Standard
	Cl	35	7457.2	5.2				ug/L	7415	Standard
	Kr	83	97.3	8.6				ug/L	106	Standard
	Br	81	2516.9	6.0				ug/L	2367	Standard
	P	31	232907.6	6.2				ug/L	257843	Standard
	S	34	25897.2	5.6				ug/L	25966	Standard
	Sr	88	113.3	11.1				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	33.8	22.4				mg/L	10	Standard
	Ho-1	165	36.7	7.9				mg/L	2	Standard
	Er	166	60.0	76.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		100.892	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.835	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.574
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.151
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310185405PS WG451494-01
Sample Date/Time: Tuesday, November 05, 2013 15:52:27
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	199063.7	5.8				ug/L	199689	Standard
	Be	9	80405.2	7.1	**38.0064**	0.800	2.1	ug/L	22	Standard
	Al	27	356712.9	6.8	**1.9570**	0.029	1.5	ug/L	615	Standard
	Sc	45	39524.9	5.6				ug/L	46336	Standard
	Ti	47	911.7	19.1	**2.6820**	0.366	13.6	ug/L	20	Standard
	V	51	202093.6	7.3	**42.5936**	0.609	1.4	ug/L	893	Standard
	Cr	52	184213.8	8.6	**39.7251**	0.694	1.7	ug/L	3436	Standard
	Cr	53	40763.3	7.5	**40.8776**	0.286	0.7	ug/L	325	Standard
	Mn	55	386526.4	9.1	**44.7318**	0.989	2.2	ug/L	949	Standard
	Co	59	201307.8	8.9	**37.9024**	0.933	2.5	ug/L	109	Standard
	Ni	60	85316.8	7.6	**41.0092**	0.760	1.9	ug/L	187	Standard
	Cu	65	81663.6	7.3	**40.0946**	0.702	1.8	ug/L	95	Standard
	Zn	66	49663.3	7.8	**43.4747**	0.698	1.6	ug/L	320	Standard
>	**Ge**	72	439595.9	6.9				ug/L	478028	Standard
	As	75	51733.0	7.0	**41.0198**	0.253	0.6	ug/L	-247	Standard
	Se	82	5124.0	6.6	**38.4929**	0.297	0.8	ug/L	-45	Standard
	Se-1	77	3499.7	5.4	**41.0223**	0.719	1.8	ug/L	101	Standard
>	**Ga**	71	235.0	12.9				mg/L	38	Standard
	Rb	85	24433.2	10.4				ug/L	27	Standard
	Y	89	390597.6	7.6				ug/L	457712	Standard
>	**Rh**	103	18.3	63.0				ug/L	7	Standard
	Mo	98	2737.5	6.9	**1.0867**	0.008	0.7	ug/L	7	Standard
	Ag	107	212056.7	7.2	**40.3099**	0.409	1.0	ug/L	60	Standard
	Cd	111	73975.1	7.3	**40.4415**	0.129	0.3	mg/L	2	Standard
	Cd	114	185681.0	8.7	**38.5755**	0.603	1.6	ug/L	28	Standard
>	**In**	115	445314.5	7.5				ug/L	514607	Standard
	Sn	118	143.0	6.1	**0.0284**	0.007	23.4	ug/L	125	Standard
	Sb	123	111657.7	5.9	**37.7168**	0.632	1.7	ug/L	14	Standard
	Ba	135	66292.5	7.1	**39.4400**	0.444	1.1	ug/L	10	Standard
	Ce	140	611.7	42.7				ug/L	25	Standard
>	**Tb**	159	535205.1	6.9				ug/L	648946	Standard
	Ho	165	20.0	0.0				ug/L	2	Standard
	Tl	203	211067.0	6.5	**37.8257**	0.269	0.7	ug/L	4	Standard
	Tl	205	233266.7	6.4	**41.6171**	0.429	1.0	ug/L	0	Standard
	Pb	206	91503.3	6.6	**40.1235**	0.286	0.7	ug/L	113	Standard
	Pb	207	81809.6	6.9	**39.8801**	0.390	1.0	ug/L	88	Standard
	Pb	208	209599.2	6.4	**38.9950**	0.439	1.1	ug/L	233	Standard
	U	238	131437.1	6.3	**36.9883**	0.431	1.2	ug/L	1	Standard
>	**Bi**	209	274406.3	6.0				ug/L	321163	Standard

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	Na	23	3.3	86.6	**1.4472**	1.250	86.3	mg/L	2	Standard
	Mg	24	895.0	3.0	**1.0163**	0.067	6.6	mg/L	48	Standard
	K	39	63.3	12.1	**0.9332**	0.143	15.3	mg/L	2	Standard
	Ca	43	48.3	26.0	**2.0246**	1.433	70.8	mg/L	38	Standard
	Fe	54	219.7	11.5	**0.0378**	0.011	28.9	mg/L	218	Standard
	Fe	57	221.7	11.6	**-0.0389**	0.031	80.8	mg/L	283	Standard
>	**Sc-1**	45	39524.9	5.6				mg/L	46336	Standard
	Cl	35	7315.1	3.6				ug/L	7415	Standard
	Kr	83	92.7	20.7				ug/L	106	Standard
	Br	81	2563.6	2.0				ug/L	2367	Standard
	P	31	236051.9	5.8				ug/L	257843	Standard
	S	34	25589.9	3.2				ug/L	25966	Standard
	Sr	88	76.7	10.0				ug/L	92	Standard
	C	12	13.3	43.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	49.0	19.9				mg/L	10	Standard
	Ho-1	165	20.0	0.0				mg/L	2	Standard
	Er	166	20.0	50.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		99.687	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		91.960	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.535
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.441
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1310185405PS WG451494-01
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Method 6020 - Summary Report

Sample ID: L1310185405SDL WG451494-02
Sample Date/Time: Tuesday, November 05, 2013 15:55:32
Number of Replicates: 3
Autosampler Position: 310
Sample Description: 5
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	195139.9	8.8				ug/L	199689	Standard
	Be	9	21.7	13.3	**0.0022**	0.001	30.8	ug/L	22	Standard
	Al	27	73847.1	8.6	**0.4107**	0.005	1.2	ug/L	615	Standard
	Sc	45	38589.4	9.5				ug/L	46336	Standard
	Ti	47	197.7	11.0	**0.5468**	0.043	7.8	ug/L	20	Standard
	V	51	6618.3	12.5	**1.2478**	0.048	3.8	ug/L	893	Standard
	Cr	52	6866.9	7.2	**0.8311**	0.040	4.8	ug/L	3436	Standard
	Cr	53	1036.7	10.2	**0.7806**	0.017	2.1	ug/L	325	Standard
	Mn	55	13305.6	11.8	**1.4556**	0.036	2.4	ug/L	949	Standard
	Co	59	452.3	9.0	**0.0648**	0.003	4.3	ug/L	109	Standard
	Ni	60	1818.8	8.3	**0.8037**	0.011	1.4	ug/L	187	Standard
	Cu	65	611.0	6.8	**0.2542**	0.022	8.7	ug/L	95	Standard
	Zn	66	2663.9	8.4	**2.0532**	0.028	1.4	ug/L	320	Standard
>	**Ge**	72	431741.4	9.5				ug/L	478028	Standard
	As	75	164.8	42.5	**0.3275**	0.070	21.3	ug/L	-247	Standard
	Se	82	-32.7	29.8	**0.0679**	0.050	73.2	ug/L	-45	Standard
	Se-1	77	98.7	17.6	**0.1803**	0.127	70.2	ug/L	101	Standard
>	**Ga**	71	75.0	75.1				mg/L	38	Standard
	Rb	85	5000.8	10.3				ug/L	27	Standard
	Y	89	376418.2	8.5				ug/L	457712	Standard
>	**Rh**	103	8.3	34.6				ug/L	7	Standard
	Mo	98	572.9	14.5	**0.2167**	0.013	5.8	ug/L	7	Standard
	Ag	107	95.0	8.2	**0.0067**	0.003	45.8	ug/L	60	Standard
	Cd	111	18.4	73.9	**0.0050**	0.009	172.2	mg/L	2	Standard
	Cd	114	76.8	56.8	**0.0041**	0.011	259.3	ug/L	28	Standard
>	**In**	115	436404.6	9.1				ug/L	514607	Standard
	Sn	118	119.0	3.9	**0.0091**	0.012	136.1	ug/L	125	Standard
	Sb	123	471.4	27.7	**0.1509**	0.030	19.6	ug/L	14	Standard
	Ba	135	381.3	7.2	**0.2136**	0.016	7.4	ug/L	10	Standard
	Ce	140	236.7	71.9				ug/L	25	Standard
>	**Tb**	159	525083.5	9.2				ug/L	648946	Standard
	Ho	165	6.7	114.6				ug/L	2	Standard
	Tl	203	148.7	5.1	**0.0244**	0.002	6.5	ug/L	4	Standard
	Tl	205	165.0	10.5	**0.0283**	0.006	19.6	ug/L	0	Standard
	Pb	206	133.7	3.4	**0.0170**	0.004	20.9	ug/L	113	Standard
	Pb	207	112.0	15.2	**0.0068**	0.013	196.1	ug/L	88	Standard
	Pb	208	297.7	6.9	**0.0129**	0.005	36.5	ug/L	233	Standard
	U	238	25.0	34.2	**0.0037**	0.003	77.0	ug/L	1	Standard
>	**Bi**	209	268288.0	9.3				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6528**	1.122	171.9	mg/L	2	Standard
	Mg	24	230.0	10.0	**0.2427**	0.011	4.7	mg/L	48	Standard
	K	39	10.0	132.3	**0.1076**	0.234	217.3	mg/L	2	Standard
	Ca	43	18.3	31.5	**-0.9418**	0.759	80.6	mg/L	38	Standard
	Fe	54	171.0	14.0	**0.0080**	0.009	117.1	mg/L	218	Standard
	Fe	57	246.7	11.9	**0.0440**	0.121	275.1	mg/L	283	Standard
>	**Sc-1**	45	38589.4	9.5				mg/L	46336	Standard
	Cl	35	7503.2	6.2				ug/L	7415	Standard
	Kr	83	88.3	14.3				ug/L	106	Standard
	Br	81	2293.5	5.7				ug/L	2367	Standard
	P	31	233751.8	4.6				ug/L	257843	Standard
	S	34	26314.5	2.9				ug/L	25966	Standard
	Sr	88	90.0	25.5				ug/L	92	Standard
	C	12	16.7	69.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	32.2	73.4				mg/L	10	Standard
	Ho-1	165	6.7	114.6				mg/L	2	Standard
	Er	166	23.3	49.5				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		97.722	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.317	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

Sample ID: L1310185405SDL WG451494-02
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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	84.803
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.536
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 15:58:39
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	206926.7	7.3				ug/L	199689	Standard
	Be	9	107150.0	5.5	**48.7924**	1.101	2.3	ug/L	22	Standard
	Al	27	8450139.3	4.9	**44.7430**	1.068	2.4	ug/L	615	Standard
	Sc	45	40988.8	6.3				ug/L	46336	Standard
	Ti	47	34091.8	7.0	**96.4797**	0.840	0.9	ug/L	20	Standard
	V	51	250368.7	7.6	**49.4729**	0.696	1.4	ug/L	893	Standard
	Cr	52	240044.2	8.1	**48.6788**	0.739	1.5	ug/L	3436	Standard
	Cr	53	51773.4	4.9	**48.7665**	1.146	2.4	ug/L	325	Standard
	Mn	55	463183.7	8.3	**50.2647**	0.882	1.8	ug/L	949	Standard
	Co	59	286140.0	7.5	**50.5259**	0.466	0.9	ug/L	109	Standard
	Ni	60	109700.0	6.2	**49.4597**	0.323	0.7	ug/L	187	Standard
	Cu	65	111030.7	6.3	**51.1181**	0.138	0.3	ug/L	95	Standard
	Zn	66	62409.2	5.3	**51.3129**	0.662	1.3	ug/L	320	Standard
>	**Ge**	72	469028.0	6.5				ug/L	478028	Standard
	As	75	68102.0	5.3	**50.5956**	0.636	1.3	ug/L	-247	Standard
	Se	82	6871.0	6.5	**48.2939**	0.192	0.4	ug/L	-45	Standard
	Se-1	77	4790.1	6.9	**52.8654**	0.316	0.6	ug/L	101	Standard
>	**Ga**	71	65.0	33.5				mg/L	38	Standard
	Rb	85	1031.7	13.6				ug/L	27	Standard
	Y	89	410162.5	6.1				ug/L	457712	Standard
>	**Rh**	103	20.0	43.3				ug/L	7	Standard
	Mo	98	307201.1	7.3	**117.5085**	2.117	1.8	ug/L	7	Standard
	Ag	107	299756.6	6.2	**54.0300**	0.429	0.8	ug/L	60	Standard
	Cd	111	100894.4	5.9	**52.3096**	0.362	0.7	mg/L	2	Standard
	Cd	114	262419.0	6.0	**51.7385**	0.294	0.6	ug/L	28	Standard
>	**In**	115	469448.1	5.4				ug/L	514607	Standard
	Sn	118	61040.0	6.4	**52.9937**	0.634	1.2	ug/L	125	Standard
	Sb	123	151966.9	4.9	**48.6646**	0.281	0.6	ug/L	14	Standard
	Ba	135	89835.7	6.9	**50.6666**	0.757	1.5	ug/L	10	Standard
	Ce	140	48.3	23.9				ug/L	25	Standard
>	**Tb**	159	560395.2	5.8				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	288297.9	5.6	**50.4164**	0.095	0.2	ug/L	4	Standard
	Tl	205	314246.2	6.0	**54.6981**	0.310	0.6	ug/L	0	Standard
	Pb	206	123561.6	5.8	**52.8819**	0.202	0.4	ug/L	113	Standard
	Pb	207	110724.1	6.2	**52.6826**	0.387	0.7	ug/L	88	Standard
	Pb	208	285531.8	5.1	**51.8584**	0.271	0.5	ug/L	233	Standard
	U	238	180637.3	5.6	**49.5985**	0.130	0.3	ug/L	1	Standard
>	**Bi**	209	281250.1	5.5				ug/L	321163	Standard

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	Na	23	16.7	45.8	**6.8285**	3.290	48.2	mg/L	2	Standard
	Mg	24	4457.3	1.0	**5.0065**	0.267	5.3	mg/L	48	Standard
	K	39	223.3	11.0	**3.3118**	0.303	9.2	mg/L	2	Standard
	Ca	43	68.3	4.2	**3.7538**	0.439	11.7	mg/L	38	Standard
	Fe	54	8299.5	6.6	**5.2341**	0.185	3.5	mg/L	218	Standard
	Fe	57	2435.2	12.8	**5.1140**	0.418	8.2	mg/L	283	Standard
>	**Sc-1**	45	40988.8	6.3				mg/L	46336	Standard
	Cl	35	8190.9	2.9				ug/L	7415	Standard
	Kr	83	94.0	7.4				ug/L	106	Standard
	Br	81	2206.8	2.6				ug/L	2367	Standard
	P	31	301507.8	4.6				ug/L	257843	Standard
	S	34	29929.5	1.2				ug/L	25966	Standard
	Sr	88	73.3	28.4				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	6.5	86.7				mg/L	10	Standard
	Ho-1	165	1.7	173.2				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		103.624	
	Be	9	97.585		
	Al	27	89.486		
	Sc	45			
	Ti	47	96.480		
	V	51	98.946		
	Cr	52	97.358		
	Cr	53			
	Mn	55	100.529		
	Co	59	101.052		
	Ni	60	98.919		
	Cu	65	102.236		
	Zn	66	102.626		
>	Ge	72		98.117	
	As	75	101.191		
	Se	82	96.588		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	117.508	
|	Ag	107	108.060	
|	Cd	111	104.619	
|	Cd	114		
|>	In	115		91.225
|	Sn	118	105.987	
|	Sb	123	97.329	
⌊	Ba	135	101.333	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.833	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	103.717	
|	U	238	99.197	
⌊>	Bi	209		87.572
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 16:01:43
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	193960.2	10.1				ug/L	199689	Standard
	Be	9	63.3	50.8	**0.0236**	0.019	80.3	ug/L	22	Standard
	Al	27	2682.0	59.7	**0.0122**	0.011	88.2	ug/L	615	Standard
	Sc	45	38982.2	12.0				ug/L	46336	Standard
	Ti	47	25.3	26.9	**0.0168**	0.028	169.1	ug/L	20	Standard
	V	51	901.3	1.9	**0.0165**	0.016	93.9	ug/L	893	Standard
	Cr	52	3334.7	5.6	**0.0307**	0.037	120.1	ug/L	3436	Standard
	Cr	53	230.0	5.8	**-0.0496**	0.036	72.5	ug/L	325	Standard
	Mn	55	930.7	8.3	**-0.0069**	0.002	28.5	ug/L	949	Standard
	Co	59	113.0	11.1	**-0.0008**	0.000	40.5	ug/L	109	Standard
	Ni	60	459.3	7.7	**0.1354**	0.038	28.3	ug/L	187	Standard
	Cu	65	158.0	21.4	**0.0269**	0.024	90.8	ug/L	95	Standard
	Zn	66	257.3	8.2	**-0.1126**	0.034	30.6	ug/L	320	Standard
>	**Ge**	72	437839.2	10.1				ug/L	478028	Standard
	As	75	-224.3	22.6	**0.0143**	0.027	188.8	ug/L	-247	Standard
	Se	82	-39.1	1.4	**0.0188**	0.025	134.2	ug/L	-45	Standard
	Se-1	77	87.0	1.1	**0.0345**	0.098	282.9	ug/L	101	Standard
>	**Ga**	71	25.0	34.6				mg/L	38	Standard
	Rb	85	33.3	31.2				ug/L	27	Standard
	Y	89	383002.5	9.9				ug/L	457712	Standard
>	**Rh**	103	5.0	0.0				ug/L	7	Standard
	Mo	98	65.7	30.8	**0.0078**	0.006	82.3	ug/L	7	Standard
	Ag	107	78.3	17.4	**0.0031**	0.003	107.4	ug/L	60	Standard
	Cd	111	10.9	81.8	**0.0006**	0.006	870.4	mg/L	2	Standard
	Cd	114	43.6	67.6	**-0.0032**	0.007	225.2	ug/L	28	Standard
>	**In**	115	444450.1	11.2				ug/L	514607	Standard
	Sn	118	115.7	9.5	**0.0034**	0.002	65.2	ug/L	125	Standard
	Sb	123	297.9	44.6	**0.0886**	0.033	36.8	ug/L	14	Standard
	Ba	135	19.7	33.9	**-0.0064**	0.005	77.0	ug/L	10	Standard
	Ce	140	6.7	114.6				ug/L	25	Standard
>	**Tb**	159	531046.2	9.5				ug/L	648946	Standard
	Ho	165	6.7	86.6				ug/L	2	Standard
	Tl	203	27.7	72.4	**0.0023**	0.004	174.5	ug/L	4	Standard
	Tl	205	10.0	50.0	**-0.0003**	0.001	291.3	ug/L	0	Standard
	Pb	206	115.3	9.6	**0.0082**	0.004	48.4	ug/L	113	Standard
	Pb	207	89.0	9.6	**-0.0058**	0.001	18.0	ug/L	88	Standard
	Pb	208	205.0	5.5	**-0.0052**	0.002	40.8	ug/L	233	Standard
	U	238	10.7	5.4	**-0.0005**	0.000	78.6	ug/L	1	Standard
>	**Bi**	209	270462.1	9.3				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	58.3	42.3	**0.0367**	0.030	82.2	mg/L	48	Standard
K	39	5.0	100.0	**0.0212**	0.080	377.6	mg/L	2	Standard
Ca	43	25.0	52.9	**-0.2755**	1.504	546.1	mg/L	38	Standard
Fe	54	194.7	11.1	**0.0242**	0.020	81.0	mg/L	218	Standard
Fe	57	230.0	10.9	**-0.0092**	0.007	74.7	mg/L	283	Standard
> **Sc-1**	45	38982.2	12.0				mg/L	46336	Standard
Cl	35	7992.1	3.8				ug/L	7415	Standard
Kr	83	94.0	2.1				ug/L	106	Standard
Br	81	2360.2	7.5				ug/L	2367	Standard
P	31	260451.7	6.2				ug/L	257843	Standard
S	34	28947.7	4.4				ug/L	25966	Standard
Sr	88	106.7	25.8				ug/L	92	Standard
C	12	20.0	50.0				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	6.5	86.7				mg/L	10	Standard
Ho-1	165	6.7	86.6				mg/L	2	Standard
Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		97.131	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		91.593	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.367
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.213
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310185406
Sample Date/Time: Tuesday, November 05, 2013 16:04:50
Number of Replicates: 3
Autosampler Position: 311
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	199783.0	5.7				ug/L	199689	Standard
	Be	9	23.3	32.7	**0.0028**	0.004	137.7	ug/L	22	Standard
	Al	27	286199.4	5.3	**1.5647**	0.015	1.0	ug/L	615	Standard
	Sc	45	40617.9	6.7				ug/L	46336	Standard
	Ti	47	241.3	6.7	**0.6791**	0.016	2.3	ug/L	20	Standard
	V	51	61525.0	8.3	**13.0433**	0.297	2.3	ug/L	893	Standard
	Cr	52	4478.3	3.9	**0.2933**	0.027	9.0	ug/L	3436	Standard
	Cr	53	535.0	7.5	**0.2664**	0.067	25.1	ug/L	325	Standard
	Mn	55	22598.2	8.0	**2.5489**	0.050	2.0	ug/L	949	Standard
	Co	59	1016.7	6.9	**0.1726**	0.006	3.7	ug/L	109	Standard
	Ni	60	9219.1	6.1	**4.4239**	0.036	0.8	ug/L	187	Standard
	Cu	65	4080.6	6.6	**1.9853**	0.013	0.7	ug/L	95	Standard
	Zn	66	3864.2	5.5	**3.1240**	0.086	2.7	ug/L	320	Standard
>	**Ge**	72	432683.2	6.1				ug/L	478028	Standard
	As	75	2132.8	5.9	**1.9014**	0.040	2.1	ug/L	-247	Standard
	Se	82	-17.3	45.4	**0.1799**	0.066	36.8	ug/L	-45	Standard
	Se-1	77	96.3	10.5	**0.1587**	0.158	99.7	ug/L	101	Standard
>	**Ga**	71	60.0	41.7				mg/L	38	Standard
	Rb	85	16060.2	5.2				ug/L	27	Standard
	Y	89	391552.3	7.7				ug/L	457712	Standard
>	**Rh**	103	16.7	62.4				ug/L	7	Standard
	Mo	98	1774.8	8.3	**0.6954**	0.027	3.9	ug/L	7	Standard
	Ag	107	62.3	21.8	**-0.0002**	0.002	1199.5	ug/L	60	Standard
	Cd	111	83.2	21.0	**0.0396**	0.009	22.5	mg/L	2	Standard
	Cd	114	233.2	4.5	**0.0359**	0.005	14.7	ug/L	28	Standard
>	**In**	115	446659.6	6.8				ug/L	514607	Standard
	Sn	118	127.7	6.8	**0.0141**	0.011	79.8	ug/L	125	Standard
	Sb	123	4074.6	6.0	**1.3622**	0.017	1.2	ug/L	14	Standard
	Ba	135	8392.3	5.9	**4.9628**	0.057	1.2	ug/L	10	Standard
	Ce	140	150.0	20.3				ug/L	25	Standard
>	**Tb**	159	531317.1	6.5				ug/L	648946	Standard
	Ho	165	8.3	34.6				ug/L	2	Standard
	Tl	203	334.0	14.1	**0.0571**	0.005	8.5	ug/L	4	Standard
	Tl	205	318.3	6.5	**0.0550**	0.002	4.1	ug/L	0	Standard
	Pb	206	205.3	6.1	**0.0474**	0.003	5.4	ug/L	113	Standard
	Pb	207	183.3	10.3	**0.0400**	0.004	9.9	ug/L	88	Standard
	Pb	208	459.3	12.3	**0.0418**	0.005	12.7	ug/L	233	Standard
	U	238	4.7	44.6	**-0.0023**	0.001	21.7	ug/L	1	Standard
>	**Bi**	209	272804.1	6.0				ug/L	321163	Standard

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	Na	23	5.0	0.0	**2.0502**	0.133	6.5	mg/L	2	Standard
	Mg	24	2518.5	5.6	**2.8362**	0.080	2.8	mg/L	48	Standard
	K	39	48.3	41.8	**0.6649**	0.258	38.8	mg/L	2	Standard
	Ca	43	40.0	33.1	**0.9939**	1.001	100.7	mg/L	38	Standard
	Fe	54	166.2	6.4	**-0.0006**	0.006	982.3	mg/L	218	Standard
	Fe	57	211.7	24.1	**-0.0723**	0.140	193.7	mg/L	283	Standard
>	**Sc-1**	45	40617.9	6.7				mg/L	46336	Standard
	Cl	35	7433.2	3.0				ug/L	7415	Standard
	Kr	83	86.0	3.1				ug/L	106	Standard
	Br	81	2770.3	10.8				ug/L	2367	Standard
	P	31	257633.1	4.5				ug/L	257843	Standard
	S	34	25651.7	2.3				ug/L	25966	Standard
	Sr	88	100.0	35.0				ug/L	92	Standard
	C	12	16.7	91.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0					mg/L	0	Standard
	Dy	164	9.5	110.1				mg/L	10	Standard
	Ho-1	165	8.3	34.6				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		100.047	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		90.514	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.796
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.943
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 16:07:57
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	206638.8	5.3				ug/L	199689	Standard
	Be	9	108160.4	5.1	**49.2772**	0.182	0.4	ug/L	22	Standard
	Al	27	8337358.4	5.8	**44.1505**	0.546	1.2	ug/L	615	Standard
	Sc	45	41181.1	7.4				ug/L	46336	Standard
	Ti	47	33586.0	7.0	**97.1561**	1.286	1.3	ug/L	20	Standard
	V	51	246340.7	8.3	**49.7405**	1.143	2.3	ug/L	893	Standard
	Cr	52	238830.7	8.8	**49.5043**	1.420	2.9	ug/L	3436	Standard
	Cr	53	52066.2	6.7	**50.1033**	1.261	2.5	ug/L	325	Standard
	Mn	55	465599.9	8.3	**51.6520**	1.157	2.2	ug/L	949	Standard
	Co	59	280500.3	8.6	**50.6056**	1.265	2.5	ug/L	109	Standard
	Ni	60	109198.0	7.9	**50.2901**	0.915	1.8	ug/L	187	Standard
	Cu	65	108002.1	6.9	**50.8138**	0.608	1.2	ug/L	95	Standard
	Zn	66	62629.2	6.5	**52.6149**	0.379	0.7	ug/L	320	Standard
>	**Ge**	72	458780.8	6.1				ug/L	478028	Standard
	As	75	67407.6	6.2	**51.1681**	0.523	1.0	ug/L	-247	Standard
	Se	82	6788.4	6.2	**48.7725**	0.264	0.5	ug/L	-45	Standard
	Se-1	77	4737.7	6.8	**53.4704**	1.322	2.5	ug/L	101	Standard
>	**Ga**	71	58.3	13.1				mg/L	38	Standard
	Rb	85	1061.7	5.1				ug/L	27	Standard
	Y	89	409423.6	5.0				ug/L	457712	Standard
>	**Rh**	103	41.7	42.1				ug/L	7	Standard
	Mo	98	307491.4	7.9	**118.1361**	4.522	3.8	ug/L	7	Standard
	Ag	107	299191.5	6.4	**54.1708**	1.389	2.6	ug/L	60	Standard
	Cd	111	100881.5	5.9	**52.5368**	1.028	2.0	mg/L	2	Standard
	Cd	114	262663.9	6.1	**52.0150**	0.800	1.5	ug/L	28	Standard
>	**In**	115	467266.1	4.5				ug/L	514607	Standard
	Sn	118	61524.5	5.1	**53.6741**	0.547	1.0	ug/L	125	Standard
	Sb	123	151099.0	4.7	**48.6023**	0.390	0.8	ug/L	14	Standard
	Ba	135	88920.5	6.3	**50.3856**	0.987	2.0	ug/L	10	Standard
	Ce	140	45.0	19.2				ug/L	25	Standard
>	**Tb**	159	556293.3	5.4				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	287494.0	6.0	**50.4488**	0.855	1.7	ug/L	4	Standard
	Tl	205	311963.3	4.6	**54.5166**	0.191	0.4	ug/L	0	Standard
	Pb	206	122983.0	6.2	**52.8189**	1.052	2.0	ug/L	113	Standard
	Pb	207	109443.4	5.9	**52.2673**	0.953	1.8	ug/L	88	Standard
	Pb	208	283212.5	5.4	**51.6128**	0.567	1.1	ug/L	233	Standard
	U	238	179969.0	5.1	**49.5987**	0.392	0.8	ug/L	1	Standard
>	**Bi**	209	280162.6	4.3				ug/L	321163	Standard

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	Na	23	13.3	21.7	**5.3809**	1.205	22.4	mg/L	2	Standard
	Mg	24	4419.0	5.7	**4.9330**	0.091	1.8	mg/L	48	Standard
	K	39	220.0	20.8	**3.2270**	0.482	14.9	mg/L	2	Standard
	Ca	43	78.3	35.2	**4.6414**	2.566	55.3	mg/L	38	Standard
	Fe	54	8146.6	7.5	**5.1097**	0.013	0.2	mg/L	218	Standard
	Fe	57	2398.5	6.6	**5.0171**	0.111	2.2	mg/L	283	Standard
>	**Sc-1**	45	41181.1	7.4				mg/L	46336	Standard
	Cl	35	7878.0	3.4				ug/L	7415	Standard
	Kr	83	87.0	11.9				ug/L	106	Standard
	Br	81	2153.5	5.4				ug/L	2367	Standard
	P	31	300733.9	4.3				ug/L	257843	Standard
	S	34	29264.9	2.7				ug/L	25966	Standard
	Sr	88	56.7	31.0				ug/L	92	Standard
	C	12	23.3	24.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	2.9	217.0				mg/L	10	Standard
	Ho-1	165	1.7	173.2				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		103.480	
	Be	9	98.554		
	Al	27	88.301		
	Sc	45			
	Ti	47	97.156		
	V	51	99.481		
	Cr	52	99.009		
	Cr	53			
	Mn	55	103.304		
	Co	59	101.211		
	Ni	60	100.580		
	Cu	65	101.628		
	Zn	66	105.230		
>	Ge	72		95.974	
	As	75	102.336		
	Se	82	97.545		
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98	118.136	
	Ag	107	108.342	
	Cd	111	105.074	
	Cd	114		
>	In	115		90.801
	Sn	118	107.348	
	Sb	123	97.205	
	Ba	135	100.771	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.898	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	103.226	
	U	238	99.197	
>	Bi	209		87.234
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 16:11:01
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	203138.3	8.0				ug/L	199689	Standard
	Be	9	33.3	31.2	**0.0070**	0.003	49.8	ug/L	22	Standard
	Al	27	1661.8	5.4	**0.0054**	0.001	19.7	ug/L	615	Standard
	Sc	45	38996.9	6.8				ug/L	46336	Standard
	Ti	47	15.3	24.7	**-0.0157**	0.009	56.0	ug/L	20	Standard
	V	51	888.4	4.9	**0.0129**	0.009	73.5	ug/L	893	Standard
	Cr	52	3263.7	3.4	**0.0141**	0.051	363.9	ug/L	3436	Standard
	Cr	53	213.3	3.6	**-0.0675**	0.028	42.0	ug/L	325	Standard
	Mn	55	930.7	4.1	**-0.0069**	0.007	98.4	ug/L	949	Standard
	Co	59	94.7	12.2	**-0.0043**	0.001	32.5	ug/L	109	Standard
	Ni	60	403.0	10.8	**0.1052**	0.006	6.0	ug/L	187	Standard
	Cu	65	145.3	5.9	**0.0192**	0.005	26.5	ug/L	95	Standard
	Zn	66	255.3	6.3	**-0.1160**	0.017	14.6	ug/L	320	Standard
>	**Ge**	72	439020.3	10.0				ug/L	478028	Standard
	As	75	-259.5	6.5	**-0.0148**	0.008	52.4	ug/L	-247	Standard
	Se	82	-52.8	24.3	**-0.0777**	0.054	69.8	ug/L	-45	Standard
	Se-1	77	99.3	7.1	**0.1852**	0.183	98.7	ug/L	101	Standard
>	**Ga**	71	26.7	47.2				mg/L	38	Standard
	Rb	85	18.3	41.7				ug/L	27	Standard
	Y	89	388868.6	9.7				ug/L	457712	Standard
>	**Rh**	103	11.7	89.2				ug/L	7	Standard
	Mo	98	49.9	48.4	**0.0012**	0.008	644.5	ug/L	7	Standard
	Ag	107	62.3	11.3	**-0.0001**	0.001	464.6	ug/L	60	Standard
	Cd	111	3.3	71.2	**-0.0039**	0.001	34.6	mg/L	2	Standard
	Cd	114	24.8	51.5	**-0.0074**	0.003	39.6	ug/L	28	Standard
>	**In**	115	446602.5	9.1				ug/L	514607	Standard
	Sn	118	133.0	19.0	**0.0183**	0.018	97.7	ug/L	125	Standard
	Sb	123	293.5	42.1	**0.0872**	0.031	36.1	ug/L	14	Standard
	Ba	135	12.7	9.1	**-0.0109**	0.001	11.4	ug/L	10	Standard
	Ce	140	13.3	21.7				ug/L	25	Standard
>	**Tb**	159	530678.5	10.1				ug/L	648946	Standard
	Ho	165	8.3	91.7				ug/L	2	Standard
	Tl	203	7.0	28.6	**-0.0017**	0.000	17.1	ug/L	4	Standard
	Tl	205	11.7	65.5	**0.0001**	0.002	1560.9	ug/L	0	Standard
	Pb	206	91.3	20.3	**-0.0028**	0.005	181.6	ug/L	113	Standard
	Pb	207	84.3	7.9	**-0.0081**	0.002	19.6	ug/L	88	Standard
	Pb	208	213.0	5.2	**-0.0036**	0.003	83.4	ug/L	233	Standard
	U	238	7.3	20.8	**-0.0015**	0.001	42.5	ug/L	1	Standard
>	**Bi**	209	270661.7	10.1				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.7318**	1.259	172.0	mg/L	2	Standard
	Mg	24	46.7	16.4	**0.0229**	0.012	54.1	mg/L	48	Standard
	K	39	1.7	173.2	**-0.0349**	0.047	134.9	mg/L	2	Standard
	Ca	43	23.3	44.6	**-0.4633**	1.179	254.6	mg/L	38	Standard
	Fe	54	190.9	7.5	**0.0213**	0.018	83.5	mg/L	218	Standard
	Fe	57	268.3	23.7	**0.0931**	0.194	208.2	mg/L	283	Standard
>	**Sc-1**	45	38996.9	6.8				mg/L	46336	Standard
	Cl	35	7883.4	4.0				ug/L	7415	Standard
	Kr	83	104.0	10.7				ug/L	106	Standard
	Br	81	2363.5	6.0				ug/L	2367	Standard
	P	31	257074.4	3.7				ug/L	257843	Standard
	S	34	28415.0	2.6				ug/L	25966	Standard
	Sr	88	95.0	32.0				ug/L	92	Standard
	C	12	6.7	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	3.0	187.1				mg/L	10	Standard
	Ho-1	165	8.3	91.7				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		101.727	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		91.840	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.785
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.275
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: PBW 51 WG451123-02
Sample Date/Time: Tuesday, November 05, 2013 16:18:30
Number of Replicates: 3
Autosampler Position: 301
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	174090.2	9.4				ug/L	199689	Standard
	Be	9	35.0	37.8	**0.0112**	0.009	77.4	ug/L	22	Standard
	Al	27	1415.1	4.9	**0.0054**	0.001	23.4	ug/L	615	Standard
	Sc	45	33517.2	8.5				ug/L	46336	Standard
	Ti	47	12.3	40.8	**-0.0194**	0.017	85.8	ug/L	20	Standard
	V	51	759.0	9.7	**0.0083**	0.015	180.5	ug/L	893	Standard
	Cr	52	2927.9	2.8	**0.0337**	0.068	202.8	ug/L	3436	Standard
	Cr	53	148.3	23.9	**-0.1122**	0.048	42.5	ug/L	325	Standard
	Mn	55	588.3	8.3	**-0.0372**	0.003	8.7	ug/L	949	Standard
	Co	59	95.3	11.9	**-0.0015**	0.003	171.0	ug/L	109	Standard
	Ni	60	366.3	4.9	**0.1134**	0.006	5.7	ug/L	187	Standard
	Cu	65	88.7	7.5	**-0.0024**	0.006	239.3	ug/L	95	Standard
	Zn	66	344.3	28.3	**0.0027**	0.074	2740.2	ug/L	320	Standard
>	**Ge**	72	383307.0	6.9				ug/L	478028	Standard
	As	75	-199.2	35.0	**0.0086**	0.072	838.8	ug/L	-247	Standard
	Se	82	-37.2	39.9	**-0.0112**	0.150	1342.5	ug/L	-45	Standard
	Se-1	77	87.7	11.4	**0.1891**	0.148	78.4	ug/L	101	Standard
>	**Ga**	71	25.0	40.0				mg/L	38	Standard
	Rb	85	25.0	40.0				ug/L	27	Standard
	Y	89	341946.0	9.1				ug/L	457712	Standard
>	**Rh**	103	1.7	173.2				ug/L	7	Standard
	Mo	98	19.2	67.4	**-0.0098**	0.006	59.9	ug/L	7	Standard
	Ag	107	57.3	23.7	**0.0003**	0.002	940.8	ug/L	60	Standard
	Cd	111	2.3	65.8	**-0.0042**	0.001	22.4	mg/L	2	Standard
	Cd	114	16.0	110.8	**-0.0090**	0.004	43.5	ug/L	28	Standard
>	**In**	115	395973.6	7.4				ug/L	514607	Standard
	Sn	118	88.7	12.1	**-0.0116**	0.008	73.4	ug/L	125	Standard
	Sb	123	35.8	2.8	**0.0039**	0.001	21.4	ug/L	14	Standard
	Ba	135	9.3	34.4	**-0.0123**	0.002	13.6	ug/L	10	Standard
	Ce	140	3.3	86.6				ug/L	25	Standard
>	**Tb**	159	483260.1	7.7				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	18.0	47.5	**0.0006**	0.002	278.0	ug/L	4	Standard
	Tl	205	16.7	91.7	**0.0010**	0.003	270.8	ug/L	0	Standard
	Pb	206	90.3	6.3	**0.0006**	0.003	480.4	ug/L	113	Standard
	Pb	207	69.7	21.8	**-0.0124**	0.008	65.5	ug/L	88	Standard
	Pb	208	179.7	16.1	**-0.0072**	0.004	52.4	ug/L	233	Standard
	U	238	0.3	173.2	**-0.0035**	0.000	5.2	ug/L	1	Standard
>	**Bi**	209	248851.3	7.6				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	60.0	28.9	**0.0495**	0.022	44.2	mg/L	48	Standard
K	39	3.3	86.6	**0.0027**	0.056	2057.5	mg/L	2	Standard
Ca	43	28.3	27.0	**0.4619**	0.716	155.0	mg/L	38	Standard
Fe	54	82.9	49.1	**-0.0448**	0.026	56.9	mg/L	218	Standard
Fe	57	240.0	18.5	**0.1213**	0.178	146.9	mg/L	283	Standard
Sc-1	45	33517.2	8.5				mg/L	46336	Standard
Cl	35	7164.4	1.2				ug/L	7415	Standard
Kr	83	90.3	14.1				ug/L	106	Standard
Br	81	1956.8	5.2				ug/L	2367	Standard
P	31	105875.5	3.0				ug/L	257843	Standard
S	34	25488.1	0.5				ug/L	25966	Standard
Sr	88	91.7	54.6				ug/L	92	Standard
C	12	10.0	100.0				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	0	Standard
Dy	164	3.3	173.2				mg/L	10	Standard
Ho-1	165	5.0	100.0				mg/L	2	Standard
Er	166	0.0					mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		87.181	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		80.185	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	76.947
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	77.484
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 51 WG451123-02
Report Date/Time: Tuesday, November 05, 2013 16:20:43
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Method 6020 - Summary Report

Sample ID: LCSW 51 WG451123-03
Sample Date/Time: Tuesday, November 05, 2013 16:21:35
Number of Replicates: 3
Autosampler Position: 302
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	208720.6	9.1				ug/L	199689	Standard
	Be	9	54011.5	7.5	**24.3794**	0.375	1.5	ug/L	22	Standard
	Al	27	3330.4	6.2	**0.0139**	0.001	6.0	ug/L	615	Standard
	Sc	45	40997.3	8.1				ug/L	46336	Standard
	Ti	47	21.7	20.8	**0.0020**	0.016	800.9	ug/L	20	Standard
	V	51	125432.8	9.6	**25.5063**	0.512	2.0	ug/L	893	Standard
	Cr	52	123018.9	8.8	**25.4415**	0.336	1.3	ug/L	3436	Standard
	Cr	53	26149.3	9.0	**25.2716**	0.373	1.5	ug/L	325	Standard
	Mn	55	242366.2	9.9	**27.1090**	0.661	2.4	ug/L	949	Standard
	Co	59	144801.3	10.5	**26.3770**	0.759	2.9	ug/L	109	Standard
	Ni	60	55974.4	9.2	**26.0061**	0.419	1.6	ug/L	187	Standard
	Cu	65	56620.8	8.3	**26.8929**	0.238	0.9	ug/L	95	Standard
	Zn	66	33954.8	7.6	**28.6756**	0.059	0.2	ug/L	320	Standard
>	**Ge**	72	453999.2	7.6				ug/L	478028	Standard
	As	75	34024.5	7.5	**26.1942**	0.089	0.3	ug/L	-247	Standard
	Se	82	3452.4	6.8	**25.2277**	0.203	0.8	ug/L	-45	Standard
	Se-1	77	2393.9	5.8	**26.8297**	0.548	2.0	ug/L	101	Standard
>	**Ga**	71	23.3	99.0				mg/L	38	Standard
	Rb	85	28.3	36.7				ug/L	27	Standard
	Y	89	407348.4	9.5				ug/L	457712	Standard
>	**Rh**	103	18.3	41.7				ug/L	7	Standard
	Mo	98	32.8	21.7	**-0.0057**	0.002	38.3	ug/L	7	Standard
	Ag	107	151933.9	8.4	**27.9016**	0.153	0.5	ug/L	60	Standard
	Cd	111	49907.4	8.6	**26.3594**	0.199	0.8	mg/L	2	Standard
	Cd	114	126722.3	7.3	**25.4669**	0.287	1.1	ug/L	28	Standard
>	**In**	115	460673.4	7.9				ug/L	514607	Standard
	Sn	118	213.0	2.8	**0.0865**	0.012	13.8	ug/L	125	Standard
	Sb	123	76875.3	7.3	**25.0853**	0.161	0.6	ug/L	14	Standard
	Ba	135	44892.0	8.1	**25.8034**	0.089	0.3	ug/L	10	Standard
	Ce	140	81.7	19.7				ug/L	25	Standard
>	**Tb**	159	544023.1	7.6				ug/L	648946	Standard
	Ho	165	8.3	91.7				ug/L	2	Standard
	Tl	203	145605.3	7.6	**25.8511**	0.024	0.1	ug/L	4	Standard
	Tl	205	160764.7	7.2	**28.4196**	0.225	0.8	ug/L	0	Standard
	Pb	206	64064.7	8.1	**27.8134**	0.171	0.6	ug/L	113	Standard
	Pb	207	54688.9	7.9	**26.3962**	0.158	0.6	ug/L	88	Standard
	Pb	208	144647.0	7.7	**26.6454**	0.060	0.2	ug/L	233	Standard
	U	238	88213.5	7.0	**24.5972**	0.116	0.5	ug/L	1	Standard
>	**Bi**	209	277010.9	7.5				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6253**	1.074	171.8	mg/L	2	Standard
	Mg	24	66.7	18.9	**0.0421**	0.011	25.6	mg/L	48	Standard
	K	39	1.7	173.2	**-0.0389**	0.040	103.3	mg/L	2	Standard
	Ca	43	30.0	16.7	**0.0335**	0.392	1168.8	mg/L	38	Standard
	Fe	54	250.8	15.1	**0.0523**	0.013	25.4	mg/L	218	Standard
	Fe	57	185.0	9.4	**-0.1412**	0.053	37.3	mg/L	283	Standard
>	**Sc-1**	45	40997.3	8.1				mg/L	46336	Standard
	Cl	35	8411.7	8.0				ug/L	7415	Standard
	Kr	83	104.0	5.0				ug/L	106	Standard
	Br	81	2663.6	6.4				ug/L	2367	Standard
	P	31	307771.7	6.6				ug/L	257843	Standard
	S	34	27939.1	4.7				ug/L	25966	Standard
	Sr	88	80.0	27.2				ug/L	92	Standard
	C	12	13.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	6.5	179.6				mg/L	10	Standard
	Ho-1	165	8.3	91.7				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.523	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		94.973	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.519
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.252
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310181906 WG451123-01
Sample Date/Time: Tuesday, November 05, 2013 16:24:39
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	213905.3	5.2				ug/L	199689	Standard
	Be	9	51.7	64.4	**0.0146**	0.015	102.5	ug/L	22	Standard
	Al	27	1723636.5	4.7	**8.8172**	0.048	0.5	ug/L	615	Standard
	Sc	45	42663.6	7.8				ug/L	46336	Standard
	Ti	47	118.3	4.7	**0.2704**	0.033	12.1	ug/L	20	Standard
	V	51	1123.2	6.1	**0.0442**	0.012	27.6	ug/L	893	Standard
	Cr	52	3847.5	5.2	**0.0757**	0.029	37.8	ug/L	3436	Standard
	Cr	53	301.7	22.0	**-0.0039**	0.056	1448.7	ug/L	325	Standard
	Mn	55	361640.1	5.6	**38.7665**	0.468	1.2	ug/L	949	Standard
	Co	59	3169.3	4.1	**0.5316**	0.020	3.8	ug/L	109	Standard
	Ni	60	693.7	0.7	**0.2208**	0.016	7.5	ug/L	187	Standard
	Cu	65	419.3	1.1	**0.1386**	0.011	7.8	ug/L	95	Standard
	Zn	66	3189.7	7.9	**2.2616**	0.067	2.9	ug/L	320	Standard
>	**Ge**	72	474851.4	5.5				ug/L	478028	Standard
	As	75	6537.1	5.2	**4.9680**	0.038	0.8	ug/L	-247	Standard
	Se	82	-22.5	58.7	**0.1539**	0.097	62.7	ug/L	-45	Standard
	Se-1	77	100.0	7.2	**0.0940**	0.118	125.1	ug/L	101	Standard
>	**Ga**	71	65.0	15.4				mg/L	38	Standard
	Rb	85	11644.5	3.6				ug/L	27	Standard
	Y	89	419358.6	6.2				ug/L	457712	Standard
>	**Rh**	103	20.0	25.0				ug/L	7	Standard
	Mo	98	113.7	11.6	**0.0246**	0.006	23.5	ug/L	7	Standard
	Ag	107	88.0	54.3	**0.0038**	0.009	231.0	ug/L	60	Standard
	Cd	111	24.8	31.4	**0.0070**	0.004	54.0	mg/L	2	Standard
	Cd	114	79.1	22.9	**0.0029**	0.004	146.9	ug/L	28	Standard
>	**In**	115	475372.6	4.9				ug/L	514607	Standard
	Sn	118	157.7	15.0	**0.0320**	0.013	41.6	ug/L	125	Standard
	Sb	123	211.2	14.1	**0.0570**	0.008	14.7	ug/L	14	Standard
	Ba	135	41184.0	4.4	**22.9439**	0.125	0.5	ug/L	10	Standard
	Ce	140	11457.7	2.1				ug/L	25	Standard
>	**Tb**	159	563695.1	6.0				ug/L	648946	Standard
	Ho	165	223.3	20.8				ug/L	2	Standard
	Tl	203	111.0	13.0	**0.0162**	0.001	8.9	ug/L	4	Standard
	Tl	205	158.3	9.6	**0.0252**	0.003	11.6	ug/L	0	Standard
	Pb	206	359.0	3.6	**0.1092**	0.007	6.4	ug/L	113	Standard
	Pb	207	326.0	10.4	**0.1036**	0.008	7.5	ug/L	88	Standard
	Pb	208	828.0	9.4	**0.1050**	0.011	10.5	ug/L	233	Standard
	U	238	100.3	18.1	**0.0238**	0.006	23.7	ug/L	1	Standard
>	**Bi**	209	283985.3	5.4				ug/L	321163	Standard

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	Na	23	8.3	34.6	**3.2592**	1.183	36.3	mg/L	2	Standard
	Mg	24	2576.9	1.1	**2.7706**	0.208	7.5	mg/L	48	Standard
	K	39	15.0	33.3	**0.1544**	0.067	43.3	mg/L	2	Standard
	Ca	43	18.3	15.7	**-1.1419**	0.378	33.1	mg/L	38	Standard
	Fe	54	14389.6	6.8	**8.7986**	0.367	4.2	mg/L	218	Standard
	Fe	57	4193.9	3.1	**8.8860**	0.553	6.2	mg/L	283	Standard
>	**Sc-1**	45	42663.6	7.8				mg/L	46336	Standard
	Cl	35	8008.8	4.6				ug/L	7415	Standard
	Kr	83	90.0	15.0				ug/L	106	Standard
	Br	81	5391.0	5.8				ug/L	2367	Standard
	P	31	342229.8	2.3				ug/L	257843	Standard
	S	34	29081.2	1.9				ug/L	25966	Standard
	Sr	88	93.3	20.3				ug/L	92	Standard
	C	12	53.3	54.1				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	387.7	17.9				mg/L	10	Standard
	Ho-1	165	223.3	20.8				mg/L	2	Standard
	Er	166	256.7	25.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		107.119	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.335	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.376
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.424
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310181907S WG451123-04
Sample Date/Time: Tuesday, November 05, 2013 16:27:44
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	212517.8	6.7				ug/L	199689	Standard
	Be	9	56075.5	5.9	**24.8514**	0.769	3.1	ug/L	22	Standard
	Al	27	1662786.6	6.4	**8.5618**	0.151	1.8	ug/L	615	Standard
	Sc	45	43024.7	9.1				ug/L	46336	Standard
	Ti	47	109.0	11.5	**0.2468**	0.035	14.2	ug/L	20	Standard
	V	51	128794.1	9.3	**25.2951**	0.494	2.0	ug/L	893	Standard
	Cr	52	124359.9	8.3	**24.8273**	0.206	0.8	ug/L	3436	Standard
	Cr	53	26429.9	10.6	**24.6449**	0.907	3.7	ug/L	325	Standard
	Mn	55	580865.9	9.0	**62.9282**	1.186	1.9	ug/L	949	Standard
	Co	59	148830.5	9.6	**26.1929**	0.549	2.1	ug/L	109	Standard
	Ni	60	56877.4	10.8	**25.4978**	0.872	3.4	ug/L	187	Standard
	Cu	65	56710.6	7.3	**26.0262**	0.285	1.1	ug/L	95	Standard
	Zn	66	33949.4	6.9	**27.6883**	0.302	1.1	ug/L	320	Standard
>	**Ge**	72	470094.0	7.5				ug/L	478028	Standard
	As	75	40545.9	7.0	**30.1238**	0.150	0.5	ug/L	-247	Standard
	Se	82	3351.5	7.5	**23.6627**	0.119	0.5	ug/L	-45	Standard
	Se-1	77	2337.8	6.3	**25.2398**	0.353	1.4	ug/L	101	Standard
>	**Ga**	71	50.0	10.0				mg/L	38	Standard
	Rb	85	11564.4	6.4				ug/L	27	Standard
	Y	89	426008.0	8.2				ug/L	457712	Standard
>	**Rh**	103	11.7	65.5				ug/L	7	Standard
	Mo	98	53.7	7.4	**0.0020**	0.000	4.1	ug/L	7	Standard
	Ag	107	152455.0	8.0	**27.2720**	0.369	1.4	ug/L	60	Standard
	Cd	111	50772.5	7.5	**26.1286**	0.109	0.4	mg/L	2	Standard
	Cd	114	129791.0	6.5	**25.4121**	0.450	1.8	ug/L	28	Standard
>	**In**	115	472913.5	7.2				ug/L	514607	Standard
	Sn	118	155.0	5.5	**0.0311**	0.007	23.1	ug/L	125	Standard
	Sb	123	77919.6	7.0	**24.7640**	0.118	0.5	ug/L	14	Standard
	Ba	135	85519.6	7.8	**47.8927**	0.421	0.9	ug/L	10	Standard
	Ce	140	10747.2	9.2				ug/L	25	Standard
>	**Tb**	159	567836.1	7.7				ug/L	648946	Standard
	Ho	165	215.0	16.1				ug/L	2	Standard
	Tl	203	148961.0	7.5	**25.5934**	0.298	1.2	ug/L	4	Standard
	Tl	205	159980.7	8.4	**27.3537**	0.597	2.2	ug/L	0	Standard
	Pb	206	65052.9	7.8	**27.3331**	0.407	1.5	ug/L	113	Standard
	Pb	207	55481.7	6.6	**25.9267**	0.085	0.3	ug/L	88	Standard
	Pb	208	147177.5	7.1	**26.2413**	0.260	1.0	ug/L	233	Standard
	U	238	90876.1	6.3	**24.5272**	0.061	0.2	ug/L	1	Standard
>	**Bi**	209	286121.6	6.3				ug/L	321163	Standard

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	Na	23	10.0	50.0	**3.8151**	1.854	48.6	mg/L	2	Standard
	Mg	24	2613.6	6.4	**2.7858**	0.228	8.2	mg/L	48	Standard
	K	39	25.0	20.0	**0.2955**	0.040	13.5	mg/L	2	Standard
	Ca	43	55.0	31.5	**2.1456**	1.156	53.9	mg/L	38	Standard
	Fe	54	13924.7	5.9	**8.4462**	0.306	3.6	mg/L	218	Standard
	Fe	57	4160.6	9.1	**8.7066**	0.128	1.5	mg/L	283	Standard
>	**Sc-1**	45	43024.7	9.1				mg/L	46336	Standard
	Cl	35	7913.4	8.9				ug/L	7415	Standard
	Kr	83	91.3	6.0				ug/L	106	Standard
	Br	81	5454.3	6.0				ug/L	2367	Standard
	P	31	329419.9	6.2				ug/L	257843	Standard
	S	34	28369.9	5.4				ug/L	25966	Standard
	Sr	88	111.7	23.0				ug/L	92	Standard
	C	12	23.3	49.5				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	323.4	20.0				mg/L	10	Standard
	Ho-1	165	215.0	16.1				mg/L	2	Standard
	Er	166	206.7	38.8				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.424	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.340	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.898
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.089
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1310181907S WG451123-04
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Method 6020 - Summary Report

Sample ID: L1310181908SD WG451123-05
Sample Date/Time: Tuesday, November 05, 2013 16:30:48
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	217601.6	4.2				ug/L	199689	Standard
	Be	9	56931.8	2.4	**24.6406**	0.608	2.5	ug/L	22	Standard
	Al	27	1711324.3	3.7	**8.6054**	0.068	0.8	ug/L	615	Standard
	Sc	45	43938.7	4.0				ug/L	46336	Standard
	Ti	47	127.3	13.2	**0.2869**	0.038	13.3	ug/L	20	Standard
	V	51	132654.2	4.6	**25.3060**	0.375	1.5	ug/L	893	Standard
	Cr	52	127070.5	5.1	**24.6196**	0.351	1.4	ug/L	3436	Standard
	Cr	53	27969.2	4.0	**25.3559**	0.067	0.3	ug/L	325	Standard
	Mn	55	599273.3	4.9	**63.0402**	0.742	1.2	ug/L	949	Standard
	Co	59	153324.9	4.4	**26.2158**	0.261	1.0	ug/L	109	Standard
	Ni	60	57927.3	3.5	**25.2490**	0.367	1.5	ug/L	187	Standard
	Cu	65	58273.7	4.8	**25.9473**	0.266	1.0	ug/L	95	Standard
	Zn	66	34915.2	3.4	**27.6325**	0.173	0.6	ug/L	320	Standard
>	**Ge**	72	484306.1	3.8				ug/L	478028	Standard
	As	75	41878.9	4.0	**30.1911**	0.142	0.5	ug/L	-247	Standard
	Se	82	3483.2	3.7	**23.8704**	0.363	1.5	ug/L	-45	Standard
	Se-1	77	2427.5	4.2	**25.4329**	0.656	2.6	ug/L	101	Standard
>	**Ga**	71	83.3	34.1				mg/L	38	Standard
	Rb	85	12258.3	1.1				ug/L	27	Standard
	Y	89	427513.0	5.2				ug/L	457712	Standard
>	**Rh**	103	40.0	21.7				ug/L	7	Standard
	Mo	98	92.6	65.7	**0.0160**	0.023	144.4	ug/L	7	Standard
	Ag	107	155941.9	4.1	**27.1868**	0.207	0.8	ug/L	60	Standard
	Cd	111	52169.0	4.5	**26.1588**	0.366	1.4	mg/L	2	Standard
	Cd	114	130935.4	2.9	**24.9723**	0.176	0.7	ug/L	28	Standard
>	**In**	115	485333.3	3.5				ug/L	514607	Standard
	Sn	118	183.7	6.0	**0.0515**	0.004	7.3	ug/L	125	Standard
	Sb	123	79822.1	2.7	**24.7207**	0.215	0.9	ug/L	14	Standard
	Ba	135	87854.9	3.6	**47.9516**	0.153	0.3	ug/L	10	Standard
	Ce	140	11325.9	4.1				ug/L	25	Standard
>	**Tb**	159	576974.6	3.3				ug/L	648946	Standard
	Ho	165	218.3	11.3				ug/L	2	Standard
	Tl	203	152155.6	3.9	**25.7943**	0.111	0.4	ug/L	4	Standard
	Tl	205	165145.9	3.6	**27.8730**	0.203	0.7	ug/L	0	Standard
	Pb	206	66756.6	4.5	**27.6759**	0.267	1.0	ug/L	113	Standard
	Pb	207	56159.0	4.0	**25.8840**	0.122	0.5	ug/L	88	Standard
	Pb	208	149522.5	3.8	**26.3013**	0.101	0.4	ug/L	233	Standard
	U	238	91551.3	3.4	**24.3711**	0.042	0.2	ug/L	1	Standard
>	**Bi**	209	290096.7	3.5				ug/L	321163	Standard

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	Na	23	5.0	100.0	**1.8459**	1.805	97.8	mg/L	2	Standard
	Mg	24	2685.2	2.3	**2.7949**	0.094	3.4	mg/L	48	Standard
	K	39	18.3	78.7	**0.1984**	0.209	105.1	mg/L	2	Standard
	Ca	43	33.3	8.7	**0.1519**	0.370	243.7	mg/L	38	Standard
	Fe	54	15238.1	4.3	**9.0399**	0.131	1.5	mg/L	218	Standard
	Fe	57	4455.7	2.8	**9.1603**	0.122	1.3	mg/L	283	Standard
>	**Sc-1**	45	43938.7	4.0				mg/L	46336	Standard
	Cl	35	7955.4	3.9				ug/L	7415	Standard
	Kr	83	88.0	13.8				ug/L	106	Standard
	Br	81	6011.2	2.6				ug/L	2367	Standard
	P	31	339553.9	3.5				ug/L	257843	Standard
	S	34	28162.8	2.3				ug/L	25966	Standard
	Sr	88	140.0	12.4				ug/L	92	Standard
	C	12	20.0	50.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	385.5	20.6				mg/L	10	Standard
	Ho-1	165	218.3	11.3				mg/L	2	Standard
	Er	166	233.3	8.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		108.970	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.313	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.311
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.327
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310176913
Sample Date/Time: Tuesday, November 05, 2013 16:33:59
Number of Replicates: 3
Autosampler Position: 306
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	228094.9	2.7				ug/L	199689	Standard
	Be	9	913.4	3.9	**0.3688**	0.012	3.3	ug/L	22	Standard
	Al	27	2932106.6	1.2	**14.0699**	0.235	1.7	ug/L	615	Standard
	Sc	45	49796.7	2.7				ug/L	46336	Standard
	Ti	47	952.4	9.3	**2.5922**	0.187	7.2	ug/L	20	Standard
	V	51	4316.5	2.7	**0.6675**	0.024	3.6	ug/L	893	Standard
	Cr	52	4846.1	2.7	**0.2756**	0.014	5.2	ug/L	3436	Standard
	Cr	53	5682.7	4.1	**5.0183**	0.330	6.6	ug/L	325	Standard
	Mn	55	237731.9	1.6	**25.3742**	0.186	0.7	ug/L	949	Standard
	Co	59	7718.3	3.0	**1.3212**	0.016	1.2	ug/L	109	Standard
	Ni	60	3939.5	2.8	**1.6632**	0.039	2.3	ug/L	187	Standard
	Cu	65	2280.2	5.2	**0.9822**	0.044	4.5	ug/L	95	Standard
	Zn	66	11871.3	2.7	**9.3299**	0.146	1.6	ug/L	320	Standard
>	**Ge**	72	476211.3	2.3				ug/L	478028	Standard
	As	75	852.5	13.9	**0.8130**	0.095	11.7	ug/L	-247	Standard
	Se	82	261.9	9.3	**2.1166**	0.200	9.5	ug/L	-45	Standard
	Se-1	77	488.7	6.1	**4.4015**	0.448	10.2	ug/L	101	Standard
>	**Ga**	71	93.3	8.2				mg/L	38	Standard
	Rb	85	15663.1	1.9				ug/L	27	Standard
	Y	89	436907.6	4.9				ug/L	457712	Standard
>	**Rh**	103	25.0	52.9				ug/L	7	Standard
	Mo	98	803.0	2.4	**0.2937**	0.010	3.5	ug/L	7	Standard
	Ag	107	91.0	36.5	**0.0048**	0.006	132.7	ug/L	60	Standard
	Cd	111	128.4	10.3	**0.0620**	0.008	12.9	mg/L	2	Standard
	Cd	114	331.9	13.0	**0.0537**	0.008	15.3	ug/L	28	Standard
>	**In**	115	462544.8	3.6				ug/L	514607	Standard
	Sn	118	179.7	2.9	**0.0557**	0.005	8.9	ug/L	125	Standard
	Sb	123	186.0	29.8	**0.0508**	0.019	36.7	ug/L	14	Standard
	Ba	135	29909.8	3.2	**17.1195**	0.142	0.8	ug/L	10	Standard
	Ce	140	40838.4	4.0				ug/L	25	Standard
>	**Tb**	159	560871.1	2.9				ug/L	648946	Standard
	Ho	165	866.7	4.8				ug/L	2	Standard
	Tl	203	203.0	17.2	**0.0338**	0.007	20.1	ug/L	4	Standard
	Tl	205	311.7	55.4	**0.0540**	0.032	58.5	ug/L	0	Standard
	Pb	206	338.7	2.8	**0.1065**	0.004	3.5	ug/L	113	Standard
	Pb	207	279.0	2.0	**0.0872**	0.002	1.9	ug/L	88	Standard
	Pb	208	865.0	24.3	**0.1185**	0.041	34.9	ug/L	233	Standard
	U	238	737.0	18.6	**0.2055**	0.041	19.9	ug/L	1	Standard
>	**Bi**	209	272595.2	2.4				ug/L	321163	Standard

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	Na	23	21.7	48.0	**7.1592**	3.338	46.6	mg/L	2	Standard
	Mg	24	59193.7	0.9	**54.9667**	1.923	3.5	mg/L	48	Standard
	K	39	28.3	71.3	**0.2875**	0.247	85.9	mg/L	2	Standard
	Ca	43	103.3	7.4	**5.3499**	0.435	8.1	mg/L	38	Standard
	Fe	54	287.4	7.8	**0.0435**	0.009	20.7	mg/L	218	Standard
	Fe	57	330.0	16.0	**0.0622**	0.119	192.1	mg/L	283	Standard
>	**Sc-1**	45	49796.7	2.7				mg/L	46336	Standard
	Cl	35	7488.5	4.1				ug/L	7415	Standard
	Kr	83	98.7	9.2				ug/L	106	Standard
	Br	81	59352.8	3.1				ug/L	2367	Standard
	P	31	556476.1	2.2				ug/L	257843	Standard
	S	34	22409.9	4.7				ug/L	25966	Standard
	Sr	88	155.0	14.1				ug/L	92	Standard
	C	12	20.0	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	86.7	35.3				mg/L	0	Standard
	Dy	164	1286.6	3.7				mg/L	10	Standard
	Ho-1	165	866.7	4.8				mg/L	2	Standard
	Er	166	976.7	4.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		114.225	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.620	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.883
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.878
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310176914
Sample Date/Time: Tuesday, November 05, 2013 16:37:03
Number of Replicates: 3
Autosampler Position: 307
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	225121.1	5.0				ug/L	199689	Standard
	Be	9	53.3	14.3	**0.0140**	0.003	19.5	ug/L	22	Standard
	Al	27	2706.9	4.3	**0.0096**	0.001	12.3	ug/L	615	Standard
	Sc	45	43987.2	4.4				ug/L	46336	Standard
	Ti	47	27.3	18.8	**0.0133**	0.015	110.4	ug/L	20	Standard
	V	51	1089.1	1.4	**0.0337**	0.012	35.4	ug/L	893	Standard
	Cr	52	4065.9	1.0	**0.1053**	0.029	27.9	ug/L	3436	Standard
	Cr	53	375.0	9.3	**0.0587**	0.023	39.3	ug/L	325	Standard
	Mn	55	3709.1	5.1	**0.2758**	0.003	1.0	ug/L	949	Standard
	Co	59	108.3	13.9	**-0.0035**	0.003	95.6	ug/L	109	Standard
	Ni	60	624.7	8.1	**0.1842**	0.017	9.1	ug/L	187	Standard
	Cu	65	798.0	7.8	**0.3036**	0.013	4.2	ug/L	95	Standard
	Zn	66	2514.5	4.4	**1.6742**	0.020	1.2	ug/L	320	Standard
>	**Ge**	72	483812.5	4.5				ug/L	478028	Standard
	As	75	-219.0	4.0	**0.0337**	0.006	16.6	ug/L	-247	Standard
	Se	82	-30.4	34.7	**0.1074**	0.071	66.4	ug/L	-45	Standard
	Se-1	77	100.7	7.5	**0.0782**	0.085	108.1	ug/L	101	Standard
>	**Ga**	71	33.3	22.9				mg/L	38	Standard
	Rb	85	48.3	26.0				ug/L	27	Standard
	Y	89	428068.7	6.4				ug/L	457712	Standard
>	**Rh**	103	8.3	69.3				ug/L	7	Standard
	Mo	98	25.4	25.5	**-0.0091**	0.002	19.4	ug/L	7	Standard
	Ag	107	59.7	10.6	**-0.0015**	0.000	31.2	ug/L	60	Standard
	Cd	111	12.3	9.4	**0.0005**	0.001	173.8	mg/L	2	Standard
	Cd	114	47.6	33.1	**-0.0037**	0.002	65.6	ug/L	28	Standard
>	**In**	115	484052.3	6.3				ug/L	514607	Standard
	Sn	118	152.0	8.6	**0.0253**	0.009	35.1	ug/L	125	Standard
	Sb	123	46.1	5.2	**0.0046**	0.002	34.4	ug/L	14	Standard
	Ba	135	105.7	8.7	**0.0394**	0.006	13.9	ug/L	10	Standard
	Ce	140	53.3	76.4				ug/L	25	Standard
>	**Tb**	159	572711.0	5.6				ug/L	648946	Standard
	Ho	165	13.3	86.6				ug/L	2	Standard
	Tl	203	44.3	23.0	**0.0046**	0.001	28.7	ug/L	4	Standard
	Tl	205	50.0	52.9	**0.0062**	0.004	62.5	ug/L	0	Standard
	Pb	206	121.7	9.5	**0.0075**	0.002	26.0	ug/L	113	Standard
	Pb	207	98.0	11.0	**-0.0044**	0.004	98.9	ug/L	88	Standard
	Pb	208	289.7	5.4	**0.0073**	0.001	13.7	ug/L	233	Standard
	U	238	11.3	18.4	**-0.0006**	0.001	106.8	ug/L	1	Standard
>	**Bi**	209	288356.4	6.0				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	81.7	34.8	**0.0525**	0.029	54.6	mg/L	48	Standard
K	39	1.7	173.2	**-0.0397**	0.039	97.9	mg/L	2	Standard
Ca	43	15.0	57.7	**-1.5064**	0.794	52.7	mg/L	38	Standard
Fe	54	275.7	4.6	**0.0567**	0.001	1.4	mg/L	218	Standard
Fe	57	203.3	6.2	**-0.1325**	0.011	8.2	mg/L	283	Standard
Sc-1	45	43987.2	4.4				mg/L	46336	Standard
Cl	35	8275.6	3.6				ug/L	7415	Standard
Kr	83	89.3	6.2				ug/L	106	Standard
Br	81	2953.6	19.4				ug/L	2367	Standard
P	31	336373.7	3.2				ug/L	257843	Standard
S	34	26029.0	1.2				ug/L	25966	Standard
Sr	88	73.3	20.8				ug/L	92	Standard
C	12	10.0	100.0				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	16.0	72.9				mg/L	10	Standard
Ho-1	165	13.3	86.6				mg/L	2	Standard
Er	166	13.3	43.3				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		112.736	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		101.210	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.063
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.785
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310176914PS WG451378-01
Sample Date/Time: Tuesday, November 05, 2013 16:40:08
Number of Replicates: 3
Autosampler Position: 308
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	237885.1	5.6				ug/L	199689	Standard
	Be	9	120728.2	5.0	**47.7993**	1.291	2.7	ug/L	22	Standard
	Al	27	3083.6	4.5	**0.0106**	0.001	6.4	ug/L	615	Standard
	Sc	45	46478.0	5.0				ug/L	46336	Standard
	Ti	47	29.7	17.3	**0.0157**	0.017	110.2	ug/L	20	Standard
	V	51	287319.6	5.4	**51.9797**	0.489	0.9	ug/L	893	Standard
	Cr	52	279067.4	5.2	**51.8639**	0.221	0.4	ug/L	3436	Standard
	Cr	53	59041.5	2.4	**50.9134**	1.623	3.2	ug/L	325	Standard
	Mn	55	541907.6	5.9	**53.8478**	0.349	0.6	ug/L	949	Standard
	Co	59	327417.8	4.3	**52.9438**	0.808	1.5	ug/L	109	Standard
	Ni	60	124515.9	3.2	**51.4048**	1.263	2.5	ug/L	187	Standard
	Cu	65	124969.6	5.4	**52.6401**	0.133	0.3	ug/L	95	Standard
	Zn	66	69291.7	5.3	**52.1084**	0.187	0.4	ug/L	320	Standard
>	**Ge**	72	512629.9	5.5				ug/L	478028	Standard
	As	75	72866.3	4.4	**49.5319**	0.828	1.7	ug/L	-247	Standard
	Se	82	7248.6	3.9	**46.6540**	0.998	2.1	ug/L	-45	Standard
	Se-1	77	4893.1	5.3	**49.3599**	0.871	1.8	ug/L	101	Standard
>	**Ga**	71	58.3	26.2				mg/L	38	Standard
	Rb	85	48.3	26.0				ug/L	27	Standard
	Y	89	446217.6	4.6				ug/L	457712	Standard
>	**Rh**	103	40.0	33.1				ug/L	7	Standard
	Mo	98	50.7	22.6	**-0.0005**	0.004	678.7	ug/L	7	Standard
	Ag	107	365168.8	1.6	**61.0995**	3.229	5.3	ug/L	60	Standard
	Cd	111	109603.9	3.6	**52.6737**	0.162	0.3	mg/L	2	Standard
	Cd	114	279750.1	4.5	**51.1166**	0.370	0.7	ug/L	28	Standard
>	**In**	115	506547.0	3.8				ug/L	514607	Standard
	Sn	118	214.0	5.7	**0.0699**	0.015	21.8	ug/L	125	Standard
	Sb	123	161723.0	2.6	**48.0014**	0.564	1.2	ug/L	14	Standard
	Ba	135	98684.6	3.5	**51.6119**	0.240	0.5	ug/L	10	Standard
	Ce	140	51.7	22.3				ug/L	25	Standard
>	**Tb**	159	601546.5	4.1				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	314729.3	3.6	**51.4804**	0.236	0.5	ug/L	4	Standard
	Tl	205	349137.4	3.9	**56.8458**	0.042	0.1	ug/L	0	Standard
	Pb	206	135232.2	4.2	**54.1325**	0.529	1.0	ug/L	113	Standard
	Pb	207	121452.7	4.2	**54.0552**	0.157	0.3	ug/L	88	Standard
	Pb	208	311752.2	3.9	**52.9462**	0.034	0.1	ug/L	233	Standard
	U	238	193422.7	3.3	**49.6802**	0.436	0.9	ug/L	1	Standard
>	**Bi**	209	300729.4	3.9				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	95.0	13.9	**0.0622**	0.018	28.7	mg/L	48	Standard
K	39	10.0	50.0	**0.0692**	0.060	86.8	mg/L	2	Standard
Ca	43	23.3	24.7	**-0.8699**	0.505	58.1	mg/L	38	Standard
Fe	54	332.8	24.7	**0.0807**	0.048	59.6	mg/L	218	Standard
Fe	57	233.3	17.2	**-0.0961**	0.059	60.9	mg/L	283	Standard
> **Sc-1**	45	46478.0	5.0				mg/L	46336	Standard
Cl	35	8541.7	2.0				ug/L	7415	Standard
Kr	83	103.7	4.5				ug/L	106	Standard
Br	81	2663.6	15.0				ug/L	2367	Standard
P	31	397240.3	1.0				ug/L	257843	Standard
S	34	26656.8	2.6				ug/L	25966	Standard
Sr	88	76.7	42.4				ug/L	92	Standard
C	12	13.3	43.3				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	9.7	103.5				mg/L	10	Standard
Ho-1	165	1.7	173.2				mg/L	2	Standard
Er	166	6.7	173.2				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		119.128	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		107.238	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.434
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.638
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310176914SDL WG451378-02
Sample Date/Time: Tuesday, November 05, 2013 16:43:12
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	197672.7	6.2				ug/L	199689	Standard
	Be	9	46.7	16.4	**0.0141**	0.005	33.6	ug/L	22	Standard
	Al	27	1856.8	11.4	**0.0068**	0.002	24.5	ug/L	615	Standard
	Sc	45	38545.7	4.6				ug/L	46336	Standard
	Ti	47	18.0	25.5	**-0.0062**	0.012	188.8	ug/L	20	Standard
	V	51	926.5	5.8	**0.0256**	0.005	19.5	ug/L	893	Standard
	Cr	52	3412.1	3.2	**0.0642**	0.026	40.2	ug/L	3436	Standard
	Cr	53	206.7	7.4	**-0.0702**	0.018	26.1	ug/L	325	Standard
	Mn	55	1258.4	6.6	**0.0347**	0.007	21.2	ug/L	949	Standard
	Co	59	124.7	22.5	**0.0021**	0.006	269.6	ug/L	109	Standard
	Ni	60	444.3	6.6	**0.1309**	0.009	6.7	ug/L	187	Standard
	Cu	65	246.3	12.4	**0.0719**	0.014	19.1	ug/L	95	Standard
	Zn	66	1864.1	5.5	**1.3490**	0.017	1.3	ug/L	320	Standard
>	**Ge**	72	427516.7	4.8				ug/L	478028	Standard
	As	75	-203.4	40.8	**0.0255**	0.067	261.0	ug/L	-247	Standard
	Se	82	-31.2	64.2	**0.0719**	0.157	218.8	ug/L	-45	Standard
	Se-1	77	95.7	10.2	**0.1583**	0.064	40.7	ug/L	101	Standard
>	**Ga**	71	33.3	31.2				mg/L	38	Standard
	Rb	85	40.0	37.5				ug/L	27	Standard
	Y	89	374372.5	4.3				ug/L	457712	Standard
>	**Rh**	103	10.0	50.0				ug/L	7	Standard
	Mo	98	11.6	50.1	**-0.0137**	0.002	17.0	ug/L	7	Standard
	Ag	107	108.0	49.5	**0.0095**	0.011	114.8	ug/L	60	Standard
	Cd	111	28.6	79.3	**0.0107**	0.013	121.8	mg/L	2	Standard
	Cd	114	100.5	65.9	**0.0091**	0.015	159.2	ug/L	28	Standard
>	**In**	115	430910.6	4.2				ug/L	514607	Standard
	Sn	118	106.0	8.4	**-0.0026**	0.005	202.0	ug/L	125	Standard
	Sb	123	183.2	4.0	**0.0542**	0.001	2.6	ug/L	14	Standard
	Ba	135	52.0	76.7	**0.0137**	0.025	182.4	ug/L	10	Standard
	Ce	140	13.3	57.3				ug/L	25	Standard
>	**Tb**	159	515147.1	4.8				ug/L	648946	Standard
	Ho	165	5.0	173.2				ug/L	2	Standard
	Tl	203	66.7	68.4	**0.0094**	0.008	90.1	ug/L	4	Standard
	Tl	205	33.3	60.6	**0.0041**	0.004	94.4	ug/L	0	Standard
	Pb	206	126.7	14.9	**0.0136**	0.009	62.7	ug/L	113	Standard
	Pb	207	90.7	4.2	**-0.0046**	0.003	57.9	ug/L	88	Standard
	Pb	208	239.7	13.1	**0.0017**	0.006	384.3	ug/L	233	Standard
	U	238	18.0	58.8	**0.0016**	0.003	194.2	ug/L	1	Standard
>	**Bi**	209	268527.6	4.6				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	45.0	33.3	**0.0208**	0.016	78.0	mg/L	48	Standard
K	39	3.3	173.2	**-0.0111**	0.088	798.7	mg/L	2	Standard
Ca	43	18.3	68.6	**-1.0130**	1.216	120.1	mg/L	38	Standard
Fe	54	97.6	28.0	**-0.0420**	0.018	43.5	mg/L	218	Standard
Fe	57	225.0	12.4	**-0.0169**	0.047	277.4	mg/L	283	Standard
> **Sc-1**	45	38545.7	4.6				mg/L	46336	Standard
Cl	35	7789.3	3.7				ug/L	7415	Standard
Kr	83	87.3	12.4				ug/L	106	Standard
Br	81	2130.1	4.5				ug/L	2367	Standard
P	31	151433.2	1.9				ug/L	257843	Standard
S	34	25830.3	0.9				ug/L	25966	Standard
Sr	88	85.0	20.4				ug/L	92	Standard
C	12	23.3	49.5				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	6.7	86.6				mg/L	10	Standard
Ho-1	165	5.0	173.2				mg/L	2	Standard
Er	166	0.0					mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		98.990	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		89.433	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	83.736
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.611
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 16:46:19
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	220978.4	1.7				ug/L	199689	Standard
	Be	9	114647.2	2.0	**48.8592**	1.723	3.5	ug/L	22	Standard
	Al	27	9059822.2	1.3	**44.8766**	0.849	1.9	ug/L	615	Standard
	Sc	45	44976.8	4.6				ug/L	46336	Standard
	Ti	47	36062.2	1.1	**99.1305**	0.958	1.0	ug/L	20	Standard
	V	51	267696.2	2.4	**51.3941**	0.959	1.9	ug/L	893	Standard
	Cr	52	257929.0	0.9	**50.8601**	0.458	0.9	ug/L	3436	Standard
	Cr	53	55903.0	2.1	**51.1102**	1.112	2.2	ug/L	325	Standard
	Mn	55	496241.0	2.3	**52.3363**	0.764	1.5	ug/L	949	Standard
	Co	59	301896.9	2.5	**51.7891**	1.202	2.3	ug/L	109	Standard
	Ni	60	117215.0	0.8	**51.3181**	0.382	0.7	ug/L	187	Standard
	Cu	65	116424.0	1.8	**52.0451**	0.412	0.8	ug/L	95	Standard
	Zn	66	65943.5	1.4	**52.6309**	0.125	0.2	ug/L	320	Standard
>	**Ge**	72	482991.9	1.2				ug/L	478028	Standard
	As	75	71649.7	1.7	**51.6599**	0.452	0.9	ug/L	-247	Standard
	Se	82	7284.1	1.5	**49.7059**	0.433	0.9	ug/L	-45	Standard
	Se-1	77	5048.2	2.1	**54.1329**	0.610	1.1	ug/L	101	Standard
>	**Ga**	71	40.0	45.1				mg/L	38	Standard
	Rb	85	1033.4	10.1				ug/L	27	Standard
	Y	89	430360.2	2.4				ug/L	457712	Standard
>	**Rh**	103	23.3	44.6				ug/L	7	Standard
	Mo	98	332685.4	1.7	**121.9988**	1.239	1.0	ug/L	7	Standard
	Ag	107	315760.9	1.6	**54.5441**	0.671	1.2	ug/L	60	Standard
	Cd	111	107168.2	1.9	**53.2370**	0.307	0.6	mg/L	2	Standard
	Cd	114	278227.6	1.9	**52.5620**	0.327	0.6	ug/L	28	Standard
>	**In**	115	490033.2	1.9				ug/L	514607	Standard
	Sn	118	64899.4	0.5	**54.0075**	0.800	1.5	ug/L	125	Standard
	Sb	123	159224.8	0.8	**48.8464**	0.684	1.4	ug/L	14	Standard
	Ba	135	94965.7	0.9	**51.3441**	0.544	1.1	ug/L	10	Standard
	Ce	140	38.3	39.8				ug/L	25	Standard
>	**Tb**	159	582751.9	2.1				ug/L	648946	Standard
	Ho	165	6.7	114.6				ug/L	2	Standard
	Tl	203	303289.3	1.0	**51.3432**	0.327	0.6	ug/L	4	Standard
	Tl	205	331213.3	1.6	**55.8176**	0.892	1.6	ug/L	0	Standard
	Pb	206	129735.1	1.2	**53.7547**	0.515	1.0	ug/L	113	Standard
	Pb	207	115430.1	1.3	**53.1777**	0.507	1.0	ug/L	88	Standard
	Pb	208	298262.0	2.0	**52.4287**	0.886	1.7	ug/L	233	Standard
	U	238	189493.7	1.3	**50.3675**	0.467	0.9	ug/L	1	Standard
>	**Bi**	209	290544.3	0.5				ug/L	321163	Standard

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	Na	23	13.3	57.3	**5.0058**	3.021	60.3	mg/L	2	Standard
	Mg	24	4644.0	2.1	**4.7454**	0.130	2.7	mg/L	48	Standard
	K	39	245.0	7.4	**3.3125**	0.199	6.0	mg/L	2	Standard
	Ca	43	88.3	13.1	**4.8969**	0.717	14.6	mg/L	38	Standard
	Fe	54	9001.1	1.4	**5.1808**	0.324	6.3	mg/L	218	Standard
	Fe	57	2690.2	1.5	**5.1708**	0.185	3.6	mg/L	283	Standard
>	**Sc-1**	45	44976.8	4.6				mg/L	46336	Standard
	Cl	35	8619.8	1.6				ug/L	7415	Standard
	Kr	83	84.7	7.6				ug/L	106	Standard
	Br	81	2466.9	3.3				ug/L	2367	Standard
	P	31	320584.8	1.4				ug/L	257843	Standard
	S	34	30281.9	2.1				ug/L	25966	Standard
	Sr	88	71.7	24.5				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.5	93.0				mg/L	10	Standard
	Ho-1	165	6.7	114.6				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.661	
	Be	9	97.718		
	Al	27	89.753		
	Sc	45			
	Ti	47	99.130		
	V	51	102.788		
	Cr	52	101.720		
	Cr	53			
	Mn	55	104.673		
	Co	59	103.578		
	Ni	60	102.636		
	Cu	65	104.090		
	Zn	66	105.262		
>	Ge	72		101.038	
	As	75	103.320		
	Se	82	99.412		
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98	121.999	
	Ag	107	109.088	
	Cd	111	106.474	
	Cd	114		
>	In	115		95.225
	Sn	118	108.015	
	Sb	123	97.693	
	Ba	135	102.688	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	102.686	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	104.857	
	U	238	100.735	
>	Bi	209		90.466
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 16:49:23
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	210133.1	5.2				ug/L	199689	Standard
	Be	9	48.3	48.9	**0.0134**	0.011	78.9	ug/L	22	Standard
	Al	27	1743.4	17.4	**0.0055**	0.001	20.3	ug/L	615	Standard
	Sc	45	41747.6	5.9				ug/L	46336	Standard
	Ti	47	18.7	6.2	**-0.0078**	0.004	48.4	ug/L	20	Standard
	V	51	866.6	5.5	**-0.0001**	0.015	15362.9	ug/L	893	Standard
	Cr	52	3209.3	3.3	**-0.0320**	0.011	33.8	ug/L	3436	Standard
	Cr	53	171.7	13.8	**-0.1186**	0.027	22.8	ug/L	325	Standard
	Mn	55	960.0	10.3	**-0.0089**	0.008	93.2	ug/L	949	Standard
	Co	59	115.0	20.9	**-0.0014**	0.004	260.9	ug/L	109	Standard
	Ni	60	425.0	4.1	**0.1068**	0.003	2.8	ug/L	187	Standard
	Cu	65	146.7	29.3	**0.0160**	0.018	110.9	ug/L	95	Standard
	Zn	66	249.3	6.5	**-0.1318**	0.011	8.1	ug/L	320	Standard
>	**Ge**	72	459160.1	3.7				ug/L	478028	Standard
	As	75	-243.4	8.9	**0.0068**	0.017	256.0	ug/L	-247	Standard
	Se	82	-44.6	15.0	**-0.0048**	0.041	854.8	ug/L	-45	Standard
	Se-1	77	101.0	17.2	**0.1365**	0.160	117.0	ug/L	101	Standard
>	**Ga**	71	15.0	57.7				mg/L	38	Standard
	Rb	85	23.3	44.6				ug/L	27	Standard
	Y	89	408518.1	4.0				ug/L	457712	Standard
>	**Rh**	103	6.7	43.3				ug/L	7	Standard
	Mo	98	71.4	53.1	**0.0088**	0.013	152.1	ug/L	7	Standard
	Ag	107	82.0	27.6	**0.0029**	0.004	123.7	ug/L	60	Standard
	Cd	111	15.9	119.4	**0.0024**	0.009	394.9	mg/L	2	Standard
	Cd	114	68.0	86.0	**0.0006**	0.011	1893.9	ug/L	28	Standard
>	**In**	115	465531.3	4.2				ug/L	514607	Standard
	Sn	118	135.3	20.8	**0.0152**	0.020	129.0	ug/L	125	Standard
	Sb	123	308.8	43.9	**0.0889**	0.039	44.1	ug/L	14	Standard
	Ba	135	24.3	73.7	**-0.0049**	0.009	193.8	ug/L	10	Standard
	Ce	140	13.3	94.4				ug/L	25	Standard
>	**Tb**	159	556216.6	3.8				ug/L	648946	Standard
	Ho	165	3.3	86.6				ug/L	2	Standard
	Tl	203	45.0	107.8	**0.0047**	0.008	170.5	ug/L	4	Standard
	Tl	205	26.7	78.1	**0.0024**	0.003	139.6	ug/L	0	Standard
	Pb	206	103.3	20.8	**0.0006**	0.008	1257.4	ug/L	113	Standard
	Pb	207	88.3	14.4	**-0.0082**	0.005	56.0	ug/L	88	Standard
	Pb	208	237.7	7.0	**-0.0011**	0.002	140.0	ug/L	233	Standard
	U	238	10.7	101.1	**-0.0008**	0.003	362.9	ug/L	1	Standard
>	**Bi**	209	282897.3	3.5				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6972**	1.199	172.0	mg/L	2	Standard
	Mg	24	51.7	11.2	**0.0244**	0.006	26.3	mg/L	48	Standard
	K	39	3.3	86.6	**-0.0109**	0.044	406.8	mg/L	2	Standard
	Ca	43	16.7	34.6	**-1.2570**	0.620	49.3	mg/L	38	Standard
	Fe	54	201.0	14.4	**0.0188**	0.022	115.4	mg/L	218	Standard
	Fe	57	218.3	23.2	**-0.0685**	0.141	206.4	mg/L	283	Standard
>	**Sc-1**	45	41747.6	5.9				mg/L	46336	Standard
	Cl	35	8058.8	1.3				ug/L	7415	Standard
	Kr	83	94.3	12.6				ug/L	106	Standard
	Br	81	2246.8	8.4				ug/L	2367	Standard
	P	31	263878.3	1.3				ug/L	257843	Standard
	S	34	28844.1	1.2				ug/L	25966	Standard
	Sr	88	81.7	14.1				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.2	93.3				mg/L	10	Standard
	Ho-1	165	3.3	86.6				mg/L	2	Standard
	Er	166	10.0					mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		105.230	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		96.053	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.463
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.085
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310181901
Sample Date/Time: Tuesday, November 05, 2013 16:52:30
Number of Replicates: 3
Autosampler Position: 311
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	221535.4	3.0				ug/L	199689	Standard
	Be	9	136.7	18.0	**0.0497**	0.009	17.3	ug/L	22	Standard
	Al	27	1883480.3	2.4	**9.3032**	0.112	1.2	ug/L	615	Standard
	Sc	45	44207.8	4.0				ug/L	46336	Standard
	Ti	47	98.0	18.4	**0.2047**	0.042	20.7	ug/L	20	Standard
	V	51	1140.3	3.4	**0.0417**	0.003	7.4	ug/L	893	Standard
	Cr	52	4139.9	3.8	**0.1134**	0.006	5.7	ug/L	3436	Standard
	Cr	53	296.7	14.3	**-0.0153**	0.031	202.3	ug/L	325	Standard
	Mn	55	21344.0	3.6	**2.1209**	0.016	0.8	ug/L	949	Standard
	Co	59	1570.4	4.3	**0.2450**	0.003	1.4	ug/L	109	Standard
	Ni	60	905.0	4.2	**0.3042**	0.010	3.2	ug/L	187	Standard
	Cu	65	338.0	8.6	**0.0972**	0.008	8.7	ug/L	95	Standard
	Zn	66	3000.0	2.3	**2.0474**	0.059	2.9	ug/L	320	Standard
>	**Ge**	72	487204.0	3.1				ug/L	478028	Standard
	As	75	-199.6	21.2	**0.0492**	0.025	51.5	ug/L	-247	Standard
	Se	82	-0.5	1422.6	**0.3101**	0.051	16.4	ug/L	-45	Standard
	Se-1	77	133.3	13.6	**0.4212**	0.161	38.1	ug/L	101	Standard
>	**Ga**	71	55.0	24.1				mg/L	38	Standard
	Rb	85	14300.1	4.8				ug/L	27	Standard
	Y	89	428447.0	3.7				ug/L	457712	Standard
>	**Rh**	103	10.0					ug/L	7	Standard
	Mo	98	32.7	21.7	**-0.0064**	0.003	39.7	ug/L	7	Standard
	Ag	107	73.0	30.8	**0.0007**	0.003	474.7	ug/L	60	Standard
	Cd	111	31.9	40.9	**0.0102**	0.006	57.3	mg/L	2	Standard
	Cd	114	67.7	17.0	**0.0003**	0.003	888.0	ug/L	28	Standard
>	**In**	115	485392.6	3.7				ug/L	514607	Standard
	Sn	118	146.3	1.4	**0.0203**	0.006	30.1	ug/L	125	Standard
	Sb	123	167.0	25.9	**0.0417**	0.011	27.2	ug/L	14	Standard
	Ba	135	60608.4	3.9	**33.0695**	0.083	0.3	ug/L	10	Standard
	Ce	140	19439.1	3.5				ug/L	25	Standard
>	**Tb**	159	571450.1	4.1				ug/L	648946	Standard
	Ho	165	441.7	2.8				ug/L	2	Standard
	Tl	203	120.0	21.6	**0.0172**	0.004	20.6	ug/L	4	Standard
	Tl	205	111.7	12.9	**0.0167**	0.003	18.3	ug/L	0	Standard
	Pb	206	240.3	7.4	**0.0561**	0.005	8.3	ug/L	113	Standard
	Pb	207	209.0	4.6	**0.0462**	0.003	7.3	ug/L	88	Standard
	Pb	208	515.7	0.8	**0.0466**	0.003	7.2	ug/L	233	Standard
	U	238	138.7	5.8	**0.0331**	0.001	2.4	ug/L	1	Standard
>	**Bi**	209	291268.0	3.9				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6048**	1.039	171.8	mg/L	2	Standard
	Mg	24	973.4	10.4	**0.9866**	0.118	11.9	mg/L	48	Standard
	K	39	13.3	43.3	**0.1230**	0.073	59.2	mg/L	2	Standard
	Ca	43	30.0	44.1	**-0.1671**	1.221	730.4	mg/L	38	Standard
	Fe	54	304.4	21.7	**0.0722**	0.032	44.2	mg/L	218	Standard
	Fe	57	213.3	28.6	**-0.1134**	0.130	114.9	mg/L	283	Standard
>	**Sc-1**	45	44207.8	4.0				mg/L	46336	Standard
	Cl	35	8155.5	5.5				ug/L	7415	Standard
	Kr	83	90.3	6.8				ug/L	106	Standard
	Br	81	4697.4	6.4				ug/L	2367	Standard
	P	31	331044.2	2.7				ug/L	257843	Standard
	S	34	26531.6	2.6				ug/L	25966	Standard
	Sr	88	61.7	12.4				ug/L	92	Standard
	C	12	16.7	34.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	786.1	9.8				mg/L	10	Standard
	Ho-1	165	441.7	2.8				mg/L	2	Standard
	Er	166	430.0	8.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.940	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.919	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.323
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.692
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310181902
Sample Date/Time: Tuesday, November 05, 2013 16:55:34
Number of Replicates: 3
Autosampler Position: 312
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222613.8	5.9				ug/L	199689	Standard
	Be	9	110.0	67.3	**0.0383**	0.031	82.0	ug/L	22	Standard
	Al	27	1354972.2	4.3	**6.6659**	0.285	4.3	ug/L	615	Standard
	Sc	45	44274.7	3.9				ug/L	46336	Standard
	Ti	47	181.0	13.6	**0.4316**	0.081	18.9	ug/L	20	Standard
	V	51	1308.3	7.4	**0.0726**	0.009	12.3	ug/L	893	Standard
	Cr	52	4048.5	7.4	**0.0915**	0.029	32.1	ug/L	3436	Standard
	Cr	53	451.7	5.6	**0.1249**	0.018	14.7	ug/L	325	Standard
	Mn	55	91247.5	3.7	**9.4088**	0.022	0.2	ug/L	949	Standard
	Co	59	1469.7	8.7	**0.2266**	0.012	5.3	ug/L	109	Standard
	Ni	60	1235.1	6.9	**0.4452**	0.018	4.1	ug/L	187	Standard
	Cu	65	526.3	13.0	**0.1804**	0.034	18.9	ug/L	95	Standard
	Zn	66	3490.1	2.8	**2.4274**	0.082	3.4	ug/L	320	Standard
>	**Ge**	72	489141.9	3.8				ug/L	478028	Standard
	As	75	952.2	5.0	**0.8661**	0.010	1.2	ug/L	-247	Standard
	Se	82	6.2	86.8	**0.3537**	0.036	10.2	ug/L	-45	Standard
	Se-1	77	110.3	6.4	**0.1691**	0.037	21.7	ug/L	101	Standard
>	**Ga**	71	55.0	45.5				mg/L	38	Standard
	Rb	85	15878.3	2.7				ug/L	27	Standard
	Y	89	429796.6	2.6				ug/L	457712	Standard
>	**Rh**	103	6.7	43.3				ug/L	7	Standard
	Mo	98	82.7	65.1	**0.0117**	0.019	160.0	ug/L	7	Standard
	Ag	107	134.7	80.6	**0.0111**	0.018	161.0	ug/L	60	Standard
	Cd	111	54.8	97.0	**0.0213**	0.026	119.9	mg/L	2	Standard
	Cd	114	167.7	97.0	**0.0187**	0.030	158.6	ug/L	28	Standard
>	**In**	115	486960.0	2.8				ug/L	514607	Standard
	Sn	118	147.3	14.4	**0.0204**	0.014	71.1	ug/L	125	Standard
	Sb	123	142.9	19.4	**0.0342**	0.007	21.2	ug/L	14	Standard
	Ba	135	28131.8	3.4	**15.2895**	0.190	1.2	ug/L	10	Standard
	Ce	140	3508.7	4.7				ug/L	25	Standard
>	**Tb**	159	578679.1	4.2				ug/L	648946	Standard
	Ho	165	56.7	28.4				ug/L	2	Standard
	Tl	203	235.7	71.1	**0.0364**	0.027	73.5	ug/L	4	Standard
	Tl	205	255.0	34.5	**0.0410**	0.016	38.1	ug/L	0	Standard
	Pb	206	223.3	30.9	**0.0488**	0.025	52.2	ug/L	113	Standard
	Pb	207	180.3	22.1	**0.0329**	0.016	47.7	ug/L	88	Standard
	Pb	208	534.0	24.3	**0.0501**	0.024	48.3	ug/L	233	Standard
	U	238	105.0	85.7	**0.0245**	0.025	100.5	ug/L	1	Standard
>	**Bi**	209	290724.9	3.0				ug/L	321163	Standard

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	Na	23	10.0	50.0	**3.7966**	2.002	52.7	mg/L	2	Standard
	Mg	24	1830.1	5.7	**1.8799**	0.125	6.6	mg/L	48	Standard
	K	39	25.0	34.6	**0.2851**	0.106	37.2	mg/L	2	Standard
	Ca	43	68.3	22.4	**3.2525**	1.385	42.6	mg/L	38	Standard
	Fe	54	2092.5	6.9	**1.1375**	0.054	4.7	mg/L	218	Standard
	Fe	57	778.4	4.7	**1.1142**	0.129	11.6	mg/L	283	Standard
>	**Sc-1**	45	44274.7	3.9				mg/L	46336	Standard
	Cl	35	8062.1	2.3				ug/L	7415	Standard
	Kr	83	83.7	5.4				ug/L	106	Standard
	Br	81	8262.3	5.3				ug/L	2367	Standard
	P	31	331112.3	2.8				ug/L	257843	Standard
	S	34	26352.9	0.6				ug/L	25966	Standard
	Sr	88	126.7	11.4				ug/L	92	Standard
	C	12	26.7	57.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	74.6	40.6				mg/L	10	Standard
	Ho-1	165	56.7	28.4				mg/L	2	Standard
	Er	166	43.3	13.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.480	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		102.325	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.628
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.523
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310181903
Sample Date/Time: Tuesday, November 05, 2013 16:58:39
Number of Replicates: 3
Autosampler Position: 313
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	220165.9	3.4				ug/L	199689	Standard
	Be	9	66.7	15.6	**0.0203**	0.005	22.7	ug/L	22	Standard
	Al	27	4740580.7	1.4	**23.5736**	0.497	2.1	ug/L	615	Standard
	Sc	45	45189.0	1.8				ug/L	46336	Standard
	Ti	47	1250.1	4.4	**3.4161**	0.148	4.3	ug/L	20	Standard
	V	51	2968.0	4.2	**0.4023**	0.022	5.5	ug/L	893	Standard
	Cr	52	6350.3	3.4	**0.5769**	0.022	3.8	ug/L	3436	Standard
	Cr	53	861.7	4.5	**0.5157**	0.012	2.2	ug/L	325	Standard
	Mn	55	6312565.4	3.0	**674.7946**	15.106	2.2	ug/L	949	Standard
	Co	59	26157.9	3.2	**4.5176**	0.044	1.0	ug/L	109	Standard
	Ni	60	4426.3	1.6	**1.8750**	0.065	3.5	ug/L	187	Standard
	Cu	65	1394.7	2.8	**0.5793**	0.036	6.3	ug/L	95	Standard
	Zn	66	9871.6	3.5	**7.6764**	0.039	0.5	ug/L	320	Standard
>	**Ge**	72	477631.9	3.3				ug/L	478028	Standard
	As	75	21781.1	3.2	**16.0135**	0.047	0.3	ug/L	-247	Standard
	Se	82	-27.9	38.6	**0.1226**	0.066	54.0	ug/L	-45	Standard
	Se-1	77	111.7	16.3	**0.2151**	0.216	100.6	ug/L	101	Standard
>	**Ga**	71	330.0	6.9				mg/L	38	Standard
	Rb	85	19168.8	4.8				ug/L	27	Standard
	Y	89	425996.5	3.3				ug/L	457712	Standard
>	**Rh**	103	56.7	22.2				ug/L	7	Standard
	Mo	98	7312.6	4.6	**2.7273**	0.050	1.8	ug/L	7	Standard
	Ag	107	68.7	5.5	**0.0002**	0.000	139.9	ug/L	60	Standard
	Cd	111	45.2	3.9	**0.0173**	0.000	1.5	mg/L	2	Standard
	Cd	114	127.3	32.3	**0.0122**	0.009	72.6	ug/L	28	Standard
>	**In**	115	478530.7	3.4				ug/L	514607	Standard
	Sn	118	161.7	16.3	**0.0346**	0.018	52.5	ug/L	125	Standard
	Sb	123	132.7	10.6	**0.0319**	0.003	10.4	ug/L	14	Standard
	Ba	135	39865.4	3.2	**22.0601**	0.210	1.0	ug/L	10	Standard
	Ce	140	18057.4	2.2				ug/L	25	Standard
>	**Tb**	159	571582.2	1.8				ug/L	648946	Standard
	Ho	165	296.7	12.2				ug/L	2	Standard
	Tl	203	99.0	1.0	**0.0142**	0.000	3.3	ug/L	4	Standard
	Tl	205	110.0	7.9	**0.0169**	0.002	11.8	ug/L	0	Standard
	Pb	206	650.7	6.4	**0.2326**	0.010	4.3	ug/L	113	Standard
	Pb	207	520.3	4.6	**0.1956**	0.010	5.3	ug/L	88	Standard
	Pb	208	1408.7	3.6	**0.2095**	0.003	1.3	ug/L	233	Standard
	U	238	173.7	7.6	**0.0436**	0.002	5.2	ug/L	1	Standard
>	**Bi**	209	284039.4	2.8				ug/L	321163	Standard

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	Na	23	61.7	32.8	**22.6908**	7.766	34.2	mg/L	2	Standard
	Mg	24	4140.6	4.1	**4.2059**	0.224	5.3	mg/L	48	Standard
	K	39	33.3	17.3	**0.3959**	0.088	22.3	mg/L	2	Standard
	Ca	43	268.3	12.0	**20.6436**	2.639	12.8	mg/L	38	Standard
	Fe	54	17205.5	1.1	**9.9386**	0.268	2.7	mg/L	218	Standard
	Fe	57	5047.5	5.3	**10.1519**	0.716	7.0	mg/L	283	Standard
>	**Sc-1**	45	45189.0	1.8				mg/L	46336	Standard
	Cl	35	7878.0	2.6				ug/L	7415	Standard
	Kr	83	99.3	11.1				ug/L	106	Standard
	Br	81	4090.6	2.4				ug/L	2367	Standard
	P	31	374292.1	1.1				ug/L	257843	Standard
	S	34	27934.1	1.8				ug/L	25966	Standard
	Sr	88	346.7	7.9				ug/L	92	Standard
	C	12	13.3	114.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	424.8	13.3				mg/L	10	Standard
	Ho-1	165	296.7	12.2				mg/L	2	Standard
	Er	166	316.7	6.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.254	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.917	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.990
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.441
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310181904
Sample Date/Time: Tuesday, November 05, 2013 17:01:43
Number of Replicates: 3
Autosampler Position: 314
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	213848.0	3.4				ug/L	199689	Standard
	Be	9	108.3	28.2	**0.0396**	0.014	34.7	ug/L	22	Standard
	Al	27	4825402.1	0.3	**24.7114**	0.796	3.2	ug/L	615	Standard
	Sc	45	45244.1	0.7				ug/L	46336	Standard
	Ti	47	2448.9	0.8	**6.6752**	0.118	1.8	ug/L	20	Standard
	V	51	4685.9	1.7	**0.7267**	0.005	0.7	ug/L	893	Standard
	Cr	52	10164.1	1.8	**1.3250**	0.006	0.5	ug/L	3436	Standard
	Cr	53	1635.1	2.8	**1.2183**	0.045	3.7	ug/L	325	Standard
	Mn	55	7600766.3	1.7	**803.3969**	10.626	1.3	ug/L	949	Standard
	Co	59	32776.1	2.9	**5.6021**	0.056	1.0	ug/L	109	Standard
	Ni	60	5978.8	4.9	**2.5320**	0.083	3.3	ug/L	187	Standard
	Cu	65	12945.5	3.0	**5.7401**	0.093	1.6	ug/L	95	Standard
	Zn	66	26403.7	1.3	**20.8707**	0.234	1.1	ug/L	320	Standard
>	**Ge**	72	482985.8	1.9				ug/L	478028	Standard
	As	75	28446.4	2.6	**20.6241**	0.152	0.7	ug/L	-247	Standard
	Se	82	-16.7	15.9	**0.1994**	0.018	9.0	ug/L	-45	Standard
	Se-1	77	103.3	11.2	**0.1074**	0.111	102.9	ug/L	101	Standard
>	**Ga**	71	658.3	16.0				mg/L	38	Standard
	Rb	85	19170.5	0.7				ug/L	27	Standard
	Y	89	445101.3	3.4				ug/L	457712	Standard
>	**Rh**	103	210.0	28.9				ug/L	7	Standard
	Mo	98	7310.9	2.0	**2.7336**	0.051	1.9	ug/L	7	Standard
	Ag	107	118.0	43.0	**0.0090**	0.009	101.5	ug/L	60	Standard
	Cd	111	47.7	6.2	**0.0187**	0.001	6.1	mg/L	2	Standard
	Cd	114	130.2	19.3	**0.0125**	0.004	35.1	ug/L	28	Standard
>	**In**	115	477513.0	2.6				ug/L	514607	Standard
	Sn	118	178.7	8.2	**0.0498**	0.012	23.7	ug/L	125	Standard
	Sb	123	170.5	21.4	**0.0439**	0.011	25.2	ug/L	14	Standard
	Ba	135	149579.3	2.2	**82.9987**	0.444	0.5	ug/L	10	Standard
	Ce	140	26865.5	4.1				ug/L	25	Standard
>	**Tb**	159	576076.7	3.0				ug/L	648946	Standard
	Ho	165	756.7	6.7				ug/L	2	Standard
	Tl	203	131.7	27.4	**0.0200**	0.007	32.5	ug/L	4	Standard
	Tl	205	158.3	9.6	**0.0253**	0.003	12.0	ug/L	0	Standard
	Pb	206	948.7	6.8	**0.3601**	0.020	5.6	ug/L	113	Standard
	Pb	207	789.7	1.0	**0.3238**	0.013	4.1	ug/L	88	Standard
	Pb	208	2193.7	3.9	**0.3520**	0.017	4.9	ug/L	233	Standard
	U	238	362.0	11.5	**0.0949**	0.008	8.8	ug/L	1	Standard
>	**Bi**	209	283262.3	3.1				ug/L	321163	Standard

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	Na	23	108.3	11.6	**39.6517**	4.338	10.9	mg/L	2	Standard
	Mg	24	4037.2	2.9	**4.0936**	0.143	3.5	mg/L	48	Standard
	K	39	23.3	49.5	**0.2575**	0.158	61.5	mg/L	2	Standard
	Ca	43	483.3	15.6	**39.4136**	6.299	16.0	mg/L	38	Standard
	Fe	54	37665.1	4.4	**21.8491**	0.825	3.8	mg/L	218	Standard
	Fe	57	11122.4	2.5	**23.0179**	0.447	1.9	mg/L	283	Standard
>	**Sc-1**	45	45244.1	0.7				mg/L	46336	Standard
	Cl	35	7866.7	1.4				ug/L	7415	Standard
	Kr	83	91.7	6.7				ug/L	106	Standard
	Br	81	4210.6	2.5				ug/L	2367	Standard
	P	31	376898.5	2.4				ug/L	257843	Standard
	S	34	28196.2	1.3				ug/L	25966	Standard
	Sr	88	1123.4	7.1				ug/L	92	Standard
	C	12	40.0	50.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	1037.1	24.9				mg/L	10	Standard
	Ho-1	165	756.7	6.7				mg/L	2	Standard
	Er	166	896.7	12.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		107.091	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.037	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.792
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.199
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310181905
Sample Date/Time: Tuesday, November 05, 2013 17:04:48
Number of Replicates: 3
Autosampler Position: 315
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	220292.4	2.9				ug/L	199689	Standard
	Be	9	46.7	32.7	**0.0116**	0.006	52.0	ug/L	22	Standard
	Al	27	4329185.9	3.8	**21.5017**	0.269	1.2	ug/L	615	Standard
	Sc	45	43995.5	3.7				ug/L	46336	Standard
	Ti	47	136.3	3.5	**0.3110**	0.006	1.8	ug/L	20	Standard
	V	51	1514.3	7.7	**0.1140**	0.022	18.9	ug/L	893	Standard
	Cr	52	4116.9	6.1	**0.1108**	0.030	26.9	ug/L	3436	Standard
	Cr	53	285.0	6.1	**-0.0244**	0.019	78.9	ug/L	325	Standard
	Mn	55	455278.5	4.2	**47.7241**	0.836	1.8	ug/L	949	Standard
	Co	59	2827.9	5.4	**0.4602**	0.013	2.8	ug/L	109	Standard
	Ni	60	902.7	4.6	**0.3042**	0.002	0.5	ug/L	187	Standard
	Cu	65	437.7	2.5	**0.1423**	0.010	7.1	ug/L	95	Standard
	Zn	66	4905.1	2.2	**3.5764**	0.082	2.3	ug/L	320	Standard
>	**Ge**	72	485927.4	4.2				ug/L	478028	Standard
	As	75	3538.2	4.8	**2.7167**	0.015	0.6	ug/L	-247	Standard
	Se	82	-21.7	63.9	**0.1648**	0.099	59.9	ug/L	-45	Standard
	Se-1	77	102.0	7.8	**0.0903**	0.127	140.8	ug/L	101	Standard
>	**Ga**	71	65.0	15.4				mg/L	38	Standard
	Rb	85	9262.8	5.1				ug/L	27	Standard
	Y	89	430860.1	6.8				ug/L	457712	Standard
>	**Rh**	103	26.7	71.0				ug/L	7	Standard
	Mo	98	71.2	72.8	**0.0081**	0.020	243.0	ug/L	7	Standard
	Ag	107	107.3	75.1	**0.0070**	0.014	206.7	ug/L	60	Standard
	Cd	111	13.3	23.0	**0.0009**	0.001	151.0	mg/L	2	Standard
	Cd	114	65.1	23.5	**-0.0002**	0.003	1898.5	ug/L	28	Standard
>	**In**	115	485661.2	5.6				ug/L	514607	Standard
	Sn	118	183.0	6.3	**0.0509**	0.005	9.9	ug/L	125	Standard
	Sb	123	126.1	36.1	**0.0295**	0.015	50.0	ug/L	14	Standard
	Ba	135	37600.0	4.1	**20.5098**	0.359	1.8	ug/L	10	Standard
	Ce	140	12391.8	7.7				ug/L	25	Standard
>	**Tb**	159	577534.9	5.2				ug/L	648946	Standard
	Ho	165	215.0	18.5				ug/L	2	Standard
	Tl	203	83.0	5.5	**0.0113**	0.001	12.4	ug/L	4	Standard
	Tl	205	136.7	62.3	**0.0214**	0.015	70.7	ug/L	0	Standard
	Pb	206	245.7	6.1	**0.0596**	0.004	6.1	ug/L	113	Standard
	Pb	207	199.0	6.3	**0.0427**	0.002	5.6	ug/L	88	Standard
	Pb	208	603.7	8.9	**0.0633**	0.010	15.2	ug/L	233	Standard
	U	238	85.7	49.0	**0.0196**	0.012	60.6	ug/L	1	Standard
>	**Bi**	209	287805.8	4.6				ug/L	321163	Standard

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	Na	23	15.0	33.3	**5.6146**	1.704	30.3	mg/L	2	Standard
	Mg	24	2491.9	5.8	**2.5847**	0.056	2.2	mg/L	48	Standard
	K	39	11.7	107.9	**0.1024**	0.174	169.7	mg/L	2	Standard
	Ca	43	55.0	15.7	**2.0854**	0.716	34.4	mg/L	38	Standard
	Fe	54	17835.0	3.9	**10.5872**	0.268	2.5	mg/L	218	Standard
	Fe	57	5192.6	6.4	**10.7574**	0.707	6.6	mg/L	283	Standard
>	**Sc-1**	45	43995.5	3.7				mg/L	46336	Standard
	Cl	35	7987.4	3.3				ug/L	7415	Standard
	Kr	83	95.3	17.4				ug/L	106	Standard
	Br	81	6618.1	4.8				ug/L	2367	Standard
	P	31	333654.7	5.0				ug/L	257843	Standard
	S	34	28977.7	4.7				ug/L	25966	Standard
	Sr	88	150.0	12.0				ug/L	92	Standard
	C	12	46.7	44.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	309.3	24.2				mg/L	10	Standard
	Ho-1	165	215.0	18.5				mg/L	2	Standard
	Er	166	223.3	13.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.318	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.652	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.375
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.614
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310181909
Sample Date/Time: Tuesday, November 05, 2013 17:07:52
Number of Replicates: 3
Autosampler Position: 316
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	224552.8	3.0				ug/L	199689	Standard
	Be	9	111.7	12.9	**0.0386**	0.006	15.7	ug/L	22	Standard
	Al	27	711655.9	4.2	**3.4648**	0.080	2.3	ug/L	615	Standard
	Sc	45	44980.1	3.8				ug/L	46336	Standard
	Ti	47	145.0	11.3	**0.3308**	0.044	13.2	ug/L	20	Standard
	V	51	1301.4	4.9	**0.0707**	0.010	14.5	ug/L	893	Standard
	Cr	52	4283.9	5.4	**0.1358**	0.032	23.9	ug/L	3436	Standard
	Cr	53	428.3	22.9	**0.1044**	0.098	93.4	ug/L	325	Standard
	Mn	55	22030.0	5.9	**2.1746**	0.026	1.2	ug/L	949	Standard
	Co	59	1026.4	6.3	**0.1511**	0.005	3.3	ug/L	109	Standard
	Ni	60	845.7	6.6	**0.2756**	0.014	5.0	ug/L	187	Standard
	Cu	65	434.3	7.7	**0.1385**	0.007	4.9	ug/L	95	Standard
	Zn	66	3141.0	3.8	**2.1407**	0.029	1.4	ug/L	320	Standard
>	**Ge**	72	490956.8	4.8				ug/L	478028	Standard
	As	75	-224.1	8.6	**0.0321**	0.017	51.9	ug/L	-247	Standard
	Se	82	-18.8	69.4	**0.1848**	0.090	48.8	ug/L	-45	Standard
	Se-1	77	108.3	5.1	**0.1476**	0.116	78.6	ug/L	101	Standard
>	**Ga**	71	58.3	21.6				mg/L	38	Standard
	Rb	85	13255.8	8.6				ug/L	27	Standard
	Y	89	432177.7	3.2				ug/L	457712	Standard
>	**Rh**	103	15.0	66.7				ug/L	7	Standard
	Mo	98	62.5	5.2	**0.0045**	0.002	33.8	ug/L	7	Standard
	Ag	107	96.0	14.0	**0.0046**	0.002	35.2	ug/L	60	Standard
	Cd	111	14.9	29.3	**0.0017**	0.002	124.8	mg/L	2	Standard
	Cd	114	55.4	8.8	**-0.0022**	0.001	59.9	ug/L	28	Standard
>	**In**	115	488927.7	4.5				ug/L	514607	Standard
	Sn	118	172.0	6.7	**0.0408**	0.008	20.4	ug/L	125	Standard
	Sb	123	103.7	14.4	**0.0221**	0.003	14.3	ug/L	14	Standard
	Ba	135	39871.5	4.8	**21.5906**	0.217	1.0	ug/L	10	Standard
	Ce	140	19118.7	4.8				ug/L	25	Standard
>	**Tb**	159	577885.7	3.1				ug/L	648946	Standard
	Ho	165	365.0	11.0				ug/L	2	Standard
	Tl	203	163.0	22.3	**0.0245**	0.005	22.4	ug/L	4	Standard
	Tl	205	173.3	20.3	**0.0270**	0.005	19.3	ug/L	0	Standard
	Pb	206	245.0	4.4	**0.0582**	0.004	6.3	ug/L	113	Standard
	Pb	207	194.7	1.8	**0.0398**	0.005	12.1	ug/L	88	Standard
	Pb	208	518.0	9.4	**0.0469**	0.006	12.0	ug/L	233	Standard
	U	238	117.0	3.9	**0.0275**	0.001	5.3	ug/L	1	Standard
>	**Bi**	209	290966.0	3.6				ug/L	321163	Standard

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Na	23	3.3	86.6	**1.2069**	1.041	86.2	mg/L	2	Standard
Mg	24	1771.8	3.0	**1.7912**	0.116	6.5	mg/L	48	Standard
K	39	21.7	53.3	**0.2406**	0.174	72.3	mg/L	2	Standard
Ca	43	21.7	48.0	**-0.9759**	0.861	88.3	mg/L	38	Standard
Fe	54	214.1	10.6	**0.0170**	0.013	79.3	mg/L	218	Standard
Fe	57	240.0	11.0	**-0.0628**	0.067	105.9	mg/L	283	Standard
> **Sc-1**	45	44980.1	3.8				mg/L	46336	Standard
Cl	35	7716.6	1.2				ug/L	7415	Standard
Kr	83	102.7	9.8				ug/L	106	Standard
Br	81	7168.4	2.0				ug/L	2367	Standard
P	31	334526.0	4.6				ug/L	257843	Standard
S	34	25716.8	2.9				ug/L	25966	Standard
Sr	88	86.7	13.3				ug/L	92	Standard
C	12	26.7	57.3				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	661.5	9.0				mg/L	10	Standard
Ho-1	165	365.0	11.0				mg/L	2	Standard
Er	166	386.7	6.0				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		112.451	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		102.705	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.010
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.598
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310181910
Sample Date/Time: Tuesday, November 05, 2013 17:10:57
Number of Replicates: 3
Autosampler Position: 317
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	220068.1	3.7				ug/L	199689	Standard
	Be	9	50.0	10.0	**0.0131**	0.001	11.2	ug/L	22	Standard
	Al	27	1459241.4	1.7	**7.2575**	0.148	2.0	ug/L	615	Standard
	Sc	45	44418.4	1.3				ug/L	46336	Standard
	Ti	47	452.3	5.0	**1.1724**	0.035	3.0	ug/L	20	Standard
	V	51	2868.5	3.9	**0.3725**	0.023	6.3	ug/L	893	Standard
	Cr	52	5062.8	1.9	**0.2982**	0.048	16.1	ug/L	3436	Standard
	Cr	53	501.7	8.6	**0.1730**	0.046	26.7	ug/L	325	Standard
	Mn	55	15773.6	5.0	**1.5392**	0.078	5.1	ug/L	949	Standard
	Co	59	978.4	2.7	**0.1445**	0.002	1.3	ug/L	109	Standard
	Ni	60	1603.4	1.6	**0.6088**	0.020	3.2	ug/L	187	Standard
	Cu	65	490.0	4.1	**0.1651**	0.011	6.9	ug/L	95	Standard
	Zn	66	4335.0	4.3	**3.1120**	0.031	1.0	ug/L	320	Standard
>	**Ge**	72	486800.8	3.5				ug/L	478028	Standard
	As	75	305.1	13.8	**0.4085**	0.031	7.6	ug/L	-247	Standard
	Se	82	-8.2	54.0	**0.2568**	0.031	12.0	ug/L	-45	Standard
	Se-1	77	115.0	2.6	**0.2274**	0.063	27.9	ug/L	101	Standard
>	**Ga**	71	270.0	12.1				mg/L	38	Standard
	Rb	85	13712.9	4.0				ug/L	27	Standard
	Y	89	430550.9	5.3				ug/L	457712	Standard
>	**Rh**	103	41.7	25.0				ug/L	7	Standard
	Mo	98	167.5	4.0	**0.0436**	0.003	7.5	ug/L	7	Standard
	Ag	107	811.7	2.4	**0.1298**	0.001	1.1	ug/L	60	Standard
	Cd	111	40.7	11.3	**0.0148**	0.002	16.0	mg/L	2	Standard
	Cd	114	141.2	9.7	**0.0143**	0.003	24.2	ug/L	28	Standard
>	**In**	115	485066.3	3.4				ug/L	514607	Standard
	Sn	118	142.0	15.5	**0.0164**	0.016	96.9	ug/L	125	Standard
	Sb	123	120.4	8.2	**0.0276**	0.003	11.1	ug/L	14	Standard
	Ba	135	21190.2	4.2	**11.5559**	0.098	0.8	ug/L	10	Standard
	Ce	140	31288.9	1.8				ug/L	25	Standard
>	**Tb**	159	576694.5	3.7				ug/L	648946	Standard
	Ho	165	311.7	8.8				ug/L	2	Standard
	Tl	203	184.7	6.7	**0.0288**	0.003	9.0	ug/L	4	Standard
	Tl	205	186.7	10.8	**0.0298**	0.003	9.6	ug/L	0	Standard
	Pb	206	772.4	2.3	**0.2816**	0.001	0.4	ug/L	113	Standard
	Pb	207	641.7	1.4	**0.2504**	0.011	4.4	ug/L	88	Standard
	Pb	208	1723.4	2.7	**0.2636**	0.007	2.6	ug/L	233	Standard
	U	238	120.3	7.3	**0.0289**	0.003	10.3	ug/L	1	Standard
>	**Bi**	209	286423.4	2.5				ug/L	321163	Standard

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	Na	23	48.3	31.6	**18.0351**	5.674	31.5	mg/L	2	Standard
	Mg	24	1643.4	2.2	**1.6778**	0.022	1.3	mg/L	48	Standard
	K	39	8.3	91.7	**0.0550**	0.108	196.1	mg/L	2	Standard
	Ca	43	241.7	13.3	**18.6894**	2.909	15.6	mg/L	38	Standard
	Fe	54	1364.1	6.5	**0.7011**	0.043	6.1	mg/L	218	Standard
	Fe	57	645.0	2.8	**0.8177**	0.033	4.0	mg/L	283	Standard
>	**Sc-1**	45	44418.4	1.3				mg/L	46336	Standard
	Cl	35	8416.3	0.9				ug/L	7415	Standard
	Kr	83	92.7	1.6				ug/L	106	Standard
	Br	81	6301.3	3.8				ug/L	2367	Standard
	P	31	324940.7	6.1				ug/L	257843	Standard
	S	34	27675.3	2.0				ug/L	25966	Standard
	Sr	88	171.7	12.1				ug/L	92	Standard
	C	12	20.0	132.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	473.3	22.1				mg/L	10	Standard
	Ho-1	165	311.7	8.8				mg/L	2	Standard
	Er	166	280.0	18.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.205	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.835	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.260
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.183
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310184421
Sample Date/Time: Tuesday, November 05, 2013 17:14:01
Number of Replicates: 3
Autosampler Position: 318
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	214523.4	2.1				ug/L	199689	Standard
	Be	9	88.3	26.1	**0.0306**	0.011	34.9	ug/L	22	Standard
	Al	27	7160219.6	3.4	**36.5284**	1.013	2.8	ug/L	615	Standard
	Sc	45	43906.9	4.1				ug/L	46336	Standard
	Ti	47	878.7	9.1	**2.4222**	0.180	7.4	ug/L	20	Standard
	V	51	11092.6	3.6	**2.0215**	0.013	0.7	ug/L	893	Standard
	Cr	52	5851.5	2.7	**0.4961**	0.006	1.1	ug/L	3436	Standard
	Cr	53	1005.0	2.3	**0.6654**	0.027	4.0	ug/L	325	Standard
	Mn	55	418045.2	2.2	**45.3385**	0.401	0.9	ug/L	949	Standard
	Co	59	2967.0	1.8	**0.5018**	0.016	3.2	ug/L	109	Standard
	Ni	60	11421.0	4.9	**5.0602**	0.100	2.0	ug/L	187	Standard
	Cu	65	12265.0	3.1	**5.5923**	0.067	1.2	ug/L	95	Standard
	Zn	66	7114.0	4.9	**5.5328**	0.104	1.9	ug/L	320	Standard
>	**Ge**	72	469637.1	3.1				ug/L	478028	Standard
	As	75	5847.9	3.0	**4.5113**	0.029	0.6	ug/L	-247	Standard
	Se	82	81.0	29.4	**0.8794**	0.172	19.6	ug/L	-45	Standard
	Se-1	77	148.3	3.2	**0.6473**	0.076	11.7	ug/L	101	Standard
>	**Ga**	71	245.0	5.4				mg/L	38	Standard
	Rb	85	28426.7	4.6				ug/L	27	Standard
	Y	89	437399.4	3.8				ug/L	457712	Standard
>	**Rh**	103	45.0	11.1				ug/L	7	Standard
	Mo	98	10316.9	2.0	**3.9392**	0.045	1.1	ug/L	7	Standard
	Ag	107	146.7	5.3	**0.0146**	0.001	7.6	ug/L	60	Standard
	Cd	111	185.8	3.0	**0.0909**	0.004	4.7	mg/L	2	Standard
	Cd	114	571.2	8.0	**0.1001**	0.006	6.2	ug/L	28	Standard
>	**In**	115	468592.3	3.1				ug/L	514607	Standard
	Sn	118	203.7	5.5	**0.0746**	0.010	13.2	ug/L	125	Standard
	Sb	123	560.1	2.0	**0.1701**	0.007	3.9	ug/L	14	Standard
	Ba	135	263819.0	2.6	**149.1930**	0.793	0.5	ug/L	10	Standard
	Ce	140	41062.2	2.1				ug/L	25	Standard
>	**Tb**	159	562080.8	3.1				ug/L	648946	Standard
	Ho	165	611.7	10.5				ug/L	2	Standard
	Tl	203	284.3	7.8	**0.0478**	0.005	10.3	ug/L	4	Standard
	Tl	205	261.7	9.6	**0.0443**	0.004	9.4	ug/L	0	Standard
	Pb	206	1405.7	4.5	**0.5696**	0.010	1.7	ug/L	113	Standard
	Pb	207	1153.7	3.1	**0.5098**	0.022	4.2	ug/L	88	Standard
	Pb	208	3080.8	5.2	**0.5257**	0.013	2.5	ug/L	233	Standard
	U	238	2958.3	2.2	**0.8235**	0.007	0.9	ug/L	1	Standard
>	**Bi**	209	276281.0	3.1				ug/L	321163	Standard

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	Na	23	110.0	43.8	**41.0869**	16.314	39.7	mg/L	2	Standard
	Mg	24	4784.1	3.7	**5.0145**	0.367	7.3	mg/L	48	Standard
	K	39	271.7	13.1	**3.7800**	0.571	15.1	mg/L	2	Standard
	Ca	43	458.3	7.7	**38.4702**	2.637	6.9	mg/L	38	Standard
	Fe	54	495.4	8.1	**0.1889**	0.018	9.6	mg/L	218	Standard
	Fe	57	458.3	4.4	**0.4277**	0.077	17.9	mg/L	283	Standard
>	**Sc-1**	45	43906.9	4.1				mg/L	46336	Standard
	Cl	35	7984.8	2.1				ug/L	7415	Standard
	Kr	83	101.0	4.5				ug/L	106	Standard
	Br	81	19232.2	0.7				ug/L	2367	Standard
	P	31	381659.3	4.2				ug/L	257843	Standard
	S	34	26484.8	1.8				ug/L	25966	Standard
	Sr	88	286.7	16.8				ug/L	92	Standard
	C	12	66.7	31.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	900.4	11.4				mg/L	10	Standard
	Ho-1	165	611.7	10.5				mg/L	2	Standard
	Er	166	480.0	16.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		107.429	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.245	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.058
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.025
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1310186601
Sample Date/Time: Tuesday, November 05, 2013 17:17:05
Number of Replicates: 3
Autosampler Position: 319
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	223601.6	4.5				ug/L	199689	Standard
	Be	9	143.3	22.4	**0.0524**	0.015	29.1	ug/L	22	Standard
	Al	27	340473.3	2.9	**1.6638**	0.033	2.0	ug/L	615	Standard
	Sc	45	43997.1	1.1				ug/L	46336	Standard
	Ti	47	318.7	8.5	**0.8124**	0.071	8.8	ug/L	20	Standard
	V	51	2743.8	3.1	**0.3511**	0.006	1.7	ug/L	893	Standard
	Cr	52	5041.5	3.6	**0.2980**	0.002	0.7	ug/L	3436	Standard
	Cr	53	643.3	9.3	**0.3044**	0.047	15.4	ug/L	325	Standard
	Mn	55	23080.6	8.4	**2.3148**	0.132	5.7	ug/L	949	Standard
	Co	59	648.0	9.0	**0.0887**	0.008	8.9	ug/L	109	Standard
	Ni	60	803.4	4.7	**0.2621**	0.012	4.7	ug/L	187	Standard
	Cu	65	313.0	6.4	**0.0872**	0.011	12.2	ug/L	95	Standard
	Zn	66	3275.4	1.6	**2.2827**	0.066	2.9	ug/L	320	Standard
>	**Ge**	72	484341.4	3.4				ug/L	478028	Standard
	As	75	90.4	43.4	**0.2555**	0.028	10.9	ug/L	-247	Standard
	Se	82	-5.2	24.6	**0.2775**	0.010	3.6	ug/L	-45	Standard
	Se-1	77	103.7	5.7	**0.1085**	0.031	28.6	ug/L	101	Standard
>	**Ga**	71	66.7	15.6				mg/L	38	Standard
	Rb	85	10747.1	2.3				ug/L	27	Standard
	Y	89	432762.7	2.6				ug/L	457712	Standard
>	**Rh**	103	11.7	24.7				ug/L	7	Standard
	Mo	98	109.6	14.8	**0.0223**	0.005	22.9	ug/L	7	Standard
	Ag	107	95.7	30.5	**0.0048**	0.005	99.6	ug/L	60	Standard
	Cd	111	35.5	28.7	**0.0121**	0.005	37.8	mg/L	2	Standard
	Cd	114	100.9	36.8	**0.0065**	0.006	97.2	ug/L	28	Standard
>	**In**	115	482687.2	3.7				ug/L	514607	Standard
	Sn	118	215.3	12.8	**0.0789**	0.017	21.9	ug/L	125	Standard
	Sb	123	79.3	27.2	**0.0150**	0.007	44.6	ug/L	14	Standard
	Ba	135	14500.9	2.8	**7.9445**	0.078	1.0	ug/L	10	Standard
	Ce	140	3462.1	11.7				ug/L	25	Standard
>	**Tb**	159	569379.5	2.8				ug/L	648946	Standard
	Ho	165	130.0	21.4				ug/L	2	Standard
	Tl	203	132.0	40.0	**0.0194**	0.008	42.3	ug/L	4	Standard
	Tl	205	130.0	26.9	**0.0200**	0.006	29.2	ug/L	0	Standard
	Pb	206	203.7	12.9	**0.0420**	0.011	25.9	ug/L	113	Standard
	Pb	207	166.0	14.8	**0.0272**	0.009	34.9	ug/L	88	Standard
	Pb	208	438.0	8.3	**0.0337**	0.005	14.3	ug/L	233	Standard
	U	238	131.7	9.5	**0.0317**	0.004	11.9	ug/L	1	Standard
>	**Bi**	209	287966.2	3.2				ug/L	321163	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
	Mg	24	2225.2	3.7	**2.3053**	0.066	2.9	mg/L	48	Standard
	K	39	20.0	25.0	**0.2193**	0.070	31.7	mg/L	2	Standard
	Ca	43	33.3	8.7	**0.1368**	0.235	171.5	mg/L	38	Standard
	Fe	54	474.0	7.7	**0.1755**	0.021	11.8	mg/L	218	Standard
	Fe	57	266.7	6.6	**0.0059**	0.042	712.6	mg/L	283	Standard
>	**Sc-1**	45	43997.1	1.1				mg/L	46336	Standard
	Cl	35	8042.1	2.7				ug/L	7415	Standard
	Kr	83	86.0	9.2				ug/L	106	Standard
	Br	81	5541.0	2.5				ug/L	2367	Standard
	P	31	340669.7	1.8				ug/L	257843	Standard
	S	34	25972.2	2.0				ug/L	25966	Standard
	Sr	88	76.7	29.4				ug/L	92	Standard
	C	12	36.7	41.7				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	200.1	42.5				mg/L	10	Standard
	Ho-1	165	130.0	21.4				mg/L	2	Standard
	Er	166	136.7	33.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.975	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.321	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.797
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.664
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310186801
Sample Date/Time: Tuesday, November 05, 2013 17:20:10
Number of Replicates: 3
Autosampler Position: 320
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	224422.6	3.2				ug/L	199689	Standard
	Be	9	35.0	42.9	**0.0064**	0.006	100.5	ug/L	22	Standard
	Al	27	4410945.6	1.0	**21.5204**	0.595	2.8	ug/L	615	Standard
	Sc	45	45082.0	4.0				ug/L	46336	Standard
	Ti	47	368.7	5.5	**0.9601**	0.024	2.5	ug/L	20	Standard
	V	51	10091.4	4.2	**1.7838**	0.026	1.5	ug/L	893	Standard
	Cr	52	7607.9	2.8	**0.8267**	0.017	2.0	ug/L	3436	Standard
	Cr	53	1950.1	5.5	**1.5248**	0.139	9.1	ug/L	325	Standard
	Mn	55	5945.5	3.4	**0.5181**	0.009	1.8	ug/L	949	Standard
	Co	59	315.3	4.0	**0.0324**	0.001	4.3	ug/L	109	Standard
	Ni	60	2183.5	24.8	**0.8801**	0.263	29.9	ug/L	187	Standard
	Cu	65	768.4	6.7	**0.2938**	0.012	4.2	ug/L	95	Standard
	Zn	66	3172.0	3.9	**2.2272**	0.081	3.6	ug/L	320	Standard
>	**Ge**	72	479015.7	3.2				ug/L	478028	Standard
	As	75	379.1	13.3	**0.4664**	0.045	9.6	ug/L	-247	Standard
	Se	82	150.8	12.7	**1.3465**	0.158	11.7	ug/L	-45	Standard
	Se-1	77	200.3	2.8	**1.1891**	0.126	10.6	ug/L	101	Standard
>	**Ga**	71	93.3	18.8				mg/L	38	Standard
	Rb	85	16682.5	3.2				ug/L	27	Standard
	Y	89	412948.0	3.6				ug/L	457712	Standard
>	**Rh**	103	76.7	13.6				ug/L	7	Standard
	Mo	98	3735.8	2.7	**1.3907**	0.025	1.8	ug/L	7	Standard
	Ag	107	66.3	7.6	**-0.0001**	0.001	808.4	ug/L	60	Standard
	Cd	111	13.6	36.4	**0.0013**	0.003	205.9	mg/L	2	Standard
	Cd	114	71.0	52.7	**0.0010**	0.007	674.5	ug/L	28	Standard
>	**In**	115	476439.8	1.9				ug/L	514607	Standard
	Sn	118	150.0	8.1	**0.0255**	0.008	32.1	ug/L	125	Standard
	Sb	123	137.7	9.0	**0.0337**	0.003	9.2	ug/L	14	Standard
	Ba	135	65031.6	2.4	**36.1505**	0.231	0.6	ug/L	10	Standard
	Ce	140	843.4	5.3				ug/L	25	Standard
>	**Tb**	159	567317.9	3.9				ug/L	648946	Standard
	Ho	165	15.0	33.3				ug/L	2	Standard
	Tl	203	236.7	3.0	**0.0380**	0.001	3.0	ug/L	4	Standard
	Tl	205	241.7	8.6	**0.0396**	0.005	11.4	ug/L	0	Standard
	Pb	206	258.0	7.8	**0.0661**	0.009	13.3	ug/L	113	Standard
	Pb	207	215.7	2.9	**0.0517**	0.004	7.4	ug/L	88	Standard
	Pb	208	590.0	2.1	**0.0621**	0.005	7.2	ug/L	233	Standard
	U	238	613.0	5.1	**0.1628**	0.005	2.8	ug/L	1	Standard
>	**Bi**	209	284409.3	2.5				ug/L	321163	Standard

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⌈	**Na**	23	46.7	50.6	**16.9811**	8.337	49.1	mg/L	2	Standard
|	**Mg**	24	7345.1	5.5	**7.4979**	0.135	1.8	mg/L	48	Standard
|	**K**	39	36.7	41.7	**0.4411**	0.204	46.2	mg/L	2	Standard
|	**Ca**	43	240.0	24.0	**18.3164**	5.670	31.0	mg/L	38	Standard
|	**Fe**	54	215.3	1.2	**0.0174**	0.004	22.3	mg/L	218	Standard
|	**Fe**	57	368.3	11.3	**0.2109**	0.118	55.7	mg/L	283	Standard
⌊>	**Sc-1**	45	45082.0	4.0				mg/L	46336	Standard
	Cl	35	8026.8	3.0				ug/L	7415	Standard
	Kr	83	89.7	15.1				ug/L	106	Standard
	Br	81	24199.3	1.5				ug/L	2367	Standard
	P	31	391979.1	2.4				ug/L	257843	Standard
	S	34	25317.8	2.1				ug/L	25966	Standard
	Sr	88	375.0	7.1				ug/L	92	Standard
	C	12	10.0					mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	26.3	95.3				mg/L	10	Standard
	Ho-1	165	15.0	33.3				mg/L	2	Standard
	Er	166	6.7	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		112.386	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		100.207	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.583
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.556
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 17:23:16
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	220885.7	4.6				ug/L	199689	Standard
	Be	9	112217.7	3.7	**47.8393**	0.457	1.0	ug/L	22	Standard
	Al	27	8753578.5	1.1	**43.4184**	1.562	3.6	ug/L	615	Standard
	Sc	45	44261.3	2.9				ug/L	46336	Standard
	Ti	47	34822.0	4.0	**96.0146**	0.663	0.7	ug/L	20	Standard
	V	51	255399.4	4.3	**49.1786**	0.697	1.4	ug/L	893	Standard
	Cr	52	242494.3	3.5	**47.9341**	0.852	1.8	ug/L	3436	Standard
	Cr	53	53589.8	5.5	**49.1194**	1.143	2.3	ug/L	325	Standard
	Mn	55	474494.4	4.3	**50.2038**	1.304	2.6	ug/L	949	Standard
	Co	59	290411.5	4.8	**49.9655**	0.843	1.7	ug/L	109	Standard
	Ni	60	113515.4	4.1	**49.8485**	0.553	1.1	ug/L	187	Standard
	Cu	65	111758.1	4.0	**50.1162**	0.530	1.1	ug/L	95	Standard
	Zn	66	64112.5	3.7	**51.3348**	1.249	2.4	ug/L	320	Standard
>	**Ge**	72	481458.7	3.7				ug/L	478028	Standard
	As	75	69064.9	4.2	**49.9570**	0.538	1.1	ug/L	-247	Standard
	Se	82	6942.4	4.8	**47.5290**	0.782	1.6	ug/L	-45	Standard
	Se-1	77	4711.1	4.9	**50.6108**	1.304	2.6	ug/L	101	Standard
>	**Ga**	71	48.3	26.0				mg/L	38	Standard
	Rb	85	1071.7	7.0				ug/L	27	Standard
	Y	89	418293.8	4.3				ug/L	457712	Standard
>	**Rh**	103	11.7	24.7				ug/L	7	Standard
	Mo	98	317109.6	3.7	**118.9985**	1.667	1.4	ug/L	7	Standard
	Ag	107	304211.2	2.8	**53.7810**	0.278	0.5	ug/L	60	Standard
	Cd	111	102279.3	3.4	**51.9984**	0.564	1.1	mg/L	2	Standard
	Cd	114	265776.4	3.4	**51.3857**	0.596	1.2	ug/L	28	Standard
>	**In**	115	478734.2	2.4				ug/L	514607	Standard
	Sn	118	61501.0	4.0	**52.3621**	0.999	1.9	ug/L	125	Standard
	Sb	123	153512.1	1.8	**48.2015**	0.322	0.7	ug/L	14	Standard
	Ba	135	90760.5	3.1	**50.2161**	0.427	0.9	ug/L	10	Standard
	Ce	140	23.3	44.6				ug/L	25	Standard
>	**Tb**	159	570631.0	1.9				ug/L	648946	Standard
	Ho	165	10.0	100.0				ug/L	2	Standard
	Tl	203	289811.7	3.3	**49.9604**	0.691	1.4	ug/L	4	Standard
	Tl	205	317419.2	3.1	**54.4738**	0.736	1.4	ug/L	0	Standard
	Pb	206	123726.6	2.4	**52.2139**	0.906	1.7	ug/L	113	Standard
	Pb	207	110796.6	3.4	**51.9795**	1.023	2.0	ug/L	88	Standard
	Pb	208	287100.5	3.0	**51.3923**	0.429	0.8	ug/L	233	Standard
	U	238	182679.5	2.7	**49.4518**	0.656	1.3	ug/L	1	Standard
>	**Bi**	209	285353.8	3.5				ug/L	321163	Standard

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	Na	23	23.3	32.7	**8.7914**	3.083	35.1	mg/L	2	Standard
	Mg	24	4644.0	3.0	**4.8190**	0.078	1.6	mg/L	48	Standard
	K	39	188.3	12.5	**2.5719**	0.295	11.5	mg/L	2	Standard
	Ca	43	80.0	12.5	**4.3125**	1.071	24.8	mg/L	38	Standard
	Fe	54	8450.4	3.1	**4.9278**	0.042	0.9	mg/L	218	Standard
	Fe	57	2451.9	1.2	**4.7432**	0.124	2.6	mg/L	283	Standard
>	**Sc-1**	45	44261.3	2.9				mg/L	46336	Standard
	Cl	35	7986.8	2.4				ug/L	7415	Standard
	Kr	83	90.0	4.8				ug/L	106	Standard
	Br	81	2463.5	10.2				ug/L	2367	Standard
	P	31	303758.5	1.5				ug/L	257843	Standard
	S	34	28486.8	1.5				ug/L	25966	Standard
	Sr	88	85.0	41.2				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.3	186.3				mg/L	10	Standard
	Ho-1	165	10.0	100.0				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.615	
	Be	9	95.679		
	Al	27	86.837		
	Sc	45			
	Ti	47	96.015		
	V	51	98.357		
	Cr	52	95.868		
	Cr	53			
	Mn	55	100.408		
	Co	59	99.931		
	Ni	60	99.697		
	Cu	65	100.232		
	Zn	66	102.670		
>	Ge	72		100.718	
	As	75	99.914		
	Se	82	95.058		
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98	118.999	
	Ag	107	107.562	
	Cd	111	103.997	
	Cd	114		
>	In	115		93.029
	Sn	118	104.724	
	Sb	123	96.403	
	Ba	135	100.432	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	99.921	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	102.785	
	U	238	98.904	
>	Bi	209		88.850
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 17:26:21
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	214047.8	3.9				ug/L	199689	Standard
	Be	9	41.7	54.1	**0.0100**	0.010	99.6	ug/L	22	Standard
	Al	27	1336.7	5.1	**0.0033**	0.000	2.9	ug/L	615	Standard
	Sc	45	41052.3	5.7				ug/L	46336	Standard
	Ti	47	19.7	22.9	**-0.0049**	0.013	271.1	ug/L	20	Standard
	V	51	903.4	2.2	**0.0075**	0.006	79.6	ug/L	893	Standard
	Cr	52	3304.0	3.3	**-0.0108**	0.011	102.0	ug/L	3436	Standard
	Cr	53	156.7	21.7	**-0.1342**	0.026	19.1	ug/L	325	Standard
	Mn	55	916.0	8.3	**-0.0136**	0.006	43.3	ug/L	949	Standard
	Co	59	91.3	10.2	**-0.0056**	0.002	36.7	ug/L	109	Standard
	Ni	60	366.3	4.0	**0.0801**	0.002	3.1	ug/L	187	Standard
	Cu	65	117.0	15.0	**0.0024**	0.006	237.6	ug/L	95	Standard
	Zn	66	256.3	6.2	**-0.1255**	0.011	8.7	ug/L	320	Standard
>	**Ge**	72	458490.7	4.8				ug/L	478028	Standard
	As	75	-228.2	7.6	**0.0181**	0.011	58.5	ug/L	-247	Standard
	Se	82	-35.9	10.8	**0.0571**	0.017	29.3	ug/L	-45	Standard
	Se-1	77	78.3	3.2	**-0.1169**	0.066	56.4	ug/L	101	Standard
>	**Ga**	71	25.0	72.1				mg/L	38	Standard
	Rb	85	18.3	78.7				ug/L	27	Standard
	Y	89	407115.8	5.9				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	52.2	30.7	**0.0016**	0.006	367.9	ug/L	7	Standard
	Ag	107	58.0	6.2	**-0.0014**	0.001	73.9	ug/L	60	Standard
	Cd	111	1.2	119.4	**-0.0051**	0.001	14.6	mg/L	2	Standard
	Cd	114	35.0	8.0	**-0.0057**	0.000	8.4	ug/L	28	Standard
>	**In**	115	466640.5	4.6				ug/L	514607	Standard
	Sn	118	125.7	4.5	**0.0070**	0.001	14.4	ug/L	125	Standard
	Sb	123	370.0	45.0	**0.1080**	0.047	43.9	ug/L	14	Standard
	Ba	135	13.7	18.4	**-0.0107**	0.001	13.4	ug/L	10	Standard
	Ce	140	5.0	0.0				ug/L	25	Standard
>	**Tb**	159	548963.1	5.4				ug/L	648946	Standard
	Ho	165	3.3	86.6				ug/L	2	Standard
	Tl	203	12.0	52.0	**-0.0008**	0.001	126.5	ug/L	4	Standard
	Tl	205	11.7	65.5	**0.0000**	0.001	22046.1	ug/L	0	Standard
	Pb	206	91.0	18.1	**-0.0035**	0.006	184.1	ug/L	113	Standard
	Pb	207	76.3	12.7	**-0.0129**	0.003	22.4	ug/L	88	Standard
	Pb	208	219.0	4.0	**-0.0033**	0.002	58.4	ug/L	233	Standard
	U	238	2.3	24.7	**-0.0030**	0.000	6.1	ug/L	1	Standard
>	**Bi**	209	275573.4	5.5				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6390**	1.098	171.8	mg/L	2	Standard
	Mg	24	45.0	11.1	**0.0177**	0.005	25.6	mg/L	48	Standard
	K	39	1.7	173.2	**-0.0384**	0.041	107.0	mg/L	2	Standard
	Ca	43	18.3	78.7	**-1.0468**	1.515	144.7	mg/L	38	Standard
	Fe	54	168.0	28.1	**-0.0012**	0.028	2266.9	mg/L	218	Standard
	Fe	57	175.0	22.7	**-0.1626**	0.114	69.9	mg/L	283	Standard
>	**Sc-1**	45	41052.3	5.7				mg/L	46336	Standard
	Cl	35	8108.8	2.1				ug/L	7415	Standard
	Kr	83	87.3	3.7				ug/L	106	Standard
	Br	81	2380.2	1.8				ug/L	2367	Standard
	P	31	264797.2	3.4				ug/L	257843	Standard
	S	34	28136.1	1.0				ug/L	25966	Standard
	Sr	88	85.0	15.6				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	6.7	86.6				mg/L	10	Standard
	Ho-1	165	3.3	86.6				mg/L	2	Standard
	Er	166	0.0					mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		107.191	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		95.913	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.679
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.805
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310186802
Sample Date/Time: Tuesday, November 05, 2013 17:29:27
Number of Replicates: 3
Autosampler Position: 321
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	227096.0	0.8				ug/L	199689	Standard
	Be	9	36.7	41.7	**0.0070**	0.006	92.3	ug/L	22	Standard
	Al	27	4601371.2	1.1	**22.1748**	0.390	1.8	ug/L	615	Standard
	Sc	45	46195.3	1.3				ug/L	46336	Standard
	Ti	47	378.0	11.2	**0.9724**	0.115	11.8	ug/L	20	Standard
	V	51	10780.5	3.5	**1.8895**	0.031	1.6	ug/L	893	Standard
	Cr	52	7972.1	5.6	**0.8775**	0.050	5.7	ug/L	3436	Standard
	Cr	53	1731.8	4.6	**1.2999**	0.103	7.9	ug/L	325	Standard
	Mn	55	5925.8	2.5	**0.5075**	0.001	0.1	ug/L	949	Standard
	Co	59	305.3	14.8	**0.0299**	0.006	21.3	ug/L	109	Standard
	Ni	60	1505.7	3.4	**0.5675**	0.006	1.1	ug/L	187	Standard
	Cu	65	606.0	4.4	**0.2174**	0.017	7.9	ug/L	95	Standard
	Zn	66	2834.3	4.2	**1.9217**	0.043	2.2	ug/L	320	Standard
>	**Ge**	72	485560.6	2.4				ug/L	478028	Standard
	As	75	522.3	8.0	**0.5646**	0.037	6.5	ug/L	-247	Standard
	Se	82	221.1	7.0	**1.8061**	0.138	7.7	ug/L	-45	Standard
	Se-1	77	189.0	5.9	**1.0362**	0.168	16.2	ug/L	101	Standard
>	**Ga**	71	50.0	17.3				mg/L	38	Standard
	Rb	85	17169.7	4.4				ug/L	27	Standard
	Y	89	426334.6	1.9				ug/L	457712	Standard
>	**Rh**	103	60.0	28.9				ug/L	7	Standard
	Mo	98	3923.3	3.6	**1.4577**	0.028	1.9	ug/L	7	Standard
	Ag	107	68.3	16.6	**0.0001**	0.002	1136.5	ug/L	60	Standard
	Cd	111	10.7	15.9	**-0.0002**	0.001	472.1	mg/L	2	Standard
	Cd	114	79.3	24.1	**0.0027**	0.004	139.4	ug/L	28	Standard
>	**In**	115	477627.5	2.8				ug/L	514607	Standard
	Sn	118	149.7	4.1	**0.0250**	0.005	18.4	ug/L	125	Standard
	Sb	123	204.5	11.3	**0.0545**	0.005	10.0	ug/L	14	Standard
	Ba	135	67410.7	2.2	**37.3867**	0.216	0.6	ug/L	10	Standard
	Ce	140	831.7	3.3				ug/L	25	Standard
>	**Tb**	159	566515.4	2.4				ug/L	648946	Standard
	Ho	165	21.7	58.1				ug/L	2	Standard
	Tl	203	145.3	15.0	**0.0222**	0.003	13.8	ug/L	4	Standard
	Tl	205	153.3	10.0	**0.0244**	0.003	13.6	ug/L	0	Standard
	Pb	206	226.3	6.6	**0.0531**	0.010	18.0	ug/L	113	Standard
	Pb	207	186.3	11.5	**0.0382**	0.012	30.7	ug/L	88	Standard
	Pb	208	488.3	5.1	**0.0439**	0.001	3.0	ug/L	233	Standard
	U	238	630.7	6.3	**0.1679**	0.005	3.3	ug/L	1	Standard
>	**Bi**	209	283766.1	3.6				ug/L	321163	Standard

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	Na	23	53.3	37.9	**19.1970**	7.444	38.8	mg/L	2	Standard
	Mg	24	7735.3	2.0	**7.7106**	0.180	2.3	mg/L	48	Standard
	K	39	45.0	58.8	**0.5404**	0.354	65.6	mg/L	2	Standard
	Ca	43	228.3	8.3	**16.6998**	1.356	8.1	mg/L	38	Standard
	Fe	54	268.9	8.2	**0.0450**	0.013	30.0	mg/L	218	Standard
	Fe	57	325.0	6.7	**0.0991**	0.041	41.2	mg/L	283	Standard
>	**Sc-1**	45	46195.3	1.3				mg/L	46336	Standard
	Cl	35	8008.1	2.4				ug/L	7415	Standard
	Kr	83	96.0	5.5				ug/L	106	Standard
	Br	81	35601.8	3.0				ug/L	2367	Standard
	P	31	404752.4	2.7				ug/L	257843	Standard
	S	34	25237.7	2.2				ug/L	25966	Standard
	Sr	88	396.7	10.2				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	0	Standard
	Dy	164	42.4	38.3				mg/L	10	Standard
	Ho-1	165	21.7	58.1				mg/L	2	Standard
	Er	166	20.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		113.725	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.576	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.814
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.356
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310186803
Sample Date/Time: Tuesday, November 05, 2013 17:32:31
Number of Replicates: 3
Autosampler Position: 322
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	225360.9	2.3				ug/L	199689	Standard
	Be	9	311.7	15.2	**0.1218**	0.017	14.1	ug/L	22	Standard
	Al	27	5889649.8	0.6	**28.6095**	0.616	2.2	ug/L	615	Standard
	Sc	45	47596.4	3.9				ug/L	46336	Standard
	Ti	47	9158.8	3.1	**25.2830**	0.223	0.9	ug/L	20	Standard
	V	51	19782.5	5.2	**3.6568**	0.090	2.5	ug/L	893	Standard
	Cr	52	19844.0	4.5	**3.2832**	0.056	1.7	ug/L	3436	Standard
	Cr	53	4589.0	1.1	**3.9622**	0.145	3.7	ug/L	325	Standard
	Mn	55	278353.7	3.0	**29.4887**	0.296	1.0	ug/L	949	Standard
	Co	59	4142.6	3.1	**0.6931**	0.005	0.7	ug/L	109	Standard
	Ni	60	4705.4	2.1	**1.9876**	0.043	2.2	ug/L	187	Standard
	Cu	65	5467.7	5.1	**2.4081**	0.051	2.1	ug/L	95	Standard
	Zn	66	65682.8	2.2	**52.7559**	0.766	1.5	ug/L	320	Standard
>	**Ge**	72	480064.5	3.1				ug/L	478028	Standard
	As	75	1153.7	4.1	**1.0248**	0.027	2.6	ug/L	-247	Standard
	Se	82	394.8	5.7	**3.0057**	0.106	3.5	ug/L	-45	Standard
	Se-1	77	204.3	7.8	**1.2235**	0.106	8.6	ug/L	101	Standard
>	**Ga**	71	2653.6	2.0				mg/L	38	Standard
	Rb	85	52838.7	2.4				ug/L	27	Standard
	Y	89	443122.5	2.6				ug/L	457712	Standard
>	**Rh**	103	73.3	27.6				ug/L	7	Standard
	Mo	98	3587.2	3.6	**1.3430**	0.013	1.0	ug/L	7	Standard
	Ag	107	157.0	14.7	**0.0161**	0.003	20.9	ug/L	60	Standard
	Cd	111	55.0	14.8	**0.0226**	0.004	18.7	mg/L	2	Standard
	Cd	114	192.2	21.3	**0.0248**	0.007	28.1	ug/L	28	Standard
>	**In**	115	473429.0	2.6				ug/L	514607	Standard
	Sn	118	601.3	4.7	**0.4158**	0.016	3.8	ug/L	125	Standard
	Sb	123	255.5	12.9	**0.0712**	0.008	11.8	ug/L	14	Standard
	Ba	135	98890.5	2.8	**55.3339**	0.321	0.6	ug/L	10	Standard
	Ce	140	115560.8	1.6				ug/L	25	Standard
>	**Tb**	159	565403.3	3.3				ug/L	648946	Standard
	Ho	165	1383.4	7.1				ug/L	2	Standard
	Tl	203	272.3	5.5	**0.0446**	0.001	3.4	ug/L	4	Standard
	Tl	205	285.0	19.5	**0.0473**	0.008	17.9	ug/L	0	Standard
	Pb	206	4859.8	3.9	**2.0344**	0.038	1.9	ug/L	113	Standard
	Pb	207	3921.8	3.8	**1.8145**	0.026	1.5	ug/L	88	Standard
	Pb	208	10673.8	2.1	**1.8925**	0.007	0.4	ug/L	233	Standard
	U	238	974.0	1.8	**0.2635**	0.010	4.0	ug/L	1	Standard
>	**Bi**	209	281760.0	2.4				ug/L	321163	Standard

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	Na	23	65.0	27.7	**22.5790**	5.909	26.2	mg/L	2	Standard
	Mg	24	7563.6	1.2	**7.3203**	0.209	2.9	mg/L	48	Standard
	K	39	61.7	54.0	**0.7522**	0.459	61.0	mg/L	2	Standard
	Ca	43	250.0	10.6	**17.9793**	2.581	14.4	mg/L	38	Standard
	Fe	54	2764.3	8.3	**1.4219**	0.072	5.1	mg/L	218	Standard
	Fe	57	970.0	4.1	**1.3834**	0.140	10.1	mg/L	283	Standard
>	**Sc-1**	45	47596.4	3.9				mg/L	46336	Standard
	Cl	35	7928.1	1.1				ug/L	7415	Standard
	Kr	83	106.0	13.9				ug/L	106	Standard
	Br	81	74315.1	0.7				ug/L	2367	Standard
	P	31	432894.1	2.3				ug/L	257843	Standard
	S	34	25329.5	1.3				ug/L	25966	Standard
	Sr	88	313.3	4.9				ug/L	92	Standard
	C	12	16.7	34.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	24.7				mg/L	0	Standard
	Dy	164	2207.6	8.5				mg/L	10	Standard
	Ho-1	165	1383.4	7.1				mg/L	2	Standard
	Er	166	1236.7	9.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.856	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		100.426	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.998
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	87.731
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310186804
Sample Date/Time: Tuesday, November 05, 2013 17:35:36
Number of Replicates: 3
Autosampler Position: 323
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222256.8	1.3				ug/L	199689	Standard
	Be	9	16.7	62.4	**-0.0012**	0.004	384.2	ug/L	22	Standard
	Al	27	3902372.3	2.4	**19.2140**	0.441	2.3	ug/L	615	Standard
	Sc	45	46359.2	4.5				ug/L	46336	Standard
	Ti	47	390.7	12.0	**1.0070**	0.102	10.1	ug/L	20	Standard
	V	51	16915.1	3.2	**3.0703**	0.035	1.2	ug/L	893	Standard
	Cr	52	10576.7	3.1	**1.3994**	0.008	0.6	ug/L	3436	Standard
	Cr	53	1923.5	2.8	**1.4765**	0.011	0.7	ug/L	325	Standard
	Mn	55	12035.4	3.7	**1.1517**	0.011	1.0	ug/L	949	Standard
	Co	59	280.0	6.0	**0.0257**	0.002	7.1	ug/L	109	Standard
	Ni	60	1303.7	4.4	**0.4803**	0.017	3.6	ug/L	187	Standard
	Cu	65	529.0	7.9	**0.1830**	0.013	7.2	ug/L	95	Standard
	Zn	66	3288.0	3.3	**2.2891**	0.056	2.4	ug/L	320	Standard
>	**Ge**	72	484802.5	2.8				ug/L	478028	Standard
	As	75	864.5	7.8	**0.8106**	0.063	7.8	ug/L	-247	Standard
	Se	82	70.8	21.2	**0.7920**	0.110	13.9	ug/L	-45	Standard
	Se-1	77	167.7	10.1	**0.8072**	0.217	26.9	ug/L	101	Standard
>	**Ga**	71	76.7	26.4				mg/L	38	Standard
	Rb	85	16627.5	3.2				ug/L	27	Standard
	Y	89	421644.2	2.8				ug/L	457712	Standard
>	**Rh**	103	75.0	17.6				ug/L	7	Standard
	Mo	98	4949.0	4.7	**1.8461**	0.043	2.3	ug/L	7	Standard
	Ag	107	78.7	21.4	**0.0020**	0.003	131.1	ug/L	60	Standard
	Cd	111	18.5	15.7	**0.0038**	0.002	45.7	mg/L	2	Standard
	Cd	114	73.0	10.7	**0.0015**	0.002	117.6	ug/L	28	Standard
>	**In**	115	476874.3	3.0				ug/L	514607	Standard
	Sn	118	138.0	12.0	**0.0150**	0.011	70.1	ug/L	125	Standard
	Sb	123	142.3	8.2	**0.0351**	0.003	9.8	ug/L	14	Standard
	Ba	135	95097.1	3.9	**52.8187**	0.578	1.1	ug/L	10	Standard
	Ce	140	851.7	15.1				ug/L	25	Standard
>	**Tb**	159	565957.1	2.9				ug/L	648946	Standard
	Ho	165	15.0	0.0				ug/L	2	Standard
	Tl	203	98.0	8.8	**0.0142**	0.001	10.5	ug/L	4	Standard
	Tl	205	96.7	15.8	**0.0147**	0.002	16.6	ug/L	0	Standard
	Pb	206	188.7	3.8	**0.0375**	0.004	10.8	ug/L	113	Standard
	Pb	207	149.0	6.5	**0.0209**	0.003	14.1	ug/L	88	Standard
	Pb	208	404.3	14.3	**0.0292**	0.009	29.8	ug/L	233	Standard
	U	238	1271.4	7.6	**0.3446**	0.017	4.9	ug/L	1	Standard
>	**Bi**	209	281753.8	2.7				ug/L	321163	Standard

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	Na	23	41.7	6.9	**14.9346**	1.565	10.5	mg/L	2	Standard
	Mg	24	6454.7	2.0	**6.4099**	0.163	2.5	mg/L	48	Standard
	K	39	33.3	34.6	**0.3826**	0.152	39.6	mg/L	2	Standard
	Ca	43	180.0	12.7	**12.4833**	1.416	11.3	mg/L	38	Standard
	Fe	54	253.7	14.6	**0.0360**	0.023	64.2	mg/L	218	Standard
	Fe	57	280.0	6.2	**0.0034**	0.012	338.0	mg/L	283	Standard
>	**Sc-1**	45	46359.2	4.5				mg/L	46336	Standard
	Cl	35	7841.4	1.7				ug/L	7415	Standard
	Kr	83	94.0	14.0				ug/L	106	Standard
	Br	81	10130.1	2.9				ug/L	2367	Standard
	P	31	395523.7	2.9				ug/L	257843	Standard
	S	34	25331.2	2.5				ug/L	25966	Standard
	Sr	88	310.0	26.9				ug/L	92	Standard
	C	12	23.3	24.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	19.2	52.2				mg/L	10	Standard
	Ho-1	165	15.0	0.0				mg/L	2	Standard
	Er	166	16.7	69.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.301	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.417	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.668
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	87.729
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310186805
Sample Date/Time: Tuesday, November 05, 2013 17:38:40
Number of Replicates: 3
Autosampler Position: 324
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	226733.6	3.6				ug/L	199689	Standard
	Be	9	41.7	6.9	**0.0091**	0.002	17.6	ug/L	22	Standard
	Al	27	4470979.4	1.2	**21.5923**	0.580	2.7	ug/L	615	Standard
	Sc	45	46735.4	3.6				ug/L	46336	Standard
	Ti	47	359.7	10.5	**0.9195**	0.092	10.0	ug/L	20	Standard
	V	51	14974.1	4.0	**2.6868**	0.049	1.8	ug/L	893	Standard
	Cr	52	11146.8	2.4	**1.5052**	0.029	1.9	ug/L	3436	Standard
	Cr	53	2246.8	5.0	**1.7656**	0.102	5.8	ug/L	325	Standard
	Mn	55	18729.6	1.4	**1.8502**	0.040	2.1	ug/L	949	Standard
	Co	59	351.7	5.6	**0.0377**	0.002	6.4	ug/L	109	Standard
	Ni	60	1390.7	6.6	**0.5158**	0.024	4.7	ug/L	187	Standard
	Cu	65	613.0	4.8	**0.2200**	0.019	8.5	ug/L	95	Standard
	Zn	66	4210.3	5.7	**3.0125**	0.078	2.6	ug/L	320	Standard
>	**Ge**	72	486656.3	3.4				ug/L	478028	Standard
	As	75	704.8	10.9	**0.6947**	0.068	9.8	ug/L	-247	Standard
	Se	82	86.1	24.2	**0.8946**	0.149	16.7	ug/L	-45	Standard
	Se-1	77	182.3	6.8	**0.9592**	0.167	17.4	ug/L	101	Standard
>	**Ga**	71	60.0	14.4				mg/L	38	Standard
	Rb	85	20705.8	2.0				ug/L	27	Standard
	Y	89	424263.0	2.1				ug/L	457712	Standard
>	**Rh**	103	63.3	12.1				ug/L	7	Standard
	Mo	98	4953.1	1.4	**1.8337**	0.019	1.1	ug/L	7	Standard
	Ag	107	1684.8	2.4	**0.2848**	0.007	2.4	ug/L	60	Standard
	Cd	111	11.9	14.8	**0.0003**	0.001	288.6	mg/L	2	Standard
	Cd	114	70.0	19.1	**0.0008**	0.003	334.9	ug/L	28	Standard
>	**In**	115	480687.2	2.4				ug/L	514607	Standard
	Sn	118	187.3	2.9	**0.0562**	0.004	7.3	ug/L	125	Standard
	Sb	123	129.2	7.6	**0.0306**	0.002	7.9	ug/L	14	Standard
	Ba	135	85519.1	2.6	**47.1262**	0.140	0.3	ug/L	10	Standard
	Ce	140	813.4	5.5				ug/L	25	Standard
>	**Tb**	159	569756.6	2.3				ug/L	648946	Standard
	Ho	165	23.3	32.7				ug/L	2	Standard
	Tl	203	125.0	9.1	**0.0186**	0.002	10.2	ug/L	4	Standard
	Tl	205	126.7	22.8	**0.0197**	0.005	25.0	ug/L	0	Standard
	Pb	206	255.7	3.3	**0.0648**	0.002	2.6	ug/L	113	Standard
	Pb	207	193.7	7.0	**0.0410**	0.004	10.3	ug/L	88	Standard
	Pb	208	532.3	3.0	**0.0514**	0.001	2.7	ug/L	233	Standard
	U	238	913.7	3.6	**0.2439**	0.003	1.4	ug/L	1	Standard
>	**Bi**	209	285065.0	2.4				ug/L	321163	Standard

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⌈	**Na**	23	43.3	24.0	**15.4080**	3.874	25.1	mg/L	2	Standard
|	**Mg**	24	7076.7	4.7	**6.9678**	0.164	2.4	mg/L	48	Standard
|	**K**	39	41.7	25.0	**0.4895**	0.132	27.0	mg/L	2	Standard
|	**Ca**	43	161.7	4.7	**10.8371**	0.440	4.1	mg/L	38	Standard
|	**Fe**	54	221.3	11.0	**0.0161**	0.011	69.0	mg/L	218	Standard
|	**Fe**	57	295.0	7.4	**0.0303**	0.049	162.6	mg/L	283	Standard
⌊>	**Sc-1**	45	46735.4	3.6				mg/L	46336	Standard
	Cl	35	7982.8	2.7				ug/L	7415	Standard
	Kr	83	87.7	6.7				ug/L	106	Standard
	Br	81	13432.6	3.9				ug/L	2367	Standard
	P	31	400079.1	3.5				ug/L	257843	Standard
	S	34	25194.3	2.3				ug/L	25966	Standard
	Sr	88	305.0	10.0				ug/L	92	Standard
	C	12	23.3	89.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	18.9	97.1				mg/L	10	Standard
	Ho-1	165	23.3	32.7				mg/L	2	Standard
	Er	166	23.3	137.8				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		113.543	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		101.805	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	93.409
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.760
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 17:41:45
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	223608.4	2.0				ug/L	199689	Standard
	Be	9	113641.4	2.3	**47.8410**	0.202	0.4	ug/L	22	Standard
	Al	27	8881202.5	0.8	**43.4762**	0.733	1.7	ug/L	615	Standard
	Sc	45	42932.5	4.6				ug/L	46336	Standard
	Ti	47	35436.1	1.8	**96.8221**	0.550	0.6	ug/L	20	Standard
	V	51	267197.8	2.1	**50.9933**	0.811	1.6	ug/L	893	Standard
	Cr	52	257328.7	3.0	**50.4253**	0.894	1.8	ug/L	3436	Standard
	Cr	53	55105.1	3.1	**50.0680**	1.093	2.2	ug/L	325	Standard
	Mn	55	495409.3	3.1	**51.9338**	1.035	2.0	ug/L	949	Standard
	Co	59	307751.6	2.5	**52.4740**	0.539	1.0	ug/L	109	Standard
	Ni	60	115400.4	2.8	**50.2137**	0.810	1.6	ug/L	187	Standard
	Cu	65	114859.8	1.7	**51.0408**	0.344	0.7	ug/L	95	Standard
	Zn	66	65617.5	2.3	**52.0521**	0.400	0.8	ug/L	320	Standard
>	**Ge**	72	485884.3	1.5				ug/L	478028	Standard
	As	75	70818.7	1.9	**50.7591**	0.194	0.4	ug/L	-247	Standard
	Se	82	7087.9	1.6	**48.0891**	0.206	0.4	ug/L	-45	Standard
	Se-1	77	4934.5	3.9	**52.5653**	1.537	2.9	ug/L	101	Standard
>	**Ga**	71	43.3	59.2				mg/L	38	Standard
	Rb	85	1015.0	10.1				ug/L	27	Standard
	Y	89	420246.5	2.0				ug/L	457712	Standard
>	**Rh**	103	28.3	36.7				ug/L	7	Standard
	Mo	98	328666.3	2.9	**122.3236**	0.794	0.6	ug/L	7	Standard
	Ag	107	313485.4	2.7	**54.9626**	0.724	1.3	ug/L	60	Standard
	Cd	111	104615.5	2.5	**52.7511**	0.413	0.8	mg/L	2	Standard
	Cd	114	274914.1	2.3	**52.7198**	0.382	0.7	ug/L	28	Standard
>	**In**	115	482772.3	2.6				ug/L	514607	Standard
	Sn	118	64280.8	2.3	**54.2918**	0.624	1.1	ug/L	125	Standard
	Sb	123	156090.8	1.3	**48.6071**	0.613	1.3	ug/L	14	Standard
	Ba	135	93459.8	2.3	**51.2857**	0.388	0.8	ug/L	10	Standard
	Ce	140	31.7	50.8				ug/L	25	Standard
>	**Tb**	159	576684.0	2.0				ug/L	648946	Standard
	Ho	165	8.3	34.6				ug/L	2	Standard
	Tl	203	298218.5	2.6	**51.6567**	0.453	0.9	ug/L	4	Standard
	Tl	205	326988.2	1.9	**56.3994**	1.367	2.4	ug/L	0	Standard
	Pb	206	126956.5	1.8	**53.8297**	0.104	0.2	ug/L	113	Standard
	Pb	207	114264.3	1.7	**53.8698**	0.263	0.5	ug/L	88	Standard
	Pb	208	294106.6	2.0	**52.9043**	0.356	0.7	ug/L	233	Standard
	U	238	186499.1	1.9	**50.7270**	0.183	0.4	ug/L	1	Standard
>	**Bi**	209	283934.4	1.9				ug/L	321163	Standard

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	Na	23	6.7	43.3	**2.5948**	1.178	45.4	mg/L	2	Standard
	Mg	24	4675.7	3.6	**5.0054**	0.138	2.8	mg/L	48	Standard
	K	39	185.0	8.1	**2.6112**	0.262	10.0	mg/L	2	Standard
	Ca	43	78.3	35.2	**4.2978**	2.159	50.2	mg/L	38	Standard
	Fe	54	8371.1	0.8	**5.0410**	0.196	3.9	mg/L	218	Standard
	Fe	57	2638.6	2.7	**5.3263**	0.115	2.2	mg/L	283	Standard
>	**Sc-1**	45	42932.5	4.6				mg/L	46336	Standard
	Cl	35	8044.1	1.5				ug/L	7415	Standard
	Kr	83	98.0	13.3				ug/L	106	Standard
	Br	81	2676.9	16.2				ug/L	2367	Standard
	P	31	309381.9	0.9				ug/L	257843	Standard
	S	34	28697.2	1.3				ug/L	25966	Standard
	Sr	88	76.7	13.6				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	3.2	173.2				mg/L	10	Standard
	Ho-1	165	8.3	34.6				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.978	
	Be	9	95.682		
	Al	27	86.952		
	Sc	45			
	Ti	47	96.822		
	V	51	101.987		
	Cr	52	100.851		
	Cr	53			
	Mn	55	103.868		
	Co	59	104.948		
	Ni	60	100.427		
	Cu	65	102.082		
	Zn	66	104.104		
>	Ge	72		101.643	
	As	75	101.518		
	Se	82	96.178		
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	122.324	
|	Ag	107	109.925	
|	Cd	111	105.502	
|	Cd	114		
|>	In	115		93.814
|	Sn	118	108.584	
|	Sb	123	97.214	
⌊	Ba	135	102.571	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	103.313	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	105.809	
|	U	238	101.454	
⌊>	Bi	209		88.408
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 17:44:50
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	215326.5	2.3				ug/L	199689	Standard
	Be	9	35.0	37.8	**0.0071**	0.006	84.6	ug/L	22	Standard
	Al	27	1393.4	6.5	**0.0035**	0.000	12.7	ug/L	615	Standard
	Sc	45	41371.6	6.5				ug/L	46336	Standard
	Ti	47	15.3	32.8	**-0.0169**	0.014	81.2	ug/L	20	Standard
	V	51	853.0	2.6	**-0.0000**	0.010	30201.1	ug/L	893	Standard
	Cr	52	3276.0	2.5	**-0.0061**	0.013	207.5	ug/L	3436	Standard
	Cr	53	166.7	34.6	**-0.1223**	0.053	43.1	ug/L	325	Standard
	Mn	55	913.4	5.4	**-0.0123**	0.002	14.6	ug/L	949	Standard
	Co	59	102.7	2.0	**-0.0033**	0.001	35.8	ug/L	109	Standard
	Ni	60	316.7	1.7	**0.0594**	0.004	6.7	ug/L	187	Standard
	Cu	65	114.3	3.6	**0.0021**	0.001	63.9	ug/L	95	Standard
	Zn	66	259.3	4.8	**-0.1196**	0.007	5.5	ug/L	320	Standard
>	**Ge**	72	451532.3	4.3				ug/L	478028	Standard
	As	75	-231.4	20.8	**0.0137**	0.030	220.5	ug/L	-247	Standard
	Se	82	-40.5	31.7	**0.0210**	0.080	382.3	ug/L	-45	Standard
	Se-1	77	83.0	13.7	**-0.0519**	0.112	214.6	ug/L	101	Standard
>	**Ga**	71	25.0	87.2				mg/L	38	Standard
	Rb	85	26.7	54.1				ug/L	27	Standard
	Y	89	397602.6	5.9				ug/L	457712	Standard
>	**Rh**	103	3.3	86.6				ug/L	7	Standard
	Mo	98	52.0	22.8	**0.0020**	0.005	230.6	ug/L	7	Standard
	Ag	107	60.0	7.6	**-0.0008**	0.001	122.8	ug/L	60	Standard
	Cd	111	2.6	57.7	**-0.0043**	0.001	17.4	mg/L	2	Standard
	Cd	114	28.3	69.4	**-0.0070**	0.004	57.8	ug/L	28	Standard
>	**In**	115	456879.9	4.2				ug/L	514607	Standard
	Sn	118	124.3	20.4	**0.0078**	0.019	248.4	ug/L	125	Standard
	Sb	123	351.3	45.1	**0.1045**	0.046	44.4	ug/L	14	Standard
	Ba	135	8.3	42.1	**-0.0137**	0.002	15.7	ug/L	10	Standard
	Ce	140	16.7	91.7				ug/L	25	Standard
>	**Tb**	159	545137.5	4.5				ug/L	648946	Standard
	Ho	165	3.3	86.6				ug/L	2	Standard
	Tl	203	12.0	14.4	**-0.0008**	0.000	26.1	ug/L	4	Standard
	Tl	205	26.7	84.5	**0.0026**	0.004	147.0	ug/L	0	Standard
	Pb	206	97.3	15.9	**-0.0005**	0.005	1074.2	ug/L	113	Standard
	Pb	207	83.7	10.2	**-0.0090**	0.004	39.4	ug/L	88	Standard
	Pb	208	214.0	9.2	**-0.0041**	0.002	41.6	ug/L	233	Standard
	U	238	8.7	52.0	**-0.0012**	0.001	98.8	ug/L	1	Standard
>	**Bi**	209	273784.9	4.8				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	66.7	22.9	**0.0424**	0.021	48.7	mg/L	48	Standard
K	39	3.3	173.2	**-0.0156**	0.081	516.5	mg/L	2	Standard
Ca	43	26.7	39.0	**-0.2650**	1.109	418.5	mg/L	38	Standard
Fe	54	161.1	18.7	**-0.0050**	0.024	480.2	mg/L	218	Standard
Fe	57	236.7	6.5	**-0.0254**	0.053	207.1	mg/L	283	Standard
Sc-1	45	41371.6	6.5				mg/L	46336	Standard
Cl	35	8030.8	1.8				ug/L	7415	Standard
Kr	83	90.0	10.6				ug/L	106	Standard
Br	81	2330.2	1.9				ug/L	2367	Standard
P	31	260245.9	3.3				ug/L	257843	Standard
S	34	28057.6	2.8				ug/L	25966	Standard
Sr	88	66.7	17.3				ug/L	92	Standard
C	12	16.7	34.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	16.3	72.4				mg/L	10	Standard
Ho-1	165	3.3	86.6				mg/L	2	Standard
Er	166	6.7	173.2				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		107.831	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		94.457	
As	75			
Se	82			
Se-1	77			
Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.782
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.248
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: PBW 42 WG451507-02
Sample Date/Time: Tuesday, November 05, 2013 17:47:55
Number of Replicates: 3
Autosampler Position: 325
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	190724.8	1.8				ug/L	199689	Standard
	Be	9	40.0	37.5	**0.0114**	0.007	62.1	ug/L	22	Standard
	Al	27	1831.8	59.3	**0.0069**	0.006	87.7	ug/L	615	Standard
	Sc	45	36218.3	4.5				ug/L	46336	Standard
	Ti	47	16.3	36.9	**-0.0092**	0.020	213.2	ug/L	20	Standard
	V	51	807.4	3.3	**0.0061**	0.006	93.0	ug/L	893	Standard
	Cr	52	2905.3	3.2	**-0.0267**	0.027	102.3	ug/L	3436	Standard
	Cr	53	138.3	24.6	**-0.1363**	0.036	26.7	ug/L	325	Standard
	Mn	55	557.7	6.6	**-0.0466**	0.004	8.5	ug/L	949	Standard
	Co	59	96.3	21.3	**-0.0028**	0.004	145.1	ug/L	109	Standard
	Ni	60	315.7	9.3	**0.0729**	0.015	20.2	ug/L	187	Standard
	Cu	65	84.0	16.0	**-0.0086**	0.007	81.0	ug/L	95	Standard
	Zn	66	356.7	21.1	**-0.0073**	0.068	929.7	ug/L	320	Standard
>	**Ge**	72	412460.9	0.8				ug/L	478028	Standard
	As	75	-209.1	9.5	**0.0149**	0.018	119.5	ug/L	-247	Standard
	Se	82	-42.9	17.3	**-0.0278**	0.057	204.9	ug/L	-45	Standard
	Se-1	77	80.7	3.8	**0.0117**	0.045	387.4	ug/L	101	Standard
>	**Ga**	71	11.7	24.7				mg/L	38	Standard
	Rb	85	16.7	45.8				ug/L	27	Standard
	Y	89	367645.8	1.4				ug/L	457712	Standard
>	**Rh**	103	0.0					ug/L	7	Standard
	Mo	98	21.3	30.3	**-0.0094**	0.003	27.4	ug/L	7	Standard
	Ag	107	57.0	18.2	**-0.0005**	0.002	370.8	ug/L	60	Standard
	Cd	111	3.0	88.6	**-0.0040**	0.001	37.1	mg/L	2	Standard
	Cd	114	22.4	21.2	**-0.0078**	0.001	13.5	ug/L	28	Standard
>	**In**	115	422092.6	2.1				ug/L	514607	Standard
	Sn	118	98.3	11.2	**-0.0078**	0.010	130.5	ug/L	125	Standard
	Sb	123	86.2	36.3	**0.0208**	0.011	50.9	ug/L	14	Standard
	Ba	135	8.0	50.0	**-0.0135**	0.002	18.3	ug/L	10	Standard
	Ce	140	10.0	50.0				ug/L	25	Standard
>	**Tb**	159	503728.3	2.5				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	13.3	55.3	**-0.0004**	0.001	322.4	ug/L	4	Standard
	Tl	205	51.7	131.4	**0.0076**	0.013	167.0	ug/L	0	Standard
	Pb	206	92.7	1.6	**-0.0001**	0.001	681.3	ug/L	113	Standard
	Pb	207	78.0	4.6	**-0.0095**	0.003	28.9	ug/L	88	Standard
	Pb	208	226.0	20.9	**0.0006**	0.009	1469.6	ug/L	233	Standard
	U	238	14.7	167.3	**0.0007**	0.007	986.4	ug/L	1	Standard
>	**Bi**	209	258637.1	2.1				ug/L	321163	Standard

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	Na	23	3.3	86.6	**1.4937**	1.290	86.3	mg/L	2	Standard
	Mg	24	53.3	37.9	**0.0360**	0.029	81.2	mg/L	48	Standard
	K	39	5.0	100.0	**0.0253**	0.090	356.0	mg/L	2	Standard
	Ca	43	20.0	0.0	**-0.6723**	0.100	14.8	mg/L	38	Standard
	Fe	54	69.6	24.9	**-0.0580**	0.012	21.1	mg/L	218	Standard
	Fe	57	213.3	4.9	**-0.0092**	0.052	566.4	mg/L	283	Standard
>	**Sc-1**	45	36218.3	4.5				mg/L	46336	Standard
	Cl	35	7469.8	3.0				ug/L	7415	Standard
	Kr	83	95.3	14.2				ug/L	106	Standard
	Br	81	2070.1	6.3				ug/L	2367	Standard
	P	31	108947.1	2.7				ug/L	257843	Standard
	S	34	25988.9	2.0				ug/L	25966	Standard
	Sr	88	100.0	17.3				ug/L	92	Standard
	C	12	10.0					mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	13.2	44.9				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		95.511	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		86.284	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	82.022
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	80.531
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: LCSW 42 WG451507-03
Sample Date/Time: Tuesday, November 05, 2013 17:51:00
Number of Replicates: 3
Autosampler Position: 326
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222511.2	2.9				ug/L	199689	Standard
	Be	9	58984.7	2.9	**24.9508**	0.118	0.5	ug/L	22	Standard
	Al	27	3390.4	3.0	**0.0131**	0.000	3.0	ug/L	615	Standard
	Sc	45	43552.6	4.3				ug/L	46336	Standard
	Ti	47	22.7	25.5	**0.0003**	0.016	5873.1	ug/L	20	Standard
	V	51	138075.8	3.7	**26.3273**	0.206	0.8	ug/L	893	Standard
	Cr	52	135382.0	3.6	**26.2602**	0.176	0.7	ug/L	3436	Standard
	Cr	53	28238.0	1.6	**25.5948**	0.677	2.6	ug/L	325	Standard
	Mn	55	262794.2	3.5	**27.5643**	0.397	1.4	ug/L	949	Standard
	Co	59	158005.5	4.0	**26.9940**	0.335	1.2	ug/L	109	Standard
	Ni	60	60557.2	3.5	**26.3734**	0.317	1.2	ug/L	187	Standard
	Cu	65	60334.4	4.0	**26.8463**	0.190	0.7	ug/L	95	Standard
	Zn	66	35280.1	4.2	**27.8914**	0.092	0.3	ug/L	320	Standard
>	**Ge**	72	484831.6	4.2				ug/L	478028	Standard
	As	75	35759.8	3.4	**25.7878**	0.259	1.0	ug/L	-247	Standard
	Se	82	3560.1	3.0	**24.3787**	0.850	3.5	ug/L	-45	Standard
	Se-1	77	2515.2	3.8	**26.3605**	0.261	1.0	ug/L	101	Standard
>	**Ga**	71	38.3	7.5				mg/L	38	Standard
	Rb	85	38.3	32.8				ug/L	27	Standard
	Y	89	430770.3	4.4				ug/L	457712	Standard
>	**Rh**	103	10.0	86.6				ug/L	7	Standard
	Mo	98	29.2	27.2	**-0.0077**	0.003	34.0	ug/L	7	Standard
	Ag	107	161650.1	3.5	**28.2611**	0.120	0.4	ug/L	60	Standard
	Cd	111	52331.3	4.1	**26.3123**	0.321	1.2	mg/L	2	Standard
	Cd	114	131413.4	2.9	**25.1322**	0.369	1.5	ug/L	28	Standard
>	**In**	115	483998.7	3.2				ug/L	514607	Standard
	Sn	118	224.3	2.0	**0.0864**	0.005	6.3	ug/L	125	Standard
	Sb	123	79644.2	3.3	**24.7282**	0.096	0.4	ug/L	14	Standard
	Ba	135	47319.8	3.4	**25.8901**	0.288	1.1	ug/L	10	Standard
	Ce	140	50.0	45.8				ug/L	25	Standard
>	**Tb**	159	570125.9	2.9				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	152458.7	3.3	**26.2069**	0.183	0.7	ug/L	4	Standard
	Tl	205	166832.8	4.1	**28.5481**	0.680	2.4	ug/L	0	Standard
	Pb	206	66457.8	2.9	**27.9429**	0.066	0.2	ug/L	113	Standard
	Pb	207	56347.0	3.0	**26.3363**	0.216	0.8	ug/L	88	Standard
	Pb	208	150373.2	2.9	**26.8231**	0.285	1.1	ug/L	233	Standard
	U	238	91651.2	2.9	**24.7374**	0.143	0.6	ug/L	1	Standard
>	**Bi**	209	286108.5	2.9				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	50.0	40.0	**0.0197**	0.019	97.1	mg/L	48	Standard
K	39	3.3	86.6	**-0.0135**	0.042	312.7	mg/L	2	Standard
Ca	43	18.3	56.8	**-1.2187**	0.860	70.6	mg/L	38	Standard
Fe	54	236.0	29.9	**0.0333**	0.036	107.9	mg/L	218	Standard
Fe	57	240.0	18.8	**-0.0465**	0.104	223.8	mg/L	283	Standard
> **Sc-1**	45	43552.6	4.3				mg/L	46336	Standard
Cl	35	8342.3	2.6				ug/L	7415	Standard
Kr	83	88.3	4.6				ug/L	106	Standard
Br	81	2616.9	19.3				ug/L	2367	Standard
P	31	319746.8	2.6				ug/L	257843	Standard
S	34	27950.8	3.0				ug/L	25966	Standard
Sr	88	88.3	19.9				ug/L	92	Standard
C	12	10.0	173.2				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	6.3	186.3				mg/L	10	Standard
Ho-1	165	5.0	100.0				mg/L	2	Standard
Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		111.429	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		101.423	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.052
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	89.085
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005104 WG451507-01
Sample Date/Time: Tuesday, November 05, 2013 17:54:04
Number of Replicates: 3
Autosampler Position: 327
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	219260.9	2.8				ug/L	199689	Standard
	Be	9	48.3	26.0	**0.0124**	0.005	40.4	ug/L	22	Standard
	Al	27	7087608.2	1.2	**35.3868**	0.586	1.7	ug/L	615	Standard
	Sc	45	45157.2	2.7				ug/L	46336	Standard
	Ti	47	359.3	14.2	**0.9426**	0.151	16.0	ug/L	20	Standard
	V	51	7882.0	6.0	**1.3642**	0.040	2.9	ug/L	893	Standard
	Cr	52	7522.2	4.3	**0.8190**	0.013	1.6	ug/L	3436	Standard
	Cr	53	1836.8	4.1	**1.4319**	0.133	9.3	ug/L	325	Standard
	Mn	55	5962.8	3.2	**0.5242**	0.008	1.5	ug/L	949	Standard
	Co	59	415.3	9.6	**0.0504**	0.010	19.1	ug/L	109	Standard
	Ni	60	1875.1	6.0	**0.7449**	0.021	2.9	ug/L	187	Standard
	Cu	65	849.7	3.4	**0.3336**	0.017	5.2	ug/L	95	Standard
	Zn	66	5937.2	5.9	**4.4953**	0.098	2.2	ug/L	320	Standard
>	**Ge**	72	475926.0	3.9				ug/L	478028	Standard
	As	75	2304.2	8.8	**1.8686**	0.085	4.5	ug/L	-247	Standard
	Se	82	1001.9	9.5	**7.1977**	0.401	5.6	ug/L	-45	Standard
	Se-1	77	197.0	12.2	**1.1725**	0.350	29.9	ug/L	101	Standard
>	**Ga**	71	50.0	43.6				mg/L	38	Standard
	Rb	85	6391.4	5.2				ug/L	27	Standard
	Y	89	418218.7	2.3				ug/L	457712	Standard
>	**Rh**	103	71.7	35.8				ug/L	7	Standard
	Mo	98	2942.0	1.4	**1.1156**	0.012	1.1	ug/L	7	Standard
	Ag	107	235.0	10.0	**0.0308**	0.005	16.6	ug/L	60	Standard
	Cd	111	34.2	77.9	**0.0123**	0.014	117.0	mg/L	2	Standard
	Cd	114	122.8	65.4	**0.0120**	0.017	139.4	ug/L	28	Standard
>	**In**	115	466295.8	2.5				ug/L	514607	Standard
	Sn	118	206.7	4.1	**0.0782**	0.011	13.5	ug/L	125	Standard
	Sb	123	137.6	12.8	**0.0346**	0.005	13.2	ug/L	14	Standard
	Ba	135	80068.8	2.9	**45.4829**	0.404	0.9	ug/L	10	Standard
	Ce	140	426.7	9.0				ug/L	25	Standard
>	**Tb**	159	562500.9	3.5				ug/L	648946	Standard
	Ho	165	13.3	78.1				ug/L	2	Standard
	Tl	203	183.0	27.5	**0.0297**	0.010	32.6	ug/L	4	Standard
	Tl	205	213.3	24.6	**0.0357**	0.010	27.1	ug/L	0	Standard
	Pb	206	272.0	7.9	**0.0751**	0.011	14.6	ug/L	113	Standard
	Pb	207	213.7	4.9	**0.0534**	0.006	11.4	ug/L	88	Standard
	Pb	208	555.3	2.3	**0.0584**	0.001	1.4	ug/L	233	Standard
	U	238	579.7	3.3	**0.1578**	0.002	1.2	ug/L	1	Standard
>	**Bi**	209	277251.2	2.3				ug/L	321163	Standard

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	Na	23	78.3	53.1	**28.5118**	14.366	50.4	mg/L	2	Standard
	Mg	24	9629.7	3.4	**9.8283**	0.245	2.5	mg/L	48	Standard
	K	39	41.7	54.1	**0.5149**	0.323	62.7	mg/L	2	Standard
	Ca	43	266.7	21.7	**20.4725**	4.717	23.0	mg/L	38	Standard
	Fe	54	329.0	2.6	**0.0836**	0.006	7.3	mg/L	218	Standard
	Fe	57	355.0	5.1	**0.1792**	0.051	28.7	mg/L	283	Standard
>	**Sc-1**	45	45157.2	2.7				mg/L	46336	Standard
	Cl	35	8074.8	2.7				ug/L	7415	Standard
	Kr	83	104.7	8.1				ug/L	106	Standard
	Br	81	197225.9	2.6				ug/L	2367	Standard
	P	31	404405.1	4.7				ug/L	257843	Standard
	S	34	25247.7	1.7				ug/L	25966	Standard
	Sr	88	385.0	14.8				ug/L	92	Standard
	C	12	20.0	50.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	19.0	0.0				mg/L	10	Standard
	Ho-1	165	13.3	78.1				mg/L	2	Standard
	Er	166	20.0	0.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		109.801	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.560	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.612
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.327
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005104S WG451507-04
Sample Date/Time: Tuesday, November 05, 2013 17:57:08
Number of Replicates: 3
Autosampler Position: 328
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	220567.0	3.7				ug/L	199689	Standard
	Be	9	58881.0	3.6	**25.1330**	0.645	2.6	ug/L	22	Standard
	Al	27	7307511.9	0.7	**36.2862**	1.152	3.2	ug/L	615	Standard
	Sc	45	46055.0	4.0				ug/L	46336	Standard
	Ti	47	326.0	10.1	**0.8351**	0.076	9.1	ug/L	20	Standard
	V	51	141065.2	3.3	**27.0277**	0.306	1.1	ug/L	893	Standard
	Cr	52	133711.0	2.8	**26.0536**	0.201	0.8	ug/L	3436	Standard
	Cr	53	28732.2	2.3	**26.1604**	0.279	1.1	ug/L	325	Standard
	Mn	55	267461.0	2.6	**28.1884**	0.161	0.6	ug/L	949	Standard
	Co	59	151050.9	3.6	**25.9263**	0.416	1.6	ug/L	109	Standard
	Ni	60	58316.4	2.0	**25.5165**	0.052	0.2	ug/L	187	Standard
	Cu	65	57304.3	4.1	**25.6142**	0.497	1.9	ug/L	95	Standard
	Zn	66	36941.0	3.9	**29.3611**	0.511	1.7	ug/L	320	Standard
>	**Ge**	72	482419.7	2.2				ug/L	478028	Standard
	As	75	37718.2	2.6	**27.3165**	0.179	0.7	ug/L	-247	Standard
	Se	82	4391.4	2.0	**30.1278**	0.316	1.0	ug/L	-45	Standard
	Se-1	77	2583.9	2.3	**27.2464**	0.421	1.5	ug/L	101	Standard
>	**Ga**	71	35.0	75.6				mg/L	38	Standard
	Rb	85	6663.1	2.3				ug/L	27	Standard
	Y	89	412768.8	3.1				ug/L	457712	Standard
>	**Rh**	103	90.0	33.8				ug/L	7	Standard
	Mo	98	3099.0	3.3	**1.1507**	0.016	1.4	ug/L	7	Standard
	Ag	107	148028.6	2.6	**26.2973**	0.062	0.2	ug/L	60	Standard
	Cd	111	50971.1	2.3	**26.0470**	0.133	0.5	mg/L	2	Standard
	Cd	114	127353.4	2.5	**24.7448**	0.076	0.3	ug/L	28	Standard
>	**In**	115	476335.6	2.6				ug/L	514607	Standard
	Sn	118	241.3	10.6	**0.1037**	0.016	15.7	ug/L	125	Standard
	Sb	123	77294.0	2.3	**24.3864**	0.107	0.4	ug/L	14	Standard
	Ba	135	126383.2	2.8	**70.2904**	0.406	0.6	ug/L	10	Standard
	Ce	140	453.3	10.4				ug/L	25	Standard
>	**Tb**	159	567161.6	1.5				ug/L	648946	Standard
	Ho	165	16.7	45.8				ug/L	2	Standard
	Tl	203	146973.4	2.6	**25.8050**	0.237	0.9	ug/L	4	Standard
	Tl	205	162926.8	2.9	**28.4763**	0.394	1.4	ug/L	0	Standard
	Pb	206	64523.8	2.5	**27.7091**	0.213	0.8	ug/L	113	Standard
	Pb	207	54305.5	3.1	**25.9220**	0.384	1.5	ug/L	88	Standard
	Pb	208	144814.7	1.6	**26.3843**	0.039	0.1	ug/L	233	Standard
	U	238	91808.7	2.4	**25.3098**	0.188	0.7	ug/L	1	Standard
>	**Bi**	209	280097.8	1.7				ug/L	321163	Standard

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⌈	**Na**	23	63.3	19.9	**22.8096**	4.714	20.7	mg/L	2	Standard
|	**Mg**	24	9803.2	1.8	**9.8244**	0.559	5.7	mg/L	48	Standard
|	**K**	39	55.0		**0.6784**	0.029	4.3	mg/L	2	Standard
|	**Ca**	43	261.7	7.7	**19.6286**	1.278	6.5	mg/L	38	Standard
|	**Fe**	54	339.6	12.1	**0.0866**	0.030	34.6	mg/L	218	Standard
|	**Fe**	57	378.3	8.4	**0.2116**	0.034	16.2	mg/L	283	Standard
⌊>	**Sc-1**	45	46055.0	4.0				mg/L	46336	Standard
	Cl	35	8263.6	1.0				ug/L	7415	Standard
	Kr	83	96.7	6.9				ug/L	106	Standard
	Br	81	173585.6	1.7				ug/L	2367	Standard
	P	31	410493.2	0.8				ug/L	257843	Standard
	S	34	25167.6	1.1				ug/L	25966	Standard
	Sr	88	411.7	9.1				ug/L	92	Standard
	C	12	33.3	17.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	16.2	40.8				mg/L	10	Standard
	Ho-1	165	16.7	45.8				mg/L	2	Standard
	Er	166	10.0	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		110.455	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		100.919	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.563
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	87.214
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005104SD WG451507-05
Sample Date/Time: Tuesday, November 05, 2013 18:00:13
Number of Replicates: 3
Autosampler Position: 329
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	223213.5	3.5				ug/L	199689	Standard
	Be	9	61872.8	1.7	**26.1042**	0.654	2.5	ug/L	22	Standard
	Al	27	7343995.2	0.9	**36.0292**	0.970	2.7	ug/L	615	Standard
	Sc	45	45357.8	2.2				ug/L	46336	Standard
	Ti	47	356.0	4.1	**0.9352**	0.029	3.1	ug/L	20	Standard
	V	51	143414.7	1.6	**27.9626**	0.250	0.9	ug/L	893	Standard
	Cr	52	134282.6	3.5	**26.6260**	0.295	1.1	ug/L	3436	Standard
	Cr	53	30342.0	0.6	**28.1294**	0.617	2.2	ug/L	325	Standard
	Mn	55	258126.6	3.5	**27.6663**	0.435	1.6	ug/L	949	Standard
	Co	59	155447.2	3.1	**27.1415**	0.226	0.8	ug/L	109	Standard
	Ni	60	59714.5	1.9	**26.5829**	0.445	1.7	ug/L	187	Standard
	Cu	65	58882.9	2.4	**26.7805**	0.166	0.6	ug/L	95	Standard
	Zn	66	37317.6	2.8	**30.1844**	0.310	1.0	ug/L	320	Standard
>	**Ge**	72	474308.2	2.5				ug/L	478028	Standard
	As	75	39047.7	2.9	**28.7533**	0.200	0.7	ug/L	-247	Standard
	Se	82	4616.5	2.8	**32.1890**	0.102	0.3	ug/L	-45	Standard
	Se-1	77	2672.9	1.8	**28.7280**	0.762	2.7	ug/L	101	Standard
>	**Ga**	71	36.7	7.9				mg/L	38	Standard
	Rb	85	6676.5	4.2				ug/L	27	Standard
	Y	89	411229.5	0.8				ug/L	457712	Standard
>	**Rh**	103	90.0	16.7				ug/L	7	Standard
	Mo	98	3061.4	1.3	**1.1531**	0.014	1.2	ug/L	7	Standard
	Ag	107	151913.9	1.8	**27.3724**	0.113	0.4	ug/L	60	Standard
	Cd	111	52190.1	2.5	**27.0459**	0.132	0.5	mg/L	2	Standard
	Cd	114	132986.3	2.5	**26.2054**	0.241	0.9	ug/L	28	Standard
>	**In**	115	469665.7	2.1				ug/L	514607	Standard
	Sn	118	187.3	0.6	**0.0600**	0.004	7.2	ug/L	125	Standard
	Sb	123	79629.5	2.0	**25.4799**	0.202	0.8	ug/L	14	Standard
	Ba	135	128827.5	1.9	**72.6721**	0.217	0.3	ug/L	10	Standard
	Ce	140	446.7	19.1				ug/L	25	Standard
>	**Tb**	159	569137.8	1.8				ug/L	648946	Standard
	Ho	165	11.7	65.5				ug/L	2	Standard
	Tl	203	152100.1	1.7	**26.9323**	0.266	1.0	ug/L	4	Standard
	Tl	205	166788.4	2.7	**29.3948**	0.054	0.2	ug/L	0	Standard
	Pb	206	66400.3	3.3	**28.7503**	0.206	0.7	ug/L	113	Standard
	Pb	207	56545.3	2.1	**27.2229**	0.180	0.7	ug/L	88	Standard
	Pb	208	148366.8	1.8	**27.2595**	0.264	1.0	ug/L	233	Standard
	U	238	93806.9	2.1	**26.0782**	0.200	0.8	ug/L	1	Standard
>	**Bi**	209	277812.0	2.7				ug/L	321163	Standard

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	Na	23	66.7	26.3	**24.4549**	6.950	28.4	mg/L	2	Standard
	Mg	24	9891.6	0.8	**10.0535**	0.188	1.9	mg/L	48	Standard
	K	39	41.7	38.6	**0.5040**	0.205	40.8	mg/L	2	Standard
	Ca	43	250.0	15.9	**18.9669**	3.467	18.3	mg/L	38	Standard
	Fe	54	311.2	22.5	**0.0720**	0.038	52.6	mg/L	218	Standard
	Fe	57	386.7	11.9	**0.2412**	0.081	33.4	mg/L	283	Standard
>	**Sc-1**	45	45357.8	2.2				mg/L	46336	Standard
	Cl	35	8001.4	0.5				ug/L	7415	Standard
	Kr	83	90.7	4.2				ug/L	106	Standard
	Br	81	198711.5	1.7				ug/L	2367	Standard
	P	31	410190.4	1.1				ug/L	257843	Standard
	S	34	24982.3	2.2				ug/L	25966	Standard
	Sr	88	381.7	19.1				ug/L	92	Standard
	C	12	13.3	114.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	9.4	109.4				mg/L	10	Standard
	Ho-1	165	11.7	65.5				mg/L	2	Standard
	Er	166	13.3	43.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.781	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.222	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.267
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.502
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310188601
Sample Date/Time: Tuesday, November 05, 2013 18:03:17
Number of Replicates: 3
Autosampler Position: 330
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222440.1	2.8				ug/L	199689	Standard
	Be	9	75.0	48.1	**0.0235**	0.016	66.0	ug/L	22	Standard
	Al	27	33873094.9	0.5	**166.7501**	4.535	2.7	ug/L	615	Standard
	Sc	45	43657.9	3.9				ug/L	46336	Standard
	Ti	47	163.0	15.4	**0.3997**	0.063	15.8	ug/L	20	Standard
	V	51	1744.5	3.9	**0.1704**	0.009	5.5	ug/L	893	Standard
	Cr	52	5796.8	2.8	**0.4876**	0.014	2.8	ug/L	3436	Standard
	Cr	53	643.3	1.6	**0.3246**	0.004	1.3	ug/L	325	Standard
	Mn	55	3493024.2	0.8	**380.5967**	4.267	1.1	ug/L	949	Standard
	Co	59	2986.3	2.7	**0.5062**	0.006	1.2	ug/L	109	Standard
	Ni	60	6197.3	3.0	**2.7124**	0.036	1.3	ug/L	187	Standard
	Cu	65	2379.2	1.6	**1.0451**	0.002	0.2	ug/L	95	Standard
	Zn	66	4704.1	3.5	**3.5527**	0.070	2.0	ug/L	320	Standard
>	**Ge**	72	468476.9	1.7				ug/L	478028	Standard
	As	75	189.7	24.0	**0.3310**	0.031	9.4	ug/L	-247	Standard
	Se	82	3.7	513.2	**0.3375**	0.133	39.5	ug/L	-45	Standard
	Se-1	77	125.0	7.7	**0.3890**	0.131	33.7	ug/L	101	Standard
>	**Ga**	71	60.0	62.9				mg/L	38	Standard
	Rb	85	446.7	1.7				ug/L	27	Standard
	Y	89	407438.6	3.0				ug/L	457712	Standard
>	**Rh**	103	100.0	10.0				ug/L	7	Standard
	Mo	98	703.5	4.0	**0.2574**	0.006	2.3	ug/L	7	Standard
	Ag	107	78.3	34.6	**0.0025**	0.005	192.5	ug/L	60	Standard
	Cd	111	142.9	13.5	**0.0703**	0.010	14.8	mg/L	2	Standard
	Cd	114	412.7	17.3	**0.0706**	0.013	18.2	ug/L	28	Standard
>	**In**	115	458244.2	2.0				ug/L	514607	Standard
	Sn	118	210.0	10.8	**0.0841**	0.019	22.3	ug/L	125	Standard
	Sb	123	174.8	14.0	**0.0477**	0.009	18.1	ug/L	14	Standard
	Ba	135	18198.6	1.9	**10.5058**	0.054	0.5	ug/L	10	Standard
	Ce	140	883.4	9.7				ug/L	25	Standard
>	**Tb**	159	550323.7	2.1				ug/L	648946	Standard
	Ho	165	38.3	32.8				ug/L	2	Standard
	Tl	203	206.3	7.7	**0.0350**	0.003	7.4	ug/L	4	Standard
	Tl	205	285.0	31.7	**0.0499**	0.016	31.9	ug/L	0	Standard
	Pb	206	164.3	17.7	**0.0307**	0.012	40.1	ug/L	113	Standard
	Pb	207	133.0	4.7	**0.0166**	0.002	12.6	ug/L	88	Standard
	Pb	208	393.0	10.3	**0.0311**	0.008	26.0	ug/L	233	Standard
	U	238	1539.1	4.2	**0.4406**	0.018	4.1	ug/L	1	Standard
>	**Bi**	209	267590.3	1.5				ug/L	321163	Standard

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	Na	23	150.0	12.0	**56.8079**	4.802	8.5	mg/L	2	Standard
	Mg	24	25568.2	3.2	**27.0645**	1.032	3.8	mg/L	48	Standard
	K	39	61.7	26.1	**0.8126**	0.225	27.7	mg/L	2	Standard
	Ca	43	523.3	5.8	**44.7003**	4.117	9.2	mg/L	38	Standard
	Fe	54	240.6	10.2	**0.0367**	0.014	37.5	mg/L	218	Standard
	Fe	57	491.7	13.3	**0.5025**	0.103	20.5	mg/L	283	Standard
>	**Sc-1**	45	43657.9	3.9				mg/L	46336	Standard
	Cl	35	9633.1	1.4				ug/L	7415	Standard
	Kr	83	98.0	10.6				ug/L	106	Standard
	Br	81	8752.5	0.5				ug/L	2367	Standard
	P	31	328974.2	2.2				ug/L	257843	Standard
	S	34	25035.7	3.5				ug/L	25966	Standard
	Sr	88	381.7	13.3				ug/L	92	Standard
	C	12	50.0	34.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	0	Standard
	Dy	164	55.4	67.4				mg/L	10	Standard
	Ho-1	165	38.3	32.8				mg/L	2	Standard
	Er	166	26.7	43.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.393	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.002	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	89.047
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	83.319
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188602
Sample Date/Time: Tuesday, November 05, 2013 18:06:22
Number of Replicates: 3
Autosampler Position: 331
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	220960.8	3.5				ug/L	199689	Standard
	Be	9	325.0	9.4	**0.1301**	0.010	7.4	ug/L	22	Standard
	Al	27	34169247.2	3.5	**169.2459**	0.334	0.2	ug/L	615	Standard
	Sc	45	41704.0	2.3				ug/L	46336	Standard
	Ti	47	198.0	6.2	**0.5028**	0.017	3.4	ug/L	20	Standard
	V	51	1285.2	2.9	**0.0810**	0.011	14.1	ug/L	893	Standard
	Cr	52	7502.2	2.2	**0.8497**	0.036	4.3	ug/L	3436	Standard
	Cr	53	958.4	1.5	**0.6293**	0.019	2.9	ug/L	325	Standard
	Mn	55	45338670.2	2.3	**4973.3334**	51.896	1.0	ug/L	949	Standard
	Co	59	3875.8	4.8	**0.6680**	0.024	3.6	ug/L	109	Standard
	Ni	60	5803.4	5.1	**2.5504**	0.051	2.0	ug/L	187	Standard
	Cu	65	4011.9	0.6	**1.8115**	0.066	3.6	ug/L	95	Standard
	Zn	66	7421.8	2.2	**5.8450**	0.079	1.3	ug/L	320	Standard
>	**Ge**	72	465526.1	3.3				ug/L	478028	Standard
	As	75	3948.5	4.5	**3.1332**	0.064	2.0	ug/L	-247	Standard
	Se	82	7.5	78.7	**0.3653**	0.040	11.1	ug/L	-45	Standard
	Se-1	77	108.7	4.3	**0.2126**	0.076	35.9	ug/L	101	Standard
>	**Ga**	71	281.7	15.1				mg/L	38	Standard
	Rb	85	29984.7	3.7				ug/L	27	Standard
	Y	89	402048.2	4.6				ug/L	457712	Standard
>	**Rh**	103	68.3	29.6				ug/L	7	Standard
	Mo	98	1211.5	4.2	**0.4676**	0.006	1.3	ug/L	7	Standard
	Ag	107	66.7	10.6	**0.0007**	0.002	226.7	ug/L	60	Standard
	Cd	111	12.6	9.4	**0.0012**	0.001	60.2	mg/L	2	Standard
	Cd	114	71.9	24.4	**0.0022**	0.004	163.6	ug/L	28	Standard
>	**In**	115	447842.7	3.1				ug/L	514607	Standard
	Sn	118	303.7	9.3	**0.1737**	0.019	10.9	ug/L	125	Standard
	Sb	123	98.5	14.0	**0.0234**	0.005	21.3	ug/L	14	Standard
	Ba	135	10725.8	3.0	**6.3283**	0.006	0.1	ug/L	10	Standard
	Ce	140	3162.0	5.7				ug/L	25	Standard
>	**Tb**	159	553837.8	2.9				ug/L	648946	Standard
	Ho	165	130.0	7.7				ug/L	2	Standard
	Tl	203	118.7	8.6	**0.0190**	0.003	13.2	ug/L	4	Standard
	Tl	205	131.7	22.9	**0.0222**	0.006	28.3	ug/L	0	Standard
	Pb	206	196.3	3.9	**0.0454**	0.001	1.5	ug/L	113	Standard
	Pb	207	149.3	5.6	**0.0251**	0.004	15.2	ug/L	88	Standard
	Pb	208	409.0	7.2	**0.0344**	0.006	16.7	ug/L	233	Standard
	U	238	173.7	4.8	**0.0467**	0.004	7.8	ug/L	1	Standard
>	**Bi**	209	266684.5	3.3				ug/L	321163	Standard

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	Na	23	286.7	13.1	**113.8423**	14.060	12.4	mg/L	2	Standard
	Mg	24	14992.4	5.0	**16.5836**	0.467	2.8	mg/L	48	Standard
	K	39	63.3	19.9	**0.8801**	0.194	22.1	mg/L	2	Standard
	Ca	43	1043.4	5.9	**96.1649**	3.810	4.0	mg/L	38	Standard
	Fe	54	57407.4	1.8	**36.2078**	0.289	0.8	mg/L	218	Standard
	Fe	57	16382.2	4.1	**37.1186**	0.753	2.0	mg/L	283	Standard
>	**Sc-1**	45	41704.0	2.3				mg/L	46336	Standard
	Cl	35	11771.9	6.5				ug/L	7415	Standard
	Kr	83	103.7	10.3				ug/L	106	Standard
	Br	81	6971.6	3.5				ug/L	2367	Standard
	P	31	323569.1	3.2				ug/L	257843	Standard
	S	34	24596.6	3.1				ug/L	25966	Standard
	Sr	88	436.7	17.5				ug/L	92	Standard
	C	12	60.0	16.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	164.1	19.2				mg/L	10	Standard
	Ho-1	165	130.0	7.7				mg/L	2	Standard
	Er	166	123.3	26.1				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.652	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		97.385	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.026
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.037
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188602PS WG451582-01
Sample Date/Time: Tuesday, November 05, 2013 18:09:27
Number of Replicates: 3
Autosampler Position: 332
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	234826.0	1.6				ug/L	199689	Standard
	Be	9	122071.5	1.3	**48.9387**	0.212	0.4	ug/L	22	Standard
	Al	27	36334801.6	1.4	**169.3570**	1.805	1.1	ug/L	615	Standard
	Sc	45	46247.2	3.0				ug/L	46336	Standard
	Ti	47	240.0	20.2	**0.5738**	0.127	22.1	ug/L	20	Standard
	V	51	295647.3	2.3	**54.6963**	1.174	2.1	ug/L	893	Standard
	Cr	52	282921.4	2.9	**53.7786**	1.104	2.1	ug/L	3436	Standard
	Cr	53	60796.9	4.1	**53.5478**	1.591	3.0	ug/L	325	Standard
	Mn	55	51333437.9	1.7	**5227.3916**	62.139	1.2	ug/L	949	Standard
	Co	59	333011.1	2.3	**55.0344**	0.992	1.8	ug/L	109	Standard
	Ni	60	127897.5	2.6	**53.9409**	0.794	1.5	ug/L	187	Standard
	Cu	65	124657.4	1.1	**53.6892**	0.112	0.2	ug/L	95	Standard
	Zn	66	75440.4	2.5	**58.0364**	0.774	1.3	ug/L	320	Standard
>	**Ge**	72	501345.2	1.2				ug/L	478028	Standard
	As	75	80511.4	2.2	**55.9055**	0.636	1.1	ug/L	-247	Standard
	Se	82	7758.5	1.8	**50.9956**	0.582	1.1	ug/L	-45	Standard
	Se-1	77	5536.0	3.1	**57.2452**	1.279	2.2	ug/L	101	Standard
>	**Ga**	71	278.3	5.2				mg/L	38	Standard
	Rb	85	32815.5	1.9				ug/L	27	Standard
	Y	89	428089.4	1.7				ug/L	457712	Standard
>	**Rh**	103	115.0	26.4				ug/L	7	Standard
	Mo	98	1430.4	5.3	**0.5239**	0.018	3.4	ug/L	7	Standard
	Ag	107	310364.3	1.9	**55.4532**	0.711	1.3	ug/L	60	Standard
	Cd	111	108730.5	1.6	**55.8732**	0.590	1.1	mg/L	2	Standard
	Cd	114	270165.2	2.5	**52.7895**	0.445	0.8	ug/L	28	Standard
>	**In**	115	473755.9	2.0				ug/L	514607	Standard
	Sn	118	370.0	6.3	**0.2161**	0.020	9.4	ug/L	125	Standard
	Sb	123	161624.3	1.1	**51.2842**	0.469	0.9	ug/L	14	Standard
	Ba	135	107435.0	2.1	**60.0761**	0.218	0.4	ug/L	10	Standard
	Ce	140	3415.4	3.5				ug/L	25	Standard
>	**Tb**	159	573338.8	1.1				ug/L	648946	Standard
	Ho	165	153.3	29.4				ug/L	2	Standard
	Tl	203	310519.2	2.1	**54.9708**	0.389	0.7	ug/L	4	Standard
	Tl	205	343989.0	2.3	**60.6190**	0.583	1.0	ug/L	0	Standard
	Pb	206	132751.5	2.1	**57.5237**	0.643	1.1	ug/L	113	Standard
	Pb	207	118186.6	1.9	**56.9420**	0.445	0.8	ug/L	88	Standard
	Pb	208	302286.7	1.4	**55.5727**	0.074	0.1	ug/L	233	Standard
	U	238	195879.1	1.0	**54.4513**	0.221	0.4	ug/L	1	Standard
>	**Bi**	209	277827.4	1.4				ug/L	321163	Standard

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	Na	23	313.3	26.8	**111.7261**	26.287	23.5	mg/L	2	Standard
	Mg	24	15387.8	1.2	**15.3606**	0.455	3.0	mg/L	48	Standard
	K	39	61.7	16.9	**0.7628**	0.128	16.8	mg/L	2	Standard
	Ca	43	1046.7	6.6	**86.8751**	7.548	8.7	mg/L	38	Standard
	Fe	54	63683.5	2.4	**36.2284**	0.890	2.5	mg/L	218	Standard
	Fe	57	17895.6	2.7	**36.5906**	1.617	4.4	mg/L	283	Standard
>	**Sc-1**	45	46247.2	3.0				mg/L	46336	Standard
	Cl	35	11915.4	1.1				ug/L	7415	Standard
	Kr	83	113.7	1.3				ug/L	106	Standard
	Br	81	6951.6	2.0				ug/L	2367	Standard
	P	31	410170.4	1.6				ug/L	257843	Standard
	S	34	24828.7	3.1				ug/L	25966	Standard
	Sr	88	506.7	16.2				ug/L	92	Standard
	C	12	90.0	29.4				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	169.6	47.3				mg/L	10	Standard
	Ho-1	165	153.3	29.4				mg/L	2	Standard
	Er	166	146.7	14.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		117.596	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		104.878	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	92.062
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	86.507
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188602SDL WG451582-02
Sample Date/Time: Tuesday, November 05, 2013 18:12:31
Number of Replicates: 3
Autosampler Position: 333
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	208396.9	1.5				ug/L	199689	Standard
	Be	9	103.3	14.8	**0.0385**	0.008	19.7	ug/L	22	Standard
	Al	27	6508726.1	2.8	**34.1761**	0.468	1.4	ug/L	615	Standard
	Sc	45	40021.1	2.4				ug/L	46336	Standard
	Ti	47	50.7	12.1	**0.0882**	0.015	17.4	ug/L	20	Standard
	V	51	966.8	9.6	**0.0248**	0.020	80.4	ug/L	893	Standard
	Cr	52	3638.1	3.0	**0.0773**	0.022	28.8	ug/L	3436	Standard
	Cr	53	288.3	5.3	**0.0005**	0.009	1724.5	ug/L	325	Standard
	Mn	55	8380942.6	2.9	**955.0583**	15.259	1.6	ug/L	949	Standard
	Co	59	914.0	8.5	**0.1470**	0.014	9.5	ug/L	109	Standard
	Ni	60	1341.4	4.2	**0.5450**	0.020	3.7	ug/L	187	Standard
	Cu	65	1065.7	7.9	**0.4612**	0.031	6.7	ug/L	95	Standard
	Zn	66	3011.6	2.6	**2.2660**	0.025	1.1	ug/L	320	Standard
>	**Ge**	72	447933.2	2.0				ug/L	478028	Standard
	As	75	575.7	3.0	**0.6369**	0.020	3.1	ug/L	-247	Standard
	Se	82	-34.8	42.4	**0.0588**	0.107	182.7	ug/L	-45	Standard
	Se-1	77	98.7	2.1	**0.1419**	0.015	10.8	ug/L	101	Standard
>	**Ga**	71	73.3	23.9				mg/L	38	Standard
	Rb	85	5592.7	5.9				ug/L	27	Standard
	Y	89	385487.6	2.5				ug/L	457712	Standard
>	**Rh**	103	15.0	57.7				ug/L	7	Standard
	Mo	98	257.5	8.8	**0.0871**	0.008	9.1	ug/L	7	Standard
	Ag	107	83.7	15.4	**0.0042**	0.003	59.4	ug/L	60	Standard
	Cd	111	12.0	25.6	**0.0009**	0.002	162.9	mg/L	2	Standard
	Cd	114	63.4	7.2	**0.0007**	0.001	168.2	ug/L	28	Standard
>	**In**	115	438060.3	3.0				ug/L	514607	Standard
	Sn	118	245.7	6.4	**0.1264**	0.020	15.8	ug/L	125	Standard
	Sb	123	571.1	10.0	**0.1860**	0.014	7.3	ug/L	14	Standard
	Ba	135	2171.8	3.7	**1.2952**	0.020	1.5	ug/L	10	Standard
	Ce	140	580.0	9.8				ug/L	25	Standard
>	**Tb**	159	529162.2	1.9				ug/L	648946	Standard
	Ho	165	28.3	40.8				ug/L	2	Standard
	Tl	203	129.0	9.7	**0.0207**	0.002	10.6	ug/L	4	Standard
	Tl	205	160.0	49.1	**0.0272**	0.015	53.8	ug/L	0	Standard
	Pb	206	125.0	11.6	**0.0128**	0.005	38.8	ug/L	113	Standard
	Pb	207	124.0	8.2	**0.0121**	0.006	53.5	ug/L	88	Standard
	Pb	208	336.0	14.7	**0.0200**	0.010	48.1	ug/L	233	Standard
	U	238	53.0	42.0	**0.0116**	0.006	55.5	ug/L	1	Standard
>	**Bi**	209	268431.2	2.8				ug/L	321163	Standard

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	Na	23	58.3	21.6	**24.2393**	5.714	23.6	mg/L	2	Standard
	Mg	24	2942.0	3.8	**3.3680**	0.171	5.1	mg/L	48	Standard
	K	39	26.7	10.8	**0.3501**	0.034	9.8	mg/L	2	Standard
	Ca	43	225.0	15.6	**19.4399**	3.780	19.4	mg/L	38	Standard
	Fe	54	10833.3	2.5	**7.0321**	0.016	0.2	mg/L	218	Standard
	Fe	57	3407.0	1.2	**7.5973**	0.155	2.0	mg/L	283	Standard
>	**Sc-1**	45	40021.1	2.4				mg/L	46336	Standard
	Cl	35	7511.9	0.7				ug/L	7415	Standard
	Kr	83	100.0	18.3				ug/L	106	Standard
	Br	81	3020.3	7.8				ug/L	2367	Standard
	P	31	144033.0	0.2				ug/L	257843	Standard
	S	34	23728.6	1.4				ug/L	25966	Standard
	Sr	88	165.0	13.2				ug/L	92	Standard
	C	12	16.7	34.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	52.4	21.3				mg/L	10	Standard
	Ho-1	165	28.3	40.8				mg/L	2	Standard
	Er	166	20.0	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.361	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		93.704	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.125
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.581
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188602SDL WG451582-02
Sample Date/Time: Tuesday, November 05, 2013 18:15:35
Number of Replicates: 3
Autosampler Position: 334
Sample Description: 25
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	200641.5	1.2				ug/L	199689	Standard
	Be	9	26.7	39.0	**0.0042**	0.005	112.9	ug/L	22	Standard
	Al	27	1138808.3	0.7	**6.2096**	0.118	1.9	ug/L	615	Standard
	Sc	45	38116.2	2.2				ug/L	46336	Standard
	Ti	47	16.0	43.8	**-0.0137**	0.022	157.4	ug/L	20	Standard
	V	51	863.8	9.2	**0.0051**	0.014	286.6	ug/L	893	Standard
	Cr	52	3079.6	3.7	**-0.0367**	0.017	46.0	ug/L	3436	Standard
	Cr	53	198.3	5.8	**-0.0867**	0.009	10.4	ug/L	325	Standard
	Mn	55	1386105.8	2.2	**159.4413**	2.908	1.8	ug/L	949	Standard
	Co	59	255.0	10.1	**0.0255**	0.005	19.1	ug/L	109	Standard
	Ni	60	526.0	5.8	**0.1619**	0.011	6.9	ug/L	187	Standard
	Cu	65	337.7	1.6	**0.1120**	0.005	4.2	ug/L	95	Standard
	Zn	66	2273.2	2.1	**1.6461**	0.027	1.6	ug/L	320	Standard
>	**Ge**	72	443524.7	1.3				ug/L	478028	Standard
	As	75	-43.1	28.0	**0.1571**	0.010	6.2	ug/L	-247	Standard
	Se	82	-31.4	10.5	**0.0809**	0.028	34.3	ug/L	-45	Standard
	Se-1	77	82.3	10.5	**-0.0402**	0.113	280.4	ug/L	101	Standard
>	**Ga**	71	33.3	56.8				mg/L	38	Standard
	Rb	85	1210.0	7.5				ug/L	27	Standard
	Y	89	378620.5	2.2				ug/L	457712	Standard
>	**Rh**	103	6.7	43.3				ug/L	7	Standard
	Mo	98	57.2	10.0	**0.0048**	0.003	54.1	ug/L	7	Standard
	Ag	107	79.3	59.8	**0.0032**	0.009	276.0	ug/L	60	Standard
	Cd	111	32.6	144.5	**0.0119**	0.025	211.9	mg/L	2	Standard
	Cd	114	116.5	89.5	**0.0114**	0.021	184.7	ug/L	28	Standard
>	**In**	115	442056.1	2.4				ug/L	514607	Standard
	Sn	118	130.0	6.7	**0.0173**	0.011	61.3	ug/L	125	Standard
	Sb	123	127.9	18.2	**0.0337**	0.007	20.5	ug/L	14	Standard
	Ba	135	477.3	11.3	**0.2672**	0.026	9.6	ug/L	10	Standard
	Ce	140	105.0	8.2				ug/L	25	Standard
>	**Tb**	159	525507.5	2.3				ug/L	648946	Standard
	Ho	165	11.7	89.2				ug/L	2	Standard
	Tl	203	73.3	101.2	**0.0102**	0.013	127.6	ug/L	4	Standard
	Tl	205	45.0	101.8	**0.0059**	0.008	135.3	ug/L	0	Standard
	Pb	206	110.7	16.1	**0.0059**	0.007	113.6	ug/L	113	Standard
	Pb	207	93.7	25.3	**-0.0037**	0.010	281.7	ug/L	88	Standard
	Pb	208	248.3	8.6	**0.0028**	0.003	102.6	ug/L	233	Standard
	U	238	16.3	78.7	**0.0010**	0.004	356.8	ug/L	1	Standard
>	**Bi**	209	270607.1	2.5				ug/L	321163	Standard

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	Na	23	11.7	65.5	**5.0866**	3.313	65.1	mg/L	2	Standard
	Mg	24	638.3	8.6	**0.7427**	0.084	11.3	mg/L	48	Standard
	K	39	10.0	50.0	**0.0998**	0.080	80.1	mg/L	2	Standard
	Ca	43	56.7	10.2	**3.0190**	0.490	16.2	mg/L	38	Standard
	Fe	54	2276.3	5.9	**1.4680**	0.115	7.8	mg/L	218	Standard
	Fe	57	818.4	4.1	**1.4843**	0.049	3.3	mg/L	283	Standard
>	**Sc-1**	45	38116.2	2.2				mg/L	46336	Standard
	Cl	35	7277.7	2.0				ug/L	7415	Standard
	Kr	83	88.7	5.3				ug/L	106	Standard
	Br	81	2363.5	3.7				ug/L	2367	Standard
	P	31	113209.7	1.1				ug/L	257843	Standard
	S	34	24955.5	0.5				ug/L	25966	Standard
	Sr	88	78.3	26.6				ug/L	92	Standard
	C	12	23.3	99.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	-0.8	91.7				mg/L	10	Standard
	Ho-1	165	11.7	89.2				mg/L	2	Standard
	Er	166	16.7	91.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		100.477	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		92.782	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	85.902
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.258
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 18:18:42
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	224706.5	2.8				ug/L	199689	Standard
	Be	9	115550.8	2.4	**48.4127**	0.199	0.4	ug/L	22	Standard
	Al	27	8972331.0	3.7	**43.6913**	0.468	1.1	ug/L	615	Standard
	Sc	45	43437.2	2.0				ug/L	46336	Standard
	Ti	47	35592.5	4.1	**96.8807**	1.776	1.8	ug/L	20	Standard
	V	51	266081.2	3.7	**50.5881**	0.679	1.3	ug/L	893	Standard
	Cr	52	258270.9	5.0	**50.4108**	1.062	2.1	ug/L	3436	Standard
	Cr	53	55187.2	5.6	**49.9368**	1.258	2.5	ug/L	325	Standard
	Mn	55	499657.7	4.6	**52.1796**	0.998	1.9	ug/L	949	Standard
	Co	59	308340.7	4.4	**52.3741**	0.917	1.8	ug/L	109	Standard
	Ni	60	117963.5	3.8	**51.1397**	0.496	1.0	ug/L	187	Standard
	Cu	65	115413.2	3.1	**51.0989**	0.412	0.8	ug/L	95	Standard
	Zn	66	65930.2	3.4	**52.1088**	0.175	0.3	ug/L	320	Standard
>	**Ge**	72	487693.9	3.3				ug/L	478028	Standard
	As	75	70613.3	3.1	**50.4293**	0.206	0.4	ug/L	-247	Standard
	Se	82	7108.3	3.8	**48.0439**	0.389	0.8	ug/L	-45	Standard
	Se-1	77	4964.5	3.6	**52.7046**	1.286	2.4	ug/L	101	Standard
>	**Ga**	71	81.7	33.7				mg/L	38	Standard
	Rb	85	1026.7	1.2				ug/L	27	Standard
	Y	89	428207.3	3.2				ug/L	457712	Standard
>	**Rh**	103	38.3	19.9				ug/L	7	Standard
	Mo	98	330994.8	3.5	**121.6728**	1.542	1.3	ug/L	7	Standard
	Ag	107	312295.5	3.5	**54.0751**	0.645	1.2	ug/L	60	Standard
	Cd	111	105481.4	3.0	**52.5324**	0.382	0.7	mg/L	2	Standard
	Cd	114	273378.1	4.3	**51.7679**	1.088	2.1	ug/L	28	Standard
>	**In**	115	488735.1	2.4				ug/L	514607	Standard
	Sn	118	64487.7	3.6	**53.7870**	0.702	1.3	ug/L	125	Standard
	Sb	123	156019.7	2.4	**47.9820**	0.055	0.1	ug/L	14	Standard
	Ba	135	93068.1	3.0	**50.4399**	0.300	0.6	ug/L	10	Standard
	Ce	140	66.7	26.3				ug/L	25	Standard
>	**Tb**	159	581587.2	2.3				ug/L	648946	Standard
	Ho	165	1.7	173.2				ug/L	2	Standard
	Tl	203	295204.6	2.6	**50.9479**	0.788	1.5	ug/L	4	Standard
	Tl	205	327255.4	3.2	**56.2185**	1.019	1.8	ug/L	0	Standard
	Pb	206	125851.8	2.8	**53.1595**	0.923	1.7	ug/L	113	Standard
	Pb	207	113360.8	3.2	**53.2389**	1.165	2.2	ug/L	88	Standard
	Pb	208	292587.0	2.9	**52.4338**	1.098	2.1	ug/L	233	Standard
	U	238	183281.3	3.3	**49.6612**	1.032	2.1	ug/L	1	Standard
>	**Bi**	209	284980.8	1.6				ug/L	321163	Standard

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	Na	23	15.0	66.7	**5.6855**	3.697	65.0	mg/L	2	Standard
	Mg	24	4564.0	1.6	**4.8268**	0.122	2.5	mg/L	48	Standard
	K	39	181.7	8.8	**2.5300**	0.250	9.9	mg/L	2	Standard
	Ca	43	96.7	3.0	**5.9547**	0.374	6.3	mg/L	38	Standard
	Fe	54	8889.4	3.2	**5.2900**	0.134	2.5	mg/L	218	Standard
	Fe	57	2560.2	8.0	**5.0776**	0.358	7.1	mg/L	283	Standard
>	**Sc-1**	45	43437.2	2.0				mg/L	46336	Standard
	Cl	35	7916.1	3.6				ug/L	7415	Standard
	Kr	83	93.3	19.9				ug/L	106	Standard
	Br	81	2530.2	6.9				ug/L	2367	Standard
	P	31	296290.0	2.4				ug/L	257843	Standard
	S	34	26860.5	2.4				ug/L	25966	Standard
	Sr	88	90.0	30.9				ug/L	92	Standard
	C	12	16.7	91.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	2.9	173.2				mg/L	10	Standard
	Ho-1	165	1.7	173.2				mg/L	2	Standard
	Er	166	10.0	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.528	
	Be	9	96.825		
	Al	27	87.383		
	Sc	45			
	Ti	47	96.881		
	V	51	101.176		
	Cr	52	100.822		
	Cr	53			
	Mn	55	104.359		
	Co	59	104.748		
	Ni	60	102.279		
	Cu	65	102.198		
	Zn	66	104.218		
>	Ge	72		102.022	
	As	75	100.859		
	Se	82	96.088		
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98	121.673	
	Ag	107	108.150	
	Cd	111	105.065	
	Cd	114		
>	In	115		94.973
	Sn	118	107.574	
	Sb	123	95.964	
	Ba	135	100.880	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	101.896	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	104.868	
	U	238	99.322	
>	Bi	209		88.734
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 18:21:46
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	215431.6	5.0				ug/L	199689	Standard
	Be	9	53.3	14.3	**0.0150**	0.003	20.9	ug/L	22	Standard
	Al	27	3509.0	100.2	**0.0137**	0.017	120.6	ug/L	615	Standard
	Sc	45	42354.3	6.2				ug/L	46336	Standard
	Ti	47	18.7	3.1	**-0.0088**	0.001	11.0	ug/L	20	Standard
	V	51	927.2	16.8	**0.0078**	0.024	304.7	ug/L	893	Standard
	Cr	52	3364.4	6.0	**-0.0128**	0.016	122.5	ug/L	3436	Standard
	Cr	53	186.7	22.3	**-0.1088**	0.033	30.6	ug/L	325	Standard
	Mn	55	5398.9	139.0	**0.4560**	0.785	172.2	ug/L	949	Standard
	Co	59	183.3	73.0	**0.0098**	0.022	226.1	ug/L	109	Standard
	Ni	60	325.0	10.7	**0.0577**	0.010	17.5	ug/L	187	Standard
	Cu	65	149.0	15.8	**0.0161**	0.008	52.0	ug/L	95	Standard
	Zn	66	268.7	12.2	**-0.1201**	0.019	15.8	ug/L	320	Standard
>	**Ge**	72	467738.9	4.0				ug/L	478028	Standard
	As	75	-216.0	11.8	**0.0302**	0.022	72.4	ug/L	-247	Standard
	Se	82	-29.8	56.7	**0.1013**	0.122	120.7	ug/L	-45	Standard
	Se-1	77	91.3	11.6	**0.0124**	0.145	1170.1	ug/L	101	Standard
>	**Ga**	71	35.0	24.7				mg/L	38	Standard
	Rb	85	23.3	12.4				ug/L	27	Standard
	Y	89	406493.6	3.6				ug/L	457712	Standard
>	**Rh**	103	11.7	49.5				ug/L	7	Standard
	Mo	98	81.4	73.1	**0.0124**	0.022	173.6	ug/L	7	Standard
	Ag	107	93.7	31.1	**0.0050**	0.005	95.3	ug/L	60	Standard
	Cd	111	9.9	82.2	**-0.0006**	0.004	649.1	mg/L	2	Standard
	Cd	114	43.2	17.9	**-0.0041**	0.001	34.7	ug/L	28	Standard
>	**In**	115	465308.6	4.4				ug/L	514607	Standard
	Sn	118	129.0	8.1	**0.0102**	0.006	62.4	ug/L	125	Standard
	Sb	123	404.3	45.6	**0.1195**	0.054	45.0	ug/L	14	Standard
	Ba	135	16.3	36.9	**-0.0093**	0.003	32.9	ug/L	10	Standard
	Ce	140	15.0	88.2				ug/L	25	Standard
>	**Tb**	159	552615.8	4.9				ug/L	648946	Standard
	Ho	165	6.7	114.6				ug/L	2	Standard
	Tl	203	26.0	56.7	**0.0016**	0.002	153.0	ug/L	4	Standard
	Tl	205	58.3	136.7	**0.0078**	0.013	171.4	ug/L	0	Standard
	Pb	206	108.7	25.8	**0.0035**	0.010	282.6	ug/L	113	Standard
	Pb	207	88.3	2.8	**-0.0074**	0.001	11.8	ug/L	88	Standard
	Pb	208	285.0	33.5	**0.0079**	0.015	189.2	ug/L	233	Standard
	U	238	30.7	127.0	**0.0046**	0.010	223.8	ug/L	1	Standard
>	**Bi**	209	278426.1	4.8				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	50.0	20.0	**0.0223**	0.014	64.4	mg/L	48	Standard
K	39	1.7	173.2	**-0.0361**	0.045	124.4	mg/L	2	Standard
Ca	43	26.7	28.6	**-0.3335**	0.877	262.9	mg/L	38	Standard
Fe	54	214.2	10.7	**0.0245**	0.006	25.7	mg/L	218	Standard
Fe	57	230.0	7.8	**-0.0518**	0.072	139.0	mg/L	283	Standard
> **Sc-1**	45	42354.3	6.2				mg/L	46336	Standard
Cl	35	7696.6	2.7				ug/L	7415	Standard
Kr	83	86.0	19.0				ug/L	106	Standard
Br	81	2333.5	3.2				ug/L	2367	Standard
P	31	248495.6	2.9				ug/L	257843	Standard
S	34	26029.0	3.9				ug/L	25966	Standard
Sr	88	70.0	14.3				ug/L	92	Standard
C	12	20.0	50.0				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	9.4	107.5				mg/L	10	Standard
Ho-1	165	6.7	114.6				mg/L	2	Standard
Er	166	13.3	173.2				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		107.884	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		97.848	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.420
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.693
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188603
Sample Date/Time: Tuesday, November 05, 2013 18:24:53
Number of Replicates: 3
Autosampler Position: 335
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	224888.8	1.9				ug/L	199689	Standard
	Be	9	43.3	33.3	**0.0099**	0.006	63.9	ug/L	22	Standard
	Al	27	34960954.5	0.2	**170.1889**	3.393	2.0	ug/L	615	Standard
	Sc	45	44020.5	1.5				ug/L	46336	Standard
	Ti	47	164.3	5.7	**0.3917**	0.018	4.6	ug/L	20	Standard
	V	51	2119.5	3.5	**0.2338**	0.009	4.0	ug/L	893	Standard
	Cr	52	6871.6	3.1	**0.6719**	0.021	3.2	ug/L	3436	Standard
	Cr	53	1125.0	12.0	**0.7551**	0.146	19.3	ug/L	325	Standard
	Mn	55	2074760.3	13.0	**219.7030**	23.737	10.8	ug/L	949	Standard
	Co	59	5256.2	1.9	**0.8835**	0.018	2.0	ug/L	109	Standard
	Ni	60	6562.4	0.6	**2.8006**	0.062	2.2	ug/L	187	Standard
	Cu	65	1848.4	4.2	**0.7776**	0.024	3.1	ug/L	95	Standard
	Zn	66	5885.5	1.5	**4.4054**	0.139	3.2	ug/L	320	Standard
>	**Ge**	72	481143.7	2.2				ug/L	478028	Standard
	As	75	338.8	7.7	**0.4350**	0.014	3.3	ug/L	-247	Standard
	Se	82	23.2	33.9	**0.4699**	0.050	10.6	ug/L	-45	Standard
	Se-1	77	145.0	7.3	**0.5700**	0.116	20.4	ug/L	101	Standard
>	**Ga**	71	61.7	12.4				mg/L	38	Standard
	Rb	85	3645.4	2.7				ug/L	27	Standard
	Y	89	422915.5	3.4				ug/L	457712	Standard
>	**Rh**	103	86.7	14.5				ug/L	7	Standard
	Mo	98	1616.8	2.6	**0.5994**	0.014	2.3	ug/L	7	Standard
	Ag	107	57.3	17.6	**-0.0016**	0.002	118.7	ug/L	60	Standard
	Cd	111	27.9	22.0	**0.0088**	0.003	38.9	mg/L	2	Standard
	Cd	114	71.1	33.9	**0.0013**	0.004	350.3	ug/L	28	Standard
>	**In**	115	470322.6	1.8				ug/L	514607	Standard
	Sn	118	206.0	10.0	**0.0757**	0.015	19.2	ug/L	125	Standard
	Sb	123	201.0	8.5	**0.0545**	0.004	7.9	ug/L	14	Standard
	Ba	135	32211.5	1.8	**18.1310**	0.075	0.4	ug/L	10	Standard
	Ce	140	661.7	18.1				ug/L	25	Standard
>	**Tb**	159	571271.5	1.3				ug/L	648946	Standard
	Ho	165	28.3	27.0				ug/L	2	Standard
	Tl	203	208.3	11.1	**0.0347**	0.005	14.6	ug/L	4	Standard
	Tl	205	208.3	14.1	**0.0354**	0.006	15.9	ug/L	0	Standard
	Pb	206	177.7	11.6	**0.0352**	0.007	20.9	ug/L	113	Standard
	Pb	207	156.7	3.1	**0.0271**	0.001	4.6	ug/L	88	Standard
	Pb	208	409.0	5.9	**0.0328**	0.006	19.2	ug/L	233	Standard
	U	238	994.4	6.6	**0.2780**	0.015	5.2	ug/L	1	Standard
>	**Bi**	209	272578.9	2.4				ug/L	321163	Standard

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	Na	23	171.7	14.7	**64.6593**	9.844	15.2	mg/L	2	Standard
	Mg	24	26865.5	1.2	**28.1891**	0.360	1.3	mg/L	48	Standard
	K	39	83.3	3.5	**1.1110**	0.055	4.9	mg/L	2	Standard
	Ca	43	666.7	6.9	**57.0895**	3.498	6.1	mg/L	38	Standard
	Fe	54	1047.5	6.5	**0.5190**	0.036	6.9	mg/L	218	Standard
	Fe	57	745.0	6.5	**1.0483**	0.099	9.5	mg/L	283	Standard
>	**Sc-1**	45	44020.5	1.5				mg/L	46336	Standard
	Cl	35	9328.2	4.3				ug/L	7415	Standard
	Kr	83	103.3	2.4				ug/L	106	Standard
	Br	81	14323.4	2.4				ug/L	2367	Standard
	P	31	330117.3	2.5				ug/L	257843	Standard
	S	34	22358.2	2.6				ug/L	25966	Standard
	Sr	88	425.0	8.5				ug/L	92	Standard
	C	12	60.0	16.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	31.7	63.2				mg/L	10	Standard
	Ho-1	165	28.3	27.0				mg/L	2	Standard
	Er	166	33.3	69.3				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.620	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		100.652	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	91.395
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	84.872
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188604
Sample Date/Time: Tuesday, November 05, 2013 18:27:57
Number of Replicates: 3
Autosampler Position: 336
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	225046.6	3.0				ug/L	199689	Standard
	Be	9	76.7	13.6	**0.0237**	0.003	14.6	ug/L	22	Standard
	Al	27	9764540.3	0.5	**47.5147**	1.492	3.1	ug/L	615	Standard
	Sc	45	45978.0	2.0				ug/L	46336	Standard
	Ti	47	1457.1	2.0	**3.8253**	0.158	4.1	ug/L	20	Standard
	V	51	159969.7	11.0	**29.6999**	3.265	11.0	ug/L	893	Standard
	Cr	52	2928379.6	1.3	**566.8854**	7.189	1.3	ug/L	3436	Standard
	Cr	53	545882.2	3.1	**486.1126**	3.602	0.7	ug/L	325	Standard
	Mn	55	412329.2	1.4	**42.1423**	0.669	1.6	ug/L	949	Standard
	Co	59	2637.9	4.0	**0.4166**	0.011	2.5	ug/L	109	Standard
	Ni	60	4672.4	4.4	**1.8965**	0.046	2.4	ug/L	187	Standard
	Cu	65	3771.5	3.8	**1.5830**	0.024	1.5	ug/L	95	Standard
	Zn	66	18506.3	2.6	**14.0683**	0.147	1.0	ug/L	320	Standard
>	**Ge**	72	498282.3	2.6				ug/L	478028	Standard
	As	75	1373.8	1.3	**1.1476**	0.014	1.2	ug/L	-247	Standard
	Se	82	48.6	12.2	**0.6320**	0.040	6.3	ug/L	-45	Standard
	Se-1	77	153.3	0.8	**0.6039**	0.033	5.5	ug/L	101	Standard
>	**Ga**	71	466.7	4.3				mg/L	38	Standard
	Rb	85	13986.5	4.4				ug/L	27	Standard
	Y	89	444074.3	2.4				ug/L	457712	Standard
>	**Rh**	103	45.0	29.4				ug/L	7	Standard
	Mo	98	14364.9	2.9	**5.2801**	0.071	1.3	ug/L	7	Standard
	Ag	107	85.0	20.0	**0.0029**	0.003	111.2	ug/L	60	Standard
	Cd	111	45.3	27.2	**0.0169**	0.006	36.2	mg/L	2	Standard
	Cd	114	175.9	12.9	**0.0207**	0.004	18.4	ug/L	28	Standard
>	**In**	115	487153.8	1.6				ug/L	514607	Standard
	Sn	118	277.3	10.1	**0.1296**	0.024	18.3	ug/L	125	Standard
	Sb	123	320.5	8.8	**0.0891**	0.007	8.3	ug/L	14	Standard
	Ba	135	55536.6	2.0	**30.1914**	0.226	0.7	ug/L	10	Standard
	Ce	140	26082.4	1.8				ug/L	25	Standard
>	**Tb**	159	573605.7	2.1				ug/L	648946	Standard
	Ho	165	585.0	7.4				ug/L	2	Standard
	Tl	203	188.7	10.0	**0.0297**	0.003	9.9	ug/L	4	Standard
	Tl	205	175.0	9.9	**0.0280**	0.003	9.1	ug/L	0	Standard
	Pb	206	1597.4	2.7	**0.6332**	0.013	2.0	ug/L	113	Standard
	Pb	207	1323.4	7.1	**0.5730**	0.037	6.5	ug/L	88	Standard
	Pb	208	3640.8	2.6	**0.6101**	0.007	1.2	ug/L	233	Standard
	U	238	433.7	2.3	**0.1141**	0.002	2.1	ug/L	1	Standard
>	**Bi**	209	284500.2	1.5				ug/L	321163	Standard

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	Na	23	55.0	32.8	**19.7422**	6.072	30.8	mg/L	2	Standard
	Mg	24	11234.2	3.0	**11.2670**	0.357	3.2	mg/L	48	Standard
	K	39	35.0	28.6	**0.4077**	0.125	30.7	mg/L	2	Standard
	Ca	43	238.3	19.5	**17.7206**	4.353	24.6	mg/L	38	Standard
	Fe	54	1538.1	1.7	**0.7743**	0.033	4.3	mg/L	218	Standard
	Fe	57	640.0	10.2	**0.7605**	0.139	18.2	mg/L	283	Standard
>	**Sc-1**	45	45978.0	2.0				mg/L	46336	Standard
	Cl	35	8391.0	0.5				ug/L	7415	Standard
	Kr	83	98.3	10.0				ug/L	106	Standard
	Br	81	6528.1	4.4				ug/L	2367	Standard
	P	31	335114.0	1.0				ug/L	257843	Standard
	S	34	23433.1	2.4				ug/L	25966	Standard
	Sr	88	245.0	28.4				ug/L	92	Standard
	C	12	40.0	25.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	866.2	5.0				mg/L	10	Standard
	Ho-1	165	585.0	7.4				mg/L	2	Standard
	Er	166	496.7	12.9				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.699	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		104.237	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	94.665
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	88.584
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Cr 52 Upper, S, EEE	Cr	52	
Cr 53 Upper, S, EEE	Cr	53	

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Method 6020 - Summary Report

Sample ID: L1310188605
Sample Date/Time: Tuesday, November 05, 2013 18:31:02
Number of Replicates: 3
Autosampler Position: 337
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222705.3	2.2				ug/L	199689	Standard
	Be	9	45.0	22.2	**0.0108**	0.004	39.2	ug/L	22	Standard
	Al	27	20704260.0	0.3	**101.7776**	1.960	1.9	ug/L	615	Standard
	Sc	45	46441.1	1.1				ug/L	46336	Standard
	Ti	47	707.3	7.7	**1.8863**	0.202	10.7	ug/L	20	Standard
	V	51	2089.7	7.9	**0.2264**	0.033	14.4	ug/L	893	Standard
	Cr	52	6640.1	5.6	**0.6191**	0.039	6.2	ug/L	3436	Standard
	Cr	53	1930.1	3.7	**1.4883**	0.044	2.9	ug/L	325	Standard
	Mn	55	7968125.0	2.3	**841.7891**	7.840	0.9	ug/L	949	Standard
	Co	59	11731.5	4.2	**1.9897**	0.041	2.1	ug/L	109	Standard
	Ni	60	6347.3	3.5	**2.6931**	0.069	2.6	ug/L	187	Standard
	Cu	65	1237.1	3.2	**0.5007**	0.012	2.5	ug/L	95	Standard
	Zn	66	4937.8	4.8	**3.6207**	0.086	2.4	ug/L	320	Standard
>	**Ge**	72	483252.5	2.8				ug/L	478028	Standard
	As	75	2948.2	4.0	**2.3076**	0.061	2.7	ug/L	-247	Standard
	Se	82	38.1	26.2	**0.5699**	0.064	11.2	ug/L	-45	Standard
	Se-1	77	225.0	4.2	**1.4396**	0.169	11.8	ug/L	101	Standard
>	**Ga**	71	265.0	26.4				mg/L	38	Standard
	Rb	85	10351.9	5.2				ug/L	27	Standard
	Y	89	427308.9	3.1				ug/L	457712	Standard
>	**Rh**	103	48.3	23.9				ug/L	7	Standard
	Mo	98	2792.3	0.5	**1.0470**	0.025	2.4	ug/L	7	Standard
	Ag	107	86.3	9.3	**0.0036**	0.002	49.5	ug/L	60	Standard
	Cd	111	3.9	53.3	**-0.0036**	0.001	30.8	mg/L	2	Standard
	Cd	114	40.6	39.5	**-0.0047**	0.003	69.6	ug/L	28	Standard
>	**In**	115	471234.7	2.9				ug/L	514607	Standard
	Sn	118	225.7	2.4	**0.0928**	0.010	11.1	ug/L	125	Standard
	Sb	123	104.8	6.9	**0.0237**	0.002	6.5	ug/L	14	Standard
	Ba	135	99068.6	2.2	**55.7004**	0.385	0.7	ug/L	10	Standard
	Ce	140	6049.6	13.0				ug/L	25	Standard
>	**Tb**	159	560980.7	2.0				ug/L	648946	Standard
	Ho	165	120.0	15.0				ug/L	2	Standard
	Tl	203	174.7	6.9	**0.0287**	0.003	9.3	ug/L	4	Standard
	Tl	205	195.0	9.2	**0.0331**	0.004	11.0	ug/L	0	Standard
	Pb	206	397.3	5.6	**0.1329**	0.009	6.5	ug/L	113	Standard
	Pb	207	322.3	8.3	**0.1089**	0.011	9.8	ug/L	88	Standard
	Pb	208	847.0	4.6	**0.1154**	0.010	8.3	ug/L	233	Standard
	U	238	547.3	2.1	**0.1520**	0.001	0.6	ug/L	1	Standard
>	**Bi**	209	271719.2	1.6				ug/L	321163	Standard

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	Na	23	80.0	10.8	**28.5472**	3.140	11.0	mg/L	2	Standard
	Mg	24	32661.8	1.0	**32.4914**	0.621	1.9	mg/L	48	Standard
	K	39	48.3	53.1	**0.5816**	0.339	58.2	mg/L	2	Standard
	Ca	43	411.7	16.2	**32.2796**	5.978	18.5	mg/L	38	Standard
	Fe	54	7544.0	1.1	**4.1770**	0.068	1.6	mg/L	218	Standard
	Fe	57	2448.5	3.4	**4.4859**	0.219	4.9	mg/L	283	Standard
>	**Sc-1**	45	46441.1	1.1				mg/L	46336	Standard
	Cl	35	8425.0	2.7				ug/L	7415	Standard
	Kr	83	100.0	14.1				ug/L	106	Standard
	Br	81	17837.2	1.8				ug/L	2367	Standard
	P	31	359887.4	2.6				ug/L	257843	Standard
	S	34	26359.6	1.7				ug/L	25966	Standard
	Sr	88	348.3	14.4				ug/L	92	Standard
	C	12	66.7	31.2				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	134.9	25.5				mg/L	10	Standard
	Ho-1	165	120.0	15.0				mg/L	2	Standard
	Er	166	106.7	39.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.526	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		101.093	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.572
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.605
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188606
Sample Date/Time: Tuesday, November 05, 2013 18:34:06
Number of Replicates: 3
Autosampler Position: 338
Sample Description: 1
Method File: C:\NexION Data\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	226509.1	4.1				ug/L	199689	Standard
	Be	9	163.3	16.9	**0.0596**	0.011	18.7	ug/L	22	Standard
	Al	27	33139082.4	2.7	**160.1874**	2.347	1.5	ug/L	615	Standard
	Sc	45	44268.0	4.0				ug/L	46336	Standard
	Ti	47	1034.4	41.1	**2.8508**	1.281	44.9	ug/L	20	Standard
	V	51	2093.4	1.4	**0.2340**	0.011	4.7	ug/L	893	Standard
	Cr	52	37332.0	5.0	**6.8771**	0.248	3.6	ug/L	3436	Standard
	Cr	53	7440.2	8.0	**6.6612**	0.398	6.0	ug/L	325	Standard
	Mn	55	24583673.4	3.5	**2640.8171**	25.985	1.0	ug/L	949	Standard
	Co	59	14629.1	4.7	**2.5287**	0.047	1.9	ug/L	109	Standard
	Ni	60	28837.2	6.4	**12.7572**	0.520	4.1	ug/L	187	Standard
	Cu	65	3229.7	4.9	**1.4158**	0.031	2.2	ug/L	95	Standard
	Zn	66	10851.6	3.9	**8.5162**	0.100	1.2	ug/L	320	Standard
>	**Ge**	72	475197.7	2.9				ug/L	478028	Standard
	As	75	1229.1	3.3	**1.0882**	0.004	0.4	ug/L	-247	Standard
	Se	82	24.2	60.8	**0.4779**	0.099	20.8	ug/L	-45	Standard
	Se-1	77	115.0	10.0	**0.2597**	0.166	63.7	ug/L	101	Standard
>	**Ga**	71	415.0	11.9				mg/L	38	Standard
	Rb	85	41456.6	1.5				ug/L	27	Standard
	Y	89	412851.0	3.8				ug/L	457712	Standard
>	**Rh**	103	105.0	0.0				ug/L	7	Standard
	Mo	98	10402.0	4.2	**4.0506**	0.046	1.1	ug/L	7	Standard
	Ag	107	139.0	33.2	**0.0135**	0.008	56.6	ug/L	60	Standard
	Cd	111	42.7	123.9	**0.0165**	0.027	164.0	mg/L	2	Standard
	Cd	114	169.5	47.7	**0.0212**	0.015	71.3	ug/L	28	Standard
>	**In**	115	459345.3	3.5				ug/L	514607	Standard
	Sn	118	268.3	10.4	**0.1352**	0.017	12.4	ug/L	125	Standard
	Sb	123	321.5	17.5	**0.0952**	0.016	16.5	ug/L	14	Standard
	Ba	135	22218.0	3.1	**12.8008**	0.127	1.0	ug/L	10	Standard
	Ce	140	5192.6	4.9				ug/L	25	Standard
>	**Tb**	159	559633.9	3.8				ug/L	648946	Standard
	Ho	165	91.7	25.8				ug/L	2	Standard
	Tl	203	215.3	34.9	**0.0363**	0.013	35.5	ug/L	4	Standard
	Tl	205	248.3	24.2	**0.0431**	0.011	24.9	ug/L	0	Standard
	Pb	206	681.0	8.7	**0.2615**	0.020	7.7	ug/L	113	Standard
	Pb	207	595.3	8.5	**0.2464**	0.020	8.0	ug/L	88	Standard
	Pb	208	1551.0	6.9	**0.2505**	0.014	5.7	ug/L	233	Standard
	U	238	492.3	13.5	**0.1376**	0.018	12.9	ug/L	1	Standard
>	**Bi**	209	269003.6	2.1				ug/L	321163	Standard

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	Na	23	180.0	4.8	**67.5132**	5.683	8.4	mg/L	2	Standard
	Mg	24	24598.3	3.3	**25.6670**	0.349	1.4	mg/L	48	Standard
	K	39	55.0	18.2	**0.7102**	0.161	22.7	mg/L	2	Standard
	Ca	43	676.7	4.2	**57.7186**	3.057	5.3	mg/L	38	Standard
	Fe	54	4030.5	6.0	**2.2920**	0.047	2.0	mg/L	218	Standard
	Fe	57	1765.1	3.7	**3.2534**	0.149	4.6	mg/L	283	Standard
>	**Sc-1**	45	44268.0	4.0				mg/L	46336	Standard
	Cl	35	10386.9	3.4				ug/L	7415	Standard
	Kr	83	105.7	8.9				ug/L	106	Standard
	Br	81	11707.9	3.3				ug/L	2367	Standard
	P	31	356023.2	4.6				ug/L	257843	Standard
	S	34	24196.0	2.6				ug/L	25966	Standard
	Sr	88	521.7	14.0				ug/L	92	Standard
	C	12	56.7	56.7				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	103.2	23.1				mg/L	10	Standard
	Ho-1	165	91.7	25.8				mg/L	2	Standard
	Er	166	73.3	43.8				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		113.431	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.408	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	89.261
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	83.759
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188607
Sample Date/Time: Tuesday, November 05, 2013 18:37:10
Number of Replicates: 3
Autosampler Position: 339
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	236378.2	1.5				ug/L	199689	Standard
	Be	9	1248.4	3.2	**0.4890**	0.015	3.1	ug/L	22	Standard
	Al	27	20197352.3	1.4	**93.5164**	0.395	0.4	ug/L	615	Standard
	Sc	45	53539.6	4.6				ug/L	46336	Standard
	Ti	47	32892.0	1.2	**92.4315**	1.020	1.1	ug/L	20	Standard
	V	51	80102.9	3.0	**15.5974**	0.209	1.3	ug/L	893	Standard
	Cr	52	63867.7	2.4	**12.3448**	0.063	0.5	ug/L	3436	Standard
	Cr	53	13791.3	2.0	**12.6756**	0.029	0.2	ug/L	325	Standard
	Mn	55	31895528.9	1.4	**3446.7360**	25.807	0.7	ug/L	949	Standard
	Co	59	80735.0	2.6	**14.1404**	0.076	0.5	ug/L	109	Standard
	Ni	60	57166.4	3.0	**25.5368**	0.365	1.4	ug/L	187	Standard
	Cu	65	45815.5	2.1	**20.9057**	0.093	0.4	ug/L	95	Standard
	Zn	66	173421.5	2.3	**142.0669**	0.651	0.5	ug/L	320	Standard
>	**Ge**	72	472482.5	2.1				ug/L	478028	Standard
	As	75	14276.6	1.6	**10.6754**	0.067	0.6	ug/L	-247	Standard
	Se	82	3.3	1067.6	**0.3344**	0.244	73.0	ug/L	-45	Standard
	Se-1	77	163.0	8.5	**0.7984**	0.115	14.5	ug/L	101	Standard
>	**Ga**	71	15506.3	1.8				mg/L	38	Standard
	Rb	85	194744.0	2.4				ug/L	27	Standard
	Y	89	573797.5	2.5				ug/L	457712	Standard
>	**Rh**	103	110.0	4.5				ug/L	7	Standard
	Mo	98	7716.1	2.6	**3.0047**	0.035	1.2	ug/L	7	Standard
	Ag	107	376.3	0.9	**0.0575**	0.001	2.5	ug/L	60	Standard
	Cd	111	467.2	5.6	**0.2424**	0.017	7.1	mg/L	2	Standard
	Cd	114	1203.7	6.4	**0.2302**	0.013	5.5	ug/L	28	Standard
>	**In**	115	458646.7	1.4				ug/L	514607	Standard
	Sn	118	423.3	5.0	**0.2739**	0.014	5.1	ug/L	125	Standard
	Sb	123	1067.0	3.7	**0.3400**	0.009	2.8	ug/L	14	Standard
	Ba	135	178001.3	1.3	**102.8299**	0.253	0.2	ug/L	10	Standard
	Ce	140	559716.0	0.6				ug/L	25	Standard
>	**Tb**	159	564561.9	2.6				ug/L	648946	Standard
	Ho	165	8585.8	5.0				ug/L	2	Standard
	Tl	203	1493.4	2.3	**0.2663**	0.006	2.3	ug/L	4	Standard
	Tl	205	1750.1	8.9	**0.3121**	0.030	9.6	ug/L	0	Standard
	Pb	206	47593.6	1.3	**20.9711**	0.137	0.7	ug/L	113	Standard
	Pb	207	38945.3	2.2	**19.0700**	0.135	0.7	ug/L	88	Standard
	Pb	208	103065.9	1.7	**19.2622**	0.104	0.5	ug/L	233	Standard
	U	238	5138.5	0.6	**1.4511**	0.031	2.1	ug/L	1	Standard
>	**Bi**	209	272891.8	1.8				ug/L	321163	Standard

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	Na	23	165.0	22.9	**51.0647**	11.716	22.9	mg/L	2	Standard
	Mg	24	10917.3	2.5	**9.4046**	0.340	3.6	mg/L	48	Standard
	K	39	236.7	1.2	**2.6800**	0.135	5.1	mg/L	2	Standard
	Ca	43	651.7	13.5	**45.2649**	5.337	11.8	mg/L	38	Standard
	Fe	54	28007.4	2.0	**13.7063**	0.542	4.0	mg/L	218	Standard
	Fe	57	8252.2	2.5	**14.2290**	0.382	2.7	mg/L	283	Standard
>	**Sc-1**	45	53539.6	4.6				mg/L	46336	Standard
	Cl	35	8048.1	1.8				ug/L	7415	Standard
	Kr	83	156.7	20.7				ug/L	106	Standard
	Br	81	8956.0	5.7				ug/L	2367	Standard
	P	31	452008.1	1.9				ug/L	257843	Standard
	S	34	22137.8	0.7				ug/L	25966	Standard
	Sr	88	638.3	17.3				ug/L	92	Standard
	C	12	20.0	132.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	50.0	34.6				mg/L	0	Standard
	Dy	164	13863.6	3.6				mg/L	10	Standard
	Ho-1	165	8585.8	5.0				mg/L	2	Standard
	Er	166	7648.6	4.1				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		118.373	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.840	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.126
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.970
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1310188608
Sample Date/Time: Tuesday, November 05, 2013 18:40:14
Number of Replicates: 3
Autosampler Position: 340
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	219360.2	1.9				ug/L	199689	Standard
	Be	9	136.7	27.5	**0.0503**	0.015	30.2	ug/L	22	Standard
	Al	27	13313726.9	0.8	**66.4395**	1.226	1.8	ug/L	615	Standard
	Sc	45	43403.8	2.3				ug/L	46336	Standard
	Ti	47	3217.7	5.1	**8.9190**	0.242	2.7	ug/L	20	Standard
	V	51	8151.2	4.7	**1.4175**	0.038	2.7	ug/L	893	Standard
	Cr	52	10358.2	3.6	**1.3948**	0.025	1.8	ug/L	3436	Standard
	Cr	53	2340.2	6.4	**1.8977**	0.092	4.9	ug/L	325	Standard
	Mn	55	10017140.2	3.1	**1074.7187**	8.052	0.7	ug/L	949	Standard
	Co	59	6937.6	4.9	**1.1861**	0.029	2.5	ug/L	109	Standard
	Ni	60	7319.4	2.8	**3.1693**	0.013	0.4	ug/L	187	Standard
	Cu	65	5245.6	2.9	**2.3303**	0.023	1.0	ug/L	95	Standard
	Zn	66	20538.9	3.4	**16.4049**	0.160	1.0	ug/L	320	Standard
>	**Ge**	72	475767.5	2.5				ug/L	478028	Standard
	As	75	1201.9	9.2	**1.0677**	0.085	8.0	ug/L	-247	Standard
	Se	82	44.8	20.9	**0.6212**	0.064	10.3	ug/L	-45	Standard
	Se-1	77	189.3	9.3	**1.0779**	0.157	14.6	ug/L	101	Standard
>	**Ga**	71	1505.1	5.1				mg/L	38	Standard
	Rb	85	25531.5	3.6				ug/L	27	Standard
	Y	89	425240.6	3.3				ug/L	457712	Standard
>	**Rh**	103	60.0	16.7				ug/L	7	Standard
	Mo	98	11990.6	3.3	**4.5901**	0.075	1.6	ug/L	7	Standard
	Ag	107	85.7	7.6	**0.0036**	0.001	32.4	ug/L	60	Standard
	Cd	111	37.0	17.9	**0.0135**	0.003	22.5	mg/L	2	Standard
	Cd	114	152.1	6.2	**0.0174**	0.001	7.4	ug/L	28	Standard
>	**In**	115	467520.5	2.1				ug/L	514607	Standard
	Sn	118	293.3	6.5	**0.1532**	0.013	8.3	ug/L	125	Standard
	Sb	123	320.2	6.2	**0.0932**	0.005	5.6	ug/L	14	Standard
	Ba	135	203465.0	1.9	**115.3145**	0.711	0.6	ug/L	10	Standard
	Ce	140	47079.7	1.8				ug/L	25	Standard
>	**Tb**	159	555724.4	2.3				ug/L	648946	Standard
	Ho	165	738.4	9.8				ug/L	2	Standard
	Tl	203	242.0	9.3	**0.0409**	0.005	11.1	ug/L	4	Standard
	Tl	205	258.3	14.0	**0.0444**	0.005	12.3	ug/L	0	Standard
	Pb	206	2924.9	4.1	**1.2538**	0.025	2.0	ug/L	113	Standard
	Pb	207	2464.9	4.6	**1.1655**	0.029	2.5	ug/L	88	Standard
	Pb	208	6509.5	2.4	**1.1810**	0.005	0.4	ug/L	233	Standard
	U	238	3171.7	3.8	**0.8982**	0.027	3.1	ug/L	1	Standard
>	**Bi**	209	271620.8	2.3				ug/L	321163	Standard

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	Na	23	93.3	15.5	**35.6774**	5.937	16.6	mg/L	2	Standard
	Mg	24	18442.9	1.5	**19.6192**	0.375	1.9	mg/L	48	Standard
	K	39	58.3	13.1	**0.7695**	0.096	12.5	mg/L	2	Standard
	Ca	43	400.0	17.5	**33.7397**	7.120	21.1	mg/L	38	Standard
	Fe	54	2323.3	7.9	**1.3023**	0.081	6.2	mg/L	218	Standard
	Fe	57	860.0	3.1	**1.3262**	0.063	4.7	mg/L	283	Standard
>	**Sc-1**	45	43403.8	2.3				mg/L	46336	Standard
	Cl	35	7676.6	2.5				ug/L	7415	Standard
	Kr	83	108.7	8.7				ug/L	106	Standard
	Br	81	18851.7	2.4				ug/L	2367	Standard
	P	31	300058.6	2.9				ug/L	257843	Standard
	S	34	22910.6	1.9				ug/L	25966	Standard
	Sr	88	370.0	9.5				ug/L	92	Standard
	C	12	53.3	57.3				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	1296.4	7.2				mg/L	10	Standard
	Ho-1	165	738.4	9.8				mg/L	2	Standard
	Er	166	703.3	7.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		109.851	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.527	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	90.850
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	84.574
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1310188609
Sample Date/Time: Tuesday, November 05, 2013 18:43:19
Number of Replicates: 3
Autosampler Position: 341
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	224061.6	1.8				ug/L	199689	Standard
	Be	9	41.7	18.3	**0.0092**	0.003	31.4	ug/L	22	Standard
	Al	27	13286551.2	0.7	**64.9153**	1.447	2.2	ug/L	615	Standard
	Sc	45	43975.4	1.7				ug/L	46336	Standard
	Ti	47	871.4	6.1	**2.3605**	0.096	4.1	ug/L	20	Standard
	V	51	3194.7	7.6	**0.4459**	0.034	7.5	ug/L	893	Standard
	Cr	52	6299.3	2.5	**0.5665**	0.008	1.4	ug/L	3436	Standard
	Cr	53	1443.4	5.8	**1.0583**	0.105	10.0	ug/L	325	Standard
	Mn	55	9782771.9	1.9	**1045.6846**	7.012	0.7	ug/L	949	Standard
	Co	59	3459.1	2.5	**0.5782**	0.002	0.3	ug/L	109	Standard
	Ni	60	4775.4	1.2	**2.0289**	0.022	1.1	ug/L	187	Standard
	Cu	65	2346.2	2.8	**1.0092**	0.024	2.4	ug/L	95	Standard
	Zn	66	13988.5	2.1	**11.0249**	0.337	3.1	ug/L	320	Standard
>	**Ge**	72	477610.2	2.2				ug/L	478028	Standard
	As	75	812.7	6.3	**0.7818**	0.047	6.0	ug/L	-247	Standard
	Se	82	54.1	18.1	**0.6838**	0.067	9.8	ug/L	-45	Standard
	Se-1	77	188.3	6.0	**1.0628**	0.168	15.8	ug/L	101	Standard
>	**Ga**	71	453.3	7.3				mg/L	38	Standard
	Rb	85	15960.1	1.9				ug/L	27	Standard
	Y	89	420406.5	1.1				ug/L	457712	Standard
>	**Rh**	103	48.3	21.5				ug/L	7	Standard
	Mo	98	12008.6	0.9	**4.5790**	0.067	1.5	ug/L	7	Standard
	Ag	107	67.0	7.5	**0.0002**	0.001	683.6	ug/L	60	Standard
	Cd	111	14.9	38.6	**0.0021**	0.003	148.9	mg/L	2	Standard
	Cd	114	112.0	29.2	**0.0093**	0.006	64.8	ug/L	28	Standard
>	**In**	115	469497.6	1.9				ug/L	514607	Standard
	Sn	118	234.7	6.7	**0.1012**	0.014	14.3	ug/L	125	Standard
	Sb	123	285.5	7.0	**0.0817**	0.006	7.7	ug/L	14	Standard
	Ba	135	190421.8	2.1	**107.4596**	0.300	0.3	ug/L	10	Standard
	Ce	140	10672.1	5.7				ug/L	25	Standard
>	**Tb**	159	558051.1	2.3				ug/L	648946	Standard
	Ho	165	178.3	5.8				ug/L	2	Standard
	Tl	203	219.7	3.9	**0.0364**	0.001	2.3	ug/L	4	Standard
	Tl	205	223.3	19.3	**0.0378**	0.008	20.7	ug/L	0	Standard
	Pb	206	859.4	3.4	**0.3342**	0.012	3.7	ug/L	113	Standard
	Pb	207	695.3	1.5	**0.2897**	0.007	2.4	ug/L	88	Standard
	Pb	208	1847.4	5.4	**0.3000**	0.012	4.1	ug/L	233	Standard
	U	238	3096.3	2.9	**0.8680**	0.016	1.9	ug/L	1	Standard
>	**Bi**	209	274357.6	1.9				ug/L	321163	Standard

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	Na	23	111.7	10.3	**42.0409**	3.772	9.0	mg/L	2	Standard
	Mg	24	18636.5	2.9	**19.5625**	0.428	2.2	mg/L	48	Standard
	K	39	88.3	17.3	**1.1801**	0.195	16.5	mg/L	2	Standard
	Ca	43	400.0	2.2	**33.1646**	0.923	2.8	mg/L	38	Standard
	Fe	54	795.7	5.1	**0.3690**	0.031	8.4	mg/L	218	Standard
	Fe	57	533.3	16.8	**0.5861**	0.177	30.2	mg/L	283	Standard
>	**Sc-1**	45	43975.4	1.7				mg/L	46336	Standard
	Cl	35	8014.8	2.4				ug/L	7415	Standard
	Kr	83	90.7	9.4				ug/L	106	Standard
	Br	81	18050.8	3.5				ug/L	2367	Standard
	P	31	310547.2	3.1				ug/L	257843	Standard
	S	34	24042.4	2.3				ug/L	25966	Standard
	Sr	88	346.7	18.0				ug/L	92	Standard
	C	12	23.3	65.5				mg/L	10	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	313.6	17.8				mg/L	10	Standard
	Ho-1	165	178.3	5.8				mg/L	2	Standard
	Er	166	203.3	12.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.205	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.913	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	91.234
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	85.426
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1310188610
Sample Date/Time: Tuesday, November 05, 2013 18:46:23
Number of Replicates: 3
Autosampler Position: 342
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	230540.9	1.4				ug/L	199689	Standard
	Be	9	5277.6	2.3	**2.1470**	0.023	1.1	ug/L	22	Standard
	Al	27	10722914.4	0.9	**50.9058**	0.267	0.5	ug/L	615	Standard
	Sc	45	68677.0	1.9				ug/L	46336	Standard
	Ti	47	40964.6	1.3	**114.1742**	0.699	0.6	ug/L	20	Standard
	V	51	162133.2	3.8	**31.4836**	0.707	2.2	ug/L	893	Standard
	Cr	52	173833.9	2.5	**34.5242**	0.464	1.3	ug/L	3436	Standard
	Cr	53	39723.7	1.6	**36.7388**	0.121	0.3	ug/L	325	Standard
	Mn	55	1699010.5	1.7	**181.9684**	1.886	1.0	ug/L	949	Standard
	Co	59	69985.0	2.8	**12.1536**	0.204	1.7	ug/L	109	Standard
	Ni	60	82944.2	2.3	**36.7864**	0.208	0.6	ug/L	187	Standard
	Cu	65	51906.5	2.6	**23.4938**	0.171	0.7	ug/L	95	Standard
	Zn	66	146873.1	2.8	**119.2611**	1.311	1.1	ug/L	320	Standard
>	**Ge**	72	476416.5	1.9				ug/L	478028	Standard
	As	75	13397.6	2.0	**9.9483**	0.116	1.2	ug/L	-247	Standard
	Se	82	189.2	8.5	**1.6143**	0.125	7.8	ug/L	-45	Standard
	Se-1	77	441.0	3.2	**3.8639**	0.090	2.3	ug/L	101	Standard
>	**Ga**	71	37922.4	2.7				mg/L	38	Standard
	Rb	85	659953.0	1.3				ug/L	27	Standard
	Y	89	686352.4	2.5				ug/L	457712	Standard
>	**Rh**	103	101.7	14.2				ug/L	7	Standard
	Mo	98	53758.6	1.8	**21.3614**	0.202	0.9	ug/L	7	Standard
	Ag	107	839.7	1.7	**0.1454**	0.005	3.7	ug/L	60	Standard
	Cd	111	50.6	31.8	**0.0217**	0.009	41.6	mg/L	2	Standard
	Cd	114	366.7	10.6	**0.0625**	0.009	14.2	ug/L	28	Standard
>	**In**	115	451902.3	1.9				ug/L	514607	Standard
	Sn	118	931.7	6.4	**0.7388**	0.041	5.5	ug/L	125	Standard
	Sb	123	1069.2	5.0	**0.3459**	0.016	4.5	ug/L	14	Standard
	Ba	135	643822.9	2.1	**377.5205**	1.484	0.4	ug/L	10	Standard
	Ce	140	1037123.6	1.9				ug/L	25	Standard
>	**Tb**	159	575362.0	1.3				ug/L	648946	Standard
	Ho	165	15145.9	1.6				ug/L	2	Standard
	Tl	203	1669.4	5.2	**0.3062**	0.010	3.4	ug/L	4	Standard
	Tl	205	1788.4	8.9	**0.3276**	0.027	8.1	ug/L	0	Standard
	Pb	206	26631.4	1.5	**12.0422**	0.103	0.9	ug/L	113	Standard
	Pb	207	21338.4	1.9	**10.7176**	0.064	0.6	ug/L	88	Standard
	Pb	208	57876.2	2.4	**11.0975**	0.047	0.4	ug/L	233	Standard
	U	238	22342.5	1.0	**6.4963**	0.072	1.1	ug/L	1	Standard
>	**Bi**	209	265517.2	2.0				ug/L	321163	Standard

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	Na	23	21.7	26.6	**5.2462**	1.459	27.8	mg/L	2	Standard
	Mg	24	87138.3	2.6	**58.6443**	1.549	2.6	mg/L	48	Standard
	K	39	260.0	15.7	**2.2860**	0.391	17.1	mg/L	2	Standard
	Ca	43	148.3	11.8	**5.6897**	0.973	17.1	mg/L	38	Standard
	Fe	54	40718.8	1.4	**15.5367**	0.405	2.6	mg/L	218	Standard
	Fe	57	11759.6	2.6	**15.8633**	0.533	3.4	mg/L	283	Standard
>	**Sc-1**	45	68677.0	1.9				mg/L	46336	Standard
	Cl	35	6987.6	5.1				ug/L	7415	Standard
	Kr	83	210.7	9.0				ug/L	106	Standard
	Br	81	34255.4	3.0				ug/L	2367	Standard
	P	31	681604.1	2.3				ug/L	257843	Standard
	S	34	21358.4	6.6				ug/L	25966	Standard
	Sr	88	540.0	16.9				ug/L	92	Standard
	C	12	50.0	20.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	43.3	58.1				mg/L	0	Standard
	Dy	164	26557.9	3.5				mg/L	10	Standard
	Ho-1	165	15145.9	1.6				mg/L	2	Standard
	Er	166	13008.9	4.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		115.450	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.663	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.815
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	82.674
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ti 47 Upper, S, EEE	Ti	47	
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1310188611
Sample Date/Time: Tuesday, November 05, 2013 18:49:27
Number of Replicates: 3
Autosampler Position: 343
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	227327.0	6.3				ug/L	199689	Standard
	Be	9	41.7	18.3	**0.0091**	0.004	42.7	ug/L	22	Standard
	Al	27	29551710.2	1.5	**142.5578**	6.778	4.8	ug/L	615	Standard
	Sc	45	44502.0	3.6				ug/L	46336	Standard
	Ti	47	431.3	15.4	**1.1518**	0.229	19.9	ug/L	20	Standard
	V	51	3533.5	2.8	**0.5172**	0.007	1.3	ug/L	893	Standard
	Cr	52	7083.0	3.2	**0.7353**	0.042	5.7	ug/L	3436	Standard
	Cr	53	1148.4	24.6	**0.7844**	0.222	28.4	ug/L	325	Standard
	Mn	55	17875993.0	3.3	**1923.9621**	16.490	0.9	ug/L	949	Standard
	Co	59	28905.2	3.7	**5.0287**	0.058	1.2	ug/L	109	Standard
	Ni	60	31150.3	3.3	**13.8212**	0.136	1.0	ug/L	187	Standard
	Cu	65	2361.2	4.2	**1.0251**	0.081	7.9	ug/L	95	Standard
	Zn	66	7235.7	11.4	**5.5641**	0.446	8.0	ug/L	320	Standard
>	**Ge**	72	474398.8	3.8				ug/L	478028	Standard
	As	75	14688.6	3.0	**10.9364**	0.154	1.4	ug/L	-247	Standard
	Se	82	-1.9	323.4	**0.3003**	0.043	14.3	ug/L	-45	Standard
	Se-1	77	129.0	6.2	**0.4136**	0.035	8.4	ug/L	101	Standard
>	**Ga**	71	186.7	13.5				mg/L	38	Standard
	Rb	85	23443.1	4.5				ug/L	27	Standard
	Y	89	406539.6	4.7				ug/L	457712	Standard
>	**Rh**	103	63.3	37.3				ug/L	7	Standard
	Mo	98	5611.0	5.3	**2.1823**	0.048	2.2	ug/L	7	Standard
	Ag	107	57.7	23.1	**-0.0013**	0.002	158.7	ug/L	60	Standard
	Cd	111	7.1	88.4	**-0.0019**	0.003	170.7	mg/L	2	Standard
	Cd	114	55.7	31.1	**-0.0014**	0.004	266.1	ug/L	28	Standard
>	**In**	115	458004.4	3.2				ug/L	514607	Standard
	Sn	118	223.0	6.2	**0.0963**	0.018	18.9	ug/L	125	Standard
	Sb	123	186.8	6.1	**0.0515**	0.003	4.9	ug/L	14	Standard
	Ba	135	155498.9	2.7	**89.9644**	0.852	0.9	ug/L	10	Standard
	Ce	140	3620.4	7.4				ug/L	25	Standard
>	**Tb**	159	552013.7	3.1				ug/L	648946	Standard
	Ho	165	95.0	10.5				ug/L	2	Standard
	Tl	203	159.0	8.9	**0.0261**	0.002	7.2	ug/L	4	Standard
	Tl	205	166.7	19.5	**0.0281**	0.005	18.6	ug/L	0	Standard
	Pb	206	269.7	3.7	**0.0774**	0.004	4.5	ug/L	113	Standard
	Pb	207	221.3	9.7	**0.0601**	0.008	13.0	ug/L	88	Standard
	Pb	208	624.3	4.8	**0.0745**	0.002	3.1	ug/L	233	Standard
	U	238	851.0	0.2	**0.2407**	0.007	3.0	ug/L	1	Standard
>	**Bi**	209	269209.1	2.8				ug/L	321163	Standard

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	Na	23	165.0	18.9	**61.1992**	9.586	15.7	mg/L	2	Standard
	Mg	24	13831.3	1.6	**14.3464**	0.351	2.4	mg/L	48	Standard
	K	39	53.3	28.6	**0.6765**	0.190	28.1	mg/L	2	Standard
	Ca	43	590.0	14.7	**49.5006**	5.983	12.1	mg/L	38	Standard
	Fe	54	19187.7	1.2	**11.2725**	0.296	2.6	mg/L	218	Standard
	Fe	57	5689.4	6.1	**11.7178**	1.108	9.5	mg/L	283	Standard
>	**Sc-1**	45	44502.0	3.6				mg/L	46336	Standard
	Cl	35	9218.8	1.6				ug/L	7415	Standard
	Kr	83	93.7	5.3				ug/L	106	Standard
	Br	81	6127.9	1.6				ug/L	2367	Standard
	P	31	349346.9	5.8				ug/L	257843	Standard
	S	34	23353.0	0.4				ug/L	25966	Standard
	Sr	88	378.3	7.7				ug/L	92	Standard
	C	12	126.7	25.4				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	118.9	17.0				mg/L	10	Standard
	Ho-1	165	95.0	10.5				mg/L	2	Standard
	Er	166	93.3	16.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		113.841	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.241	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	89.001
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	83.823
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1310188612
Sample Date/Time: Tuesday, November 05, 2013 18:52:31
Number of Replicates: 3
Autosampler Position: 344
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222284.0	4.4				ug/L	199689	Standard
	Be	9	45.0	29.4	**0.0107**	0.005	44.6	ug/L	22	Standard
	Al	27	5662998.1	1.3	**27.9075**	0.974	3.5	ug/L	615	Standard
	Sc	45	43081.2	0.2				ug/L	46336	Standard
	Ti	47	2488.2	23.9	**7.0510**	1.881	26.7	ug/L	20	Standard
	V	51	3013.1	15.0	**0.4238**	0.081	19.0	ug/L	893	Standard
	Cr	52	5611.4	3.5	**0.4535**	0.008	1.7	ug/L	3436	Standard
	Cr	53	2896.9	3.4	**2.4726**	0.146	5.9	ug/L	325	Standard
	Mn	55	236561.3	4.6	**25.7478**	0.431	1.7	ug/L	949	Standard
	Co	59	2415.9	3.0	**0.4068**	0.002	0.4	ug/L	109	Standard
	Ni	60	2636.9	4.2	**1.1070**	0.015	1.3	ug/L	187	Standard
	Cu	65	1156.0	7.2	**0.4822**	0.023	4.7	ug/L	95	Standard
	Zn	66	3877.8	0.6	**2.8820**	0.076	2.6	ug/L	320	Standard
>	**Ge**	72	466824.0	2.9				ug/L	478028	Standard
	As	75	27927.7	2.8	**20.9482**	0.043	0.2	ug/L	-247	Standard
	Se	82	579.0	5.3	**4.3734**	0.112	2.6	ug/L	-45	Standard
	Se-1	77	360.0	8.4	**3.0580**	0.457	14.9	ug/L	101	Standard
>	**Ga**	71	466.7	9.7				mg/L	38	Standard
	Rb	85	25346.2	3.7				ug/L	27	Standard
	Y	89	407976.2	4.8				ug/L	457712	Standard
>	**Rh**	103	181.7	13.9				ug/L	7	Standard
	Mo	98	957963.1	2.7	**380.1269**	1.758	0.5	ug/L	7	Standard
	Ag	107	61.7	8.0	**-0.0004**	0.001	157.4	ug/L	60	Standard
	Cd	111	-563.2	2.9	**-0.3086**	0.012	3.8	mg/L	2	Standard
	Cd	114	1552.6	9.8	**0.3044**	0.023	7.6	ug/L	28	Standard
>	**In**	115	452890.7	2.8				ug/L	514607	Standard
	Sn	118	528.7	4.1	**0.3738**	0.014	3.9	ug/L	125	Standard
	Sb	123	6364.8	3.4	**2.1029**	0.025	1.2	ug/L	14	Standard
	Ba	135	583597.4	2.6	**341.4874**	3.722	1.1	ug/L	10	Standard
	Ce	140	12977.3	13.4				ug/L	25	Standard
>	**Tb**	159	549031.5	2.1				ug/L	648946	Standard
	Ho	165	73.3	27.6				ug/L	2	Standard
	Tl	203	220.7	6.2	**0.0384**	0.003	7.3	ug/L	4	Standard
	Tl	205	266.7	2.2	**0.0476**	0.002	4.7	ug/L	0	Standard
	Pb	206	641.7	7.4	**0.2505**	0.014	5.8	ug/L	113	Standard
	Pb	207	532.0	2.2	**0.2213**	0.012	5.6	ug/L	88	Standard
	Pb	208	1503.4	6.8	**0.2481**	0.017	6.8	ug/L	233	Standard
	U	238	3410.4	0.9	**0.9981**	0.018	1.8	ug/L	1	Standard
>	**Bi**	209	263014.9	2.6				ug/L	321163	Standard

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	Na	23	48.3	31.6	**18.5855**	5.844	31.4	mg/L	2	Standard
	Mg	24	83578.2	1.1	**89.6720**	0.888	1.0	mg/L	48	Standard
	K	39	51.7	14.8	**0.6809**	0.111	16.3	mg/L	2	Standard
	Ca	43	185.0	22.1	**14.1424**	3.759	26.6	mg/L	38	Standard
	Fe	54	607.1	13.2	**0.2631**	0.049	18.5	mg/L	218	Standard
	Fe	57	423.3	9.8	**0.3672**	0.093	25.4	mg/L	283	Standard
>	**Sc-1**	45	43081.2	0.2				mg/L	46336	Standard
	Cl	35	7754.0	0.5				ug/L	7415	Standard
	Kr	83	104.7	4.4				ug/L	106	Standard
	Br	81	129928.1	1.4				ug/L	2367	Standard
	P	31	306386.3	3.8				ug/L	257843	Standard
	S	34	23067.6	4.2				ug/L	25966	Standard
	Sr	88	933.4	8.5				ug/L	92	Standard
	C	12	53.3	10.8				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	189.3	24.8				mg/L	10	Standard
	Ho-1	165	73.3	27.6				mg/L	2	Standard
	Er	166	83.3	45.4				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.315	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		97.656	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	88.007
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	81.894
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mo 98 Upper, S, EEE	Mo	98	
Cd 111 Lower	Cd	111	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 18:55:38
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	217084.7	4.7				ug/L	199689	Standard
	Be	9	108750.7	2.0	**47.2032**	1.448	3.1	ug/L	22	Standard
	Al	27	8635996.8	0.3	**43.6018**	2.069	4.7	ug/L	615	Standard
	Sc	45	41998.2	3.0				ug/L	46336	Standard
	Ti	47	34060.6	2.4	**95.3515**	1.527	1.6	ug/L	20	Standard
	V	51	253538.4	4.5	**49.5534**	1.247	2.5	ug/L	893	Standard
	Cr	52	245488.5	4.3	**49.2547**	0.650	1.3	ug/L	3436	Standard
	Cr	53	53246.8	2.1	**49.5737**	0.953	1.9	ug/L	325	Standard
	Mn	55	478209.7	3.5	**51.3539**	0.611	1.2	ug/L	949	Standard
	Co	59	286739.1	4.1	**50.0802**	0.961	1.9	ug/L	109	Standard
	Ni	60	110897.5	4.2	**49.4199**	0.196	0.4	ug/L	187	Standard
	Cu	65	109820.4	2.7	**49.9964**	0.677	1.4	ug/L	95	Standard
	Zn	66	63378.4	3.8	**51.4927**	0.150	0.3	ug/L	320	Standard
>	**Ge**	72	474431.2	4.0				ug/L	478028	Standard
	As	75	67586.0	2.9	**49.6354**	0.841	1.7	ug/L	-247	Standard
	Se	82	6708.1	2.2	**46.6470**	1.137	2.4	ug/L	-45	Standard
	Se-1	77	4712.1	1.7	**51.4253**	1.224	2.4	ug/L	101	Standard
>	**Ga**	71	35.0	37.8				mg/L	38	Standard
	Rb	85	935.0	2.5				ug/L	27	Standard
	Y	89	413780.6	3.0				ug/L	457712	Standard
>	**Rh**	103	43.3	43.7				ug/L	7	Standard
	Mo	98	315944.7	2.6	**119.9141**	0.579	0.5	ug/L	7	Standard
	Ag	107	297753.4	2.8	**53.2297**	0.106	0.2	ug/L	60	Standard
	Cd	111	100365.9	2.4	**51.6080**	0.355	0.7	mg/L	2	Standard
	Cd	114	261187.4	1.3	**51.0854**	0.880	1.7	ug/L	28	Standard
>	**In**	115	473472.2	3.0				ug/L	514607	Standard
	Sn	118	60355.4	3.2	**51.9673**	0.271	0.5	ug/L	125	Standard
	Sb	123	149504.9	1.5	**47.4753**	0.735	1.5	ug/L	14	Standard
	Ba	135	89022.2	2.0	**49.8171**	0.511	1.0	ug/L	10	Standard
	Ce	140	115.0	74.3				ug/L	25	Standard
>	**Tb**	159	557581.6	3.0				ug/L	648946	Standard
	Ho	165	11.7	65.5				ug/L	2	Standard
	Tl	203	282598.0	2.4	**50.3942**	0.255	0.5	ug/L	4	Standard
	Tl	205	311111.8	0.9	**55.2419**	0.980	1.8	ug/L	0	Standard
	Pb	206	120995.4	2.2	**52.8113**	0.492	0.9	ug/L	113	Standard
	Pb	207	108410.3	2.9	**52.6050**	0.359	0.7	ug/L	88	Standard
	Pb	208	279370.0	2.4	**51.7286**	0.117	0.2	ug/L	233	Standard
	U	238	177124.7	2.5	**49.5940**	0.520	1.0	ug/L	1	Standard
>	**Bi**	209	275840.1	2.7				ug/L	321163	Standard

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	Na	23	13.3	78.1	**5.2448**	4.005	76.4	mg/L	2	Standard
	Mg	24	4345.6	5.3	**4.7494**	0.117	2.5	mg/L	48	Standard
	K	39	206.7	28.9	**2.9808**	0.836	28.0	mg/L	2	Standard
	Ca	43	76.7	16.4	**4.3520**	1.023	23.5	mg/L	38	Standard
	Fe	54	8072.4	3.6	**4.9637**	0.193	3.9	mg/L	218	Standard
	Fe	57	2530.2	6.0	**5.2061**	0.283	5.4	mg/L	283	Standard
>	**Sc-1**	45	41998.2	3.0				mg/L	46336	Standard
	Cl	35	7848.0	2.8				ug/L	7415	Standard
	Kr	83	102.7	3.9				ug/L	106	Standard
	Br	81	3017.0	12.3				ug/L	2367	Standard
	P	31	279089.5	2.3				ug/L	257843	Standard
	S	34	27179.4	0.6				ug/L	25966	Standard
	Sr	88	100.0	30.4				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	0	Standard
	Dy	164	9.7	105.8				mg/L	10	Standard
	Ho-1	165	11.7	65.5				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		108.711	
	Be	9	94.406		
	Al	27	87.204		
	Sc	45			
	Ti	47	95.351		
	V	51	99.107		
	Cr	52	98.509		
	Cr	53			
	Mn	55	102.708		
	Co	59	100.160		
	Ni	60	98.840		
	Cu	65	99.993		
	Zn	66	102.985		
>	Ge	72		99.248	
	As	75	99.271		
	Se	82	93.294		
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89		
>	Rh	103		
	Mo	98	119.914	
	Ag	107	106.459	
	Cd	111	103.216	
	Cd	114		
>	In	115		92.007
	Sn	118	103.935	
	Sb	123	94.951	
	Ba	135	99.634	
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203	100.788	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	103.457	
	U	238	99.188	
>	Bi	209		85.888
	Na	23		
	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 18:58:42
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	213480.7	4.8				ug/L	199689	Standard
	Be	9	58.3	99.3	**0.0168**	0.024	142.1	ug/L	22	Standard
	Al	27	7002.2	145.6	**0.0310**	0.050	160.2	ug/L	615	Standard
	Sc	45	40084.7	4.4				ug/L	46336	Standard
	Ti	47	24.7	79.1	**0.0088**	0.053	600.8	ug/L	20	Standard
	V	51	867.7	4.0	**0.0025**	0.015	602.4	ug/L	893	Standard
	Cr	52	3185.7	1.0	**-0.0275**	0.033	118.7	ug/L	3436	Standard
	Cr	53	215.0	12.3	**-0.0749**	0.019	25.9	ug/L	325	Standard
	Mn	55	1201.7	46.4	**0.0182**	0.056	305.7	ug/L	949	Standard
	Co	59	98.7	19.6	**-0.0042**	0.003	64.6	ug/L	109	Standard
	Ni	60	349.3	19.8	**0.0732**	0.024	32.6	ug/L	187	Standard
	Cu	65	142.0	42.2	**0.0144**	0.025	173.8	ug/L	95	Standard
	Zn	66	272.0	19.0	**-0.1105**	0.035	31.4	ug/L	320	Standard
>	**Ge**	72	453405.1	5.2				ug/L	478028	Standard
	As	75	-210.8	7.8	**0.0291**	0.017	59.0	ug/L	-247	Standard
	Se	82	-39.9	44.5	**0.0279**	0.113	403.4	ug/L	-45	Standard
	Se-1	77	90.0	8.7	**0.0285**	0.100	349.5	ug/L	101	Standard
>	**Ga**	71	26.7	28.6				mg/L	38	Standard
	Rb	85	25.0	69.3				ug/L	27	Standard
	Y	89	394299.2	4.3				ug/L	457712	Standard
>	**Rh**	103	1.7	173.2				ug/L	7	Standard
	Mo	98	122.1	104.7	**0.0288**	0.048	165.9	ug/L	7	Standard
	Ag	107	80.0	40.2	**0.0029**	0.005	181.9	ug/L	60	Standard
	Cd	111	11.8	130.3	**0.0004**	0.008	1834.9	mg/L	2	Standard
	Cd	114	66.7	83.8	**0.0007**	0.011	1509.4	ug/L	28	Standard
>	**In**	115	451671.3	4.9				ug/L	514607	Standard
	Sn	118	124.7	15.0	**0.0095**	0.013	136.7	ug/L	125	Standard
	Sb	123	307.0	39.3	**0.0913**	0.035	38.4	ug/L	14	Standard
	Ba	135	58.0	155.3	**0.0141**	0.050	355.6	ug/L	10	Standard
	Ce	140	20.0	75.0				ug/L	25	Standard
>	**Tb**	159	532362.0	5.9				ug/L	648946	Standard
	Ho	165	8.3	34.6				ug/L	2	Standard
	Tl	203	29.7	132.5	**0.0023**	0.007	296.6	ug/L	4	Standard
	Tl	205	20.0	129.9	**0.0014**	0.004	318.6	ug/L	0	Standard
	Pb	206	114.7	18.4	**0.0080**	0.007	82.2	ug/L	113	Standard
	Pb	207	90.7	33.8	**-0.0051**	0.012	243.0	ug/L	88	Standard
	Pb	208	239.7	31.7	**0.0012**	0.012	992.7	ug/L	233	Standard
	U	238	28.3	170.2	**0.0041**	0.013	321.5	ug/L	1	Standard
>	**Bi**	209	268361.3	6.0				ug/L	321163	Standard

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⌈	**Na**	23	1.7	173.2	**0.6624**	1.139	171.9	mg/L	2	Standard
|	**Mg**	24	71.7	38.4	**0.0489**	0.028	57.3	mg/L	48	Standard
|	**K**	39	5.0	100.0	**0.0175**	0.080	458.9	mg/L	2	Standard
|	**Ca**	43	25.0	20.0	**-0.3802**	0.556	146.3	mg/L	38	Standard
|	**Fe**	54	174.2	13.2	**0.0058**	0.011	186.4	mg/L	218	Standard
|	**Fe**	57	190.0	4.6	**-0.1210**	0.014	11.2	mg/L	283	Standard
⌊>	**Sc-1**	45	40084.7	4.4				mg/L	46336	Standard
	Cl	35	7855.4	3.0				ug/L	7415	Standard
	Kr	83	91.3	17.7				ug/L	106	Standard
	Br	81	2466.9	10.5				ug/L	2367	Standard
	P	31	245887.8	1.5				ug/L	257843	Standard
	S	34	26623.4	2.5				ug/L	25966	Standard
	Sr	88	86.7	3.3				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	-0.3	173.2				mg/L	10	Standard
	Ho-1	165	8.3	34.6				mg/L	2	Standard
	Er	166	6.7	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		106.907	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		94.849	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			
⌊	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	87.770
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	83.559
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310188613
Sample Date/Time: Tuesday, November 05, 2013 19:01:48
Number of Replicates: 3
Autosampler Position: 345
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	221261.9	5.4				ug/L	199689	Standard
	Be	9	36.7	15.7	**0.0073**	0.002	30.9	ug/L	22	Standard
	Al	27	8142.5	116.2	**0.0352**	0.043	123.3	ug/L	615	Standard
	Sc	45	42847.3	5.7				ug/L	46336	Standard
	Ti	47	30.0	38.4	**0.0208**	0.029	138.2	ug/L	20	Standard
	V	51	984.4	11.1	**0.0150**	0.013	86.8	ug/L	893	Standard
	Cr	52	3792.1	2.8	**0.0586**	0.013	21.9	ug/L	3436	Standard
	Cr	53	220.0	21.7	**-0.0819**	0.035	42.8	ug/L	325	Standard
	Mn	55	7710.3	14.3	**0.7050**	0.082	11.7	ug/L	949	Standard
	Co	59	98.0	30.9	**-0.0053**	0.004	84.5	ug/L	109	Standard
	Ni	60	444.0	13.9	**0.1068**	0.019	18.2	ug/L	187	Standard
	Cu	65	393.7	13.9	**0.1248**	0.017	13.7	ug/L	95	Standard
	Zn	66	2549.9	7.1	**1.7237**	0.061	3.5	ug/L	320	Standard
>	**Ge**	72	478448.3	4.1				ug/L	478028	Standard
	As	75	-203.1	19.3	**0.0435**	0.029	66.3	ug/L	-247	Standard
	Se	82	-27.8	43.2	**0.1218**	0.085	70.1	ug/L	-45	Standard
	Se-1	77	88.0	6.0	**-0.0492**	0.064	130.5	ug/L	101	Standard
>	**Ga**	71	28.3	10.2				mg/L	38	Standard
	Rb	85	53.3	53.3				ug/L	27	Standard
	Y	89	422092.9	3.4				ug/L	457712	Standard
>	**Rh**	103	8.3	34.6				ug/L	7	Standard
	Mo	98	63.8	25.3	**0.0057**	0.005	94.8	ug/L	7	Standard
	Ag	107	72.3	7.1	**0.0011**	0.001	118.0	ug/L	60	Standard
	Cd	111	7.9	13.5	**-0.0016**	0.001	38.3	mg/L	2	Standard
	Cd	114	51.4	38.8	**-0.0026**	0.004	144.2	ug/L	28	Standard
>	**In**	115	471555.0	3.3				ug/L	514607	Standard
	Sn	118	197.3	7.4	**0.0678**	0.007	10.5	ug/L	125	Standard
	Sb	123	115.5	10.0	**0.0270**	0.003	9.6	ug/L	14	Standard
	Ba	135	101.3	42.6	**0.0380**	0.022	58.4	ug/L	10	Standard
	Ce	140	43.3	83.5				ug/L	25	Standard
>	**Tb**	159	560937.7	5.0				ug/L	648946	Standard
	Ho	165	8.3	124.9				ug/L	2	Standard
	Tl	203	18.0	34.7	**0.0002**	0.001	445.0	ug/L	4	Standard
	Tl	205	10.0		**-0.0003**	0.000	18.6	ug/L	0	Standard
	Pb	206	115.0	13.4	**0.0065**	0.005	74.1	ug/L	113	Standard
	Pb	207	111.3	5.2	**0.0038**	0.004	112.1	ug/L	88	Standard
	Pb	208	266.7	10.1	**0.0050**	0.003	64.0	ug/L	233	Standard
	U	238	5.3	96.2	**-0.0022**	0.001	62.4	ug/L	1	Standard
>	**Bi**	209	277875.2	3.7				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6494**	1.116	171.9	mg/L	2	Standard
	Mg	24	86.7	46.6	**0.0592**	0.038	64.4	mg/L	48	Standard
	K	39	0.0		**-0.0621**	0.000	0.0	mg/L	2	Standard
	Ca	43	20.0	43.3	**-0.9836**	0.872	88.7	mg/L	38	Standard
	Fe	54	257.8	16.7	**0.0500**	0.025	49.9	mg/L	218	Standard
	Fe	57	170.0	16.4	**-0.1935**	0.075	39.0	mg/L	283	Standard
>	**Sc-1**	45	42847.3	5.7				mg/L	46336	Standard
	Cl	35	7967.4	3.9				ug/L	7415	Standard
	Kr	83	82.3	14.6				ug/L	106	Standard
	Br	81	2500.2	12.4				ug/L	2367	Standard
	P	31	303014.6	3.8				ug/L	257843	Standard
	S	34	26049.1	3.7				ug/L	25966	Standard
	Sr	88	86.7	14.5				ug/L	92	Standard
	C	12	13.3	114.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	13.2	44.9				mg/L	10	Standard
	Ho-1	165	8.3	124.9				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.803	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		100.088	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.634
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.522
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310188614
Sample Date/Time: Tuesday, November 05, 2013 19:04:53
Number of Replicates: 3
Autosampler Position: 346
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	227377.9	3.2				ug/L	199689	Standard
	Be	9	46.7	24.7	**0.0112**	0.006	49.2	ug/L	22	Standard
	Al	27	6822.4	93.0	**0.0300**	0.032	107.5	ug/L	615	Standard
	Sc	45	44157.6	2.0				ug/L	46336	Standard
	Ti	47	22.3	29.8	**0.0003**	0.019	7103.3	ug/L	20	Standard
	V	51	1042.4	6.5	**0.0265**	0.013	49.6	ug/L	893	Standard
	Cr	52	3977.5	0.9	**0.0954**	0.021	22.4	ug/L	3436	Standard
	Cr	53	288.3	13.9	**-0.0170**	0.044	255.9	ug/L	325	Standard
	Mn	55	6935.3	4.7	**0.6243**	0.044	7.1	ug/L	949	Standard
	Co	59	103.0	9.3	**-0.0043**	0.002	38.5	ug/L	109	Standard
	Ni	60	422.7	3.6	**0.0979**	0.011	11.5	ug/L	187	Standard
	Cu	65	382.7	9.9	**0.1199**	0.013	10.9	ug/L	95	Standard
	Zn	66	2574.2	3.2	**1.7435**	0.053	3.1	ug/L	320	Standard
>	**Ge**	72	478918.6	3.3				ug/L	478028	Standard
	As	75	-253.0	7.7	**0.0075**	0.012	158.6	ug/L	-247	Standard
	Se	82	-40.7	15.3	**0.0349**	0.037	104.7	ug/L	-45	Standard
	Se-1	77	98.0	8.2	**0.0616**	0.116	189.2	ug/L	101	Standard
>	**Ga**	71	25.0	72.1				mg/L	38	Standard
	Rb	85	46.7	12.4				ug/L	27	Standard
	Y	89	426493.2	2.4				ug/L	457712	Standard
>	**Rh**	103	13.3	21.7				ug/L	7	Standard
	Mo	98	54.4	24.9	**0.0021**	0.005	234.3	ug/L	7	Standard
	Ag	107	56.3	30.0	**-0.0019**	0.003	165.3	ug/L	60	Standard
	Cd	111	3.6	130.7	**-0.0039**	0.002	62.2	mg/L	2	Standard
	Cd	114	32.3	34.4	**-0.0064**	0.002	33.9	ug/L	28	Standard
>	**In**	115	475082.7	3.4				ug/L	514607	Standard
	Sn	118	163.7	10.3	**0.0379**	0.016	41.1	ug/L	125	Standard
	Sb	123	78.5	24.0	**0.0151**	0.006	39.0	ug/L	14	Standard
	Ba	135	105.3	42.5	**0.0402**	0.025	61.8	ug/L	10	Standard
	Ce	140	58.3	48.7				ug/L	25	Standard
>	**Tb**	159	556769.2	2.5				ug/L	648946	Standard
	Ho	165	11.7	24.7				ug/L	2	Standard
	Tl	203	12.7	77.5	**-0.0007**	0.002	246.5	ug/L	4	Standard
	Tl	205	38.3	96.1	**0.0047**	0.006	139.1	ug/L	0	Standard
	Pb	206	101.3	15.1	**0.0006**	0.007	1224.0	ug/L	113	Standard
	Pb	207	101.3	6.6	**-0.0012**	0.003	246.7	ug/L	88	Standard
	Pb	208	274.7	6.1	**0.0064**	0.003	53.5	ug/L	233	Standard
	U	238	14.7	155.5	**0.0004**	0.006	1422.0	ug/L	1	Standard
>	**Bi**	209	278891.4	2.9				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	81.7	56.9	**0.0532**	0.051	95.4	mg/L	48	Standard
K	39	3.3	173.2	**-0.0155**	0.081	519.8	mg/L	2	Standard
Ca	43	15.0	0.0	**-1.5165**	0.027	1.8	mg/L	38	Standard
Fe	54	252.7	8.8	**0.0422**	0.011	27.2	mg/L	218	Standard
Fe	57	200.0	24.1	**-0.1424**	0.097	68.2	mg/L	283	Standard
Sc-1	45	44157.6	2.0				mg/L	46336	Standard
Cl	35	8306.9	2.1				ug/L	7415	Standard
Kr	83	89.3	7.9				ug/L	106	Standard
Br	81	2746.9	8.7				ug/L	2367	Standard
P	31	310883.8	0.7				ug/L	257843	Standard
S	34	26254.4	1.2				ug/L	25966	Standard
Sr	88	65.0	15.4				ug/L	92	Standard
C	12	6.7	86.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	12.4	119.6				mg/L	10	Standard
Ho-1	165	11.7	24.7				mg/L	2	Standard
Er	166	20.0	50.0				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		113.866	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		100.186	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.320
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.838
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311004936
Sample Date/Time: Tuesday, November 05, 2013 19:07:57
Number of Replicates: 3
Autosampler Position: 347
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	229147.3	6.1				ug/L	199689	Standard
	Be	9	26.7	47.2	**0.0026**	0.005	180.7	ug/L	22	Standard
	Al	27	56147.2	22.0	**0.2635**	0.046	17.5	ug/L	615	Standard
	Sc	45	42802.1	4.0				ug/L	46336	Standard
	Ti	47	37.3	33.5	**0.0407**	0.031	76.0	ug/L	20	Standard
	V	51	1068.7	1.7	**0.0310**	0.013	40.4	ug/L	893	Standard
	Cr	52	3932.5	4.4	**0.0824**	0.006	7.3	ug/L	3436	Standard
	Cr	53	410.0	13.2	**0.0942**	0.058	61.6	ug/L	325	Standard
	Mn	55	8416.3	8.2	**0.7773**	0.050	6.4	ug/L	949	Standard
	Co	59	143.3	18.9	**0.0025**	0.004	158.1	ug/L	109	Standard
	Ni	60	470.0	9.1	**0.1174**	0.008	7.1	ug/L	187	Standard
	Cu	65	640.0	4.1	**0.2350**	0.006	2.5	ug/L	95	Standard
	Zn	66	2531.5	4.2	**1.7001**	0.050	2.9	ug/L	320	Standard
>	**Ge**	72	481109.4	5.1				ug/L	478028	Standard
	As	75	-213.9	31.8	**0.0373**	0.047	125.0	ug/L	-247	Standard
	Se	82	-27.7	50.9	**0.1254**	0.095	75.5	ug/L	-45	Standard
	Se-1	77	96.7	5.2	**0.0403**	0.044	109.8	ug/L	101	Standard
>	**Ga**	71	43.3	54.5				mg/L	38	Standard
	Rb	85	248.3	31.9				ug/L	27	Standard
	Y	89	419831.3	5.0				ug/L	457712	Standard
>	**Rh**	103	8.3	91.7				ug/L	7	Standard
	Mo	98	63.6	54.5	**0.0058**	0.014	239.0	ug/L	7	Standard
	Ag	107	83.0	15.1	**0.0028**	0.002	59.4	ug/L	60	Standard
	Cd	111	5.3	43.4	**-0.0030**	0.001	35.1	mg/L	2	Standard
	Cd	114	50.0	26.4	**-0.0029**	0.003	85.7	ug/L	28	Standard
>	**In**	115	474661.6	3.9				ug/L	514607	Standard
	Sn	118	186.7	8.6	**0.0575**	0.008	13.6	ug/L	125	Standard
	Sb	123	68.3	35.7	**0.0119**	0.008	67.2	ug/L	14	Standard
	Ba	135	580.7	6.0	**0.3056**	0.013	4.3	ug/L	10	Standard
	Ce	140	995.0	10.0				ug/L	25	Standard
>	**Tb**	159	552913.9	4.2				ug/L	648946	Standard
	Ho	165	11.7	65.5				ug/L	2	Standard
	Tl	203	39.0	17.9	**0.0040**	0.001	34.2	ug/L	4	Standard
	Tl	205	90.0	53.6	**0.0139**	0.009	63.5	ug/L	0	Standard
	Pb	206	128.3	5.5	**0.0127**	0.003	25.5	ug/L	113	Standard
	Pb	207	113.3	4.9	**0.0051**	0.004	74.8	ug/L	88	Standard
	Pb	208	373.0	13.2	**0.0251**	0.010	40.0	ug/L	233	Standard
	U	238	43.7	70.1	**0.0087**	0.009	102.0	ug/L	1	Standard
>	**Bi**	209	276457.3	5.1				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.6604**	1.135	171.9	mg/L	2	Standard
	Mg	24	471.7	6.4	**0.4779**	0.050	10.4	mg/L	48	Standard
	K	39	3.3	173.2	**-0.0131**	0.085	650.1	mg/L	2	Standard
	Ca	43	33.3	31.2	**0.2458**	1.069	434.9	mg/L	38	Standard
	Fe	54	264.2	8.3	**0.0541**	0.010	18.5	mg/L	218	Standard
	Fe	57	283.3	17.7	**0.0577**	0.092	160.0	mg/L	283	Standard
>	**Sc-1**	45	42802.1	4.0				mg/L	46336	Standard
	Cl	35	8173.5	2.7				ug/L	7415	Standard
	Kr	83	89.7	11.9				ug/L	106	Standard
	Br	81	4637.4	9.4				ug/L	2367	Standard
	P	31	309396.7	4.8				ug/L	257843	Standard
	S	34	26322.9	3.7				ug/L	25966	Standard
	Sr	88	83.3	6.9				ug/L	92	Standard
	C	12	16.7	34.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	12.5	120.2				mg/L	10	Standard
	Ho-1	165	11.7	65.5				mg/L	2	Standard
	Er	166	16.7	34.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		114.752	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		100.645	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.238
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.080
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311004938
Sample Date/Time: Tuesday, November 05, 2013 19:11:01
Number of Replicates: 3
Autosampler Position: 348
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222462.9	3.9				ug/L	199689	Standard
	Be	9	21.7	13.3	**0.0009**	0.001	100.6	ug/L	22	Standard
	Al	27	8932.6	3.4	**0.0404**	0.000	0.6	ug/L	615	Standard
	Sc	45	43631.1	3.3				ug/L	46336	Standard
	Ti	47	34.7	13.6	**0.0345**	0.013	39.0	ug/L	20	Standard
	V	51	1060.3	4.5	**0.0305**	0.013	41.7	ug/L	893	Standard
	Cr	52	3936.5	4.3	**0.0878**	0.011	13.0	ug/L	3436	Standard
	Cr	53	263.3	12.2	**-0.0398**	0.038	96.3	ug/L	325	Standard
	Mn	55	4712.7	6.2	**0.3873**	0.013	3.4	ug/L	949	Standard
	Co	59	102.7	11.1	**-0.0043**	0.002	57.9	ug/L	109	Standard
	Ni	60	416.7	6.6	**0.0952**	0.007	7.3	ug/L	187	Standard
	Cu	65	448.0	6.1	**0.1499**	0.010	6.5	ug/L	95	Standard
	Zn	66	2876.6	6.3	**1.9902**	0.064	3.2	ug/L	320	Standard
>	**Ge**	72	478190.7	3.7				ug/L	478028	Standard
	As	75	-237.2	12.0	**0.0186**	0.021	112.9	ug/L	-247	Standard
	Se	82	-35.0	12.2	**0.0731**	0.028	37.9	ug/L	-45	Standard
	Se-1	77	90.0	6.8	**-0.0249**	0.102	408.8	ug/L	101	Standard
>	**Ga**	71	33.3	31.2				mg/L	38	Standard
	Rb	85	98.3	2.9				ug/L	27	Standard
	Y	89	416225.6	4.6				ug/L	457712	Standard
>	**Rh**	103	15.0	33.3				ug/L	7	Standard
	Mo	98	20.8	26.7	**-0.0106**	0.002	17.9	ug/L	7	Standard
	Ag	107	67.3	20.2	**0.0000**	0.002	6131.0	ug/L	60	Standard
	Cd	111	4.3	35.5	**-0.0035**	0.001	24.3	mg/L	2	Standard
	Cd	114	35.8	43.1	**-0.0057**	0.003	50.7	ug/L	28	Standard
>	**In**	115	474827.1	2.8				ug/L	514607	Standard
	Sn	118	218.0	3.2	**0.0847**	0.011	12.7	ug/L	125	Standard
	Sb	123	38.7	18.1	**0.0025**	0.002	76.8	ug/L	14	Standard
	Ba	135	552.0	9.4	**0.2893**	0.023	7.8	ug/L	10	Standard
	Ce	140	155.0	17.1				ug/L	25	Standard
>	**Tb**	159	560574.0	4.0				ug/L	648946	Standard
	Ho	165	6.7	173.2				ug/L	2	Standard
	Tl	203	22.3	26.2	**0.0010**	0.001	87.1	ug/L	4	Standard
	Tl	205	28.3	20.4	**0.0029**	0.001	27.7	ug/L	0	Standard
	Pb	206	152.3	8.3	**0.0228**	0.004	18.9	ug/L	113	Standard
	Pb	207	113.3	4.9	**0.0048**	0.002	46.0	ug/L	88	Standard
	Pb	208	287.7	3.5	**0.0090**	0.004	44.1	ug/L	233	Standard
	U	238	2.0	86.6	**-0.0031**	0.000	16.1	ug/L	1	Standard
>	**Bi**	209	277725.2	4.2				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	333.3	8.3	**0.3206**	0.031	9.8	mg/L	48	Standard
K	39	6.7	43.3	**0.0335**	0.045	133.1	mg/L	2	Standard
Ca	43	21.7	104.1	**-0.9164**	1.980	216.1	mg/L	38	Standard
Fe	54	239.6	11.1	**0.0361**	0.013	35.6	mg/L	218	Standard
Fe	57	215.0	15.2	**-0.1043**	0.057	54.3	mg/L	283	Standard
> **Sc-1**	45	43631.1	3.3				mg/L	46336	Standard
Cl	35	8276.9	5.5				ug/L	7415	Standard
Kr	83	84.3	7.7				ug/L	106	Standard
Br	81	3160.3	12.8				ug/L	2367	Standard
P	31	306515.1	3.5				ug/L	257843	Standard
S	34	25312.8	2.8				ug/L	25966	Standard
Sr	88	88.3	28.5				ug/L	92	Standard
C	12	23.3	99.0				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	3.2	173.2				mg/L	10	Standard
Ho-1	165	6.7	173.2				mg/L	2	Standard
Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		111.405	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		100.034	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.270
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	86.475
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1311005101
Sample Date/Time: Tuesday, November 05, 2013 19:14:05
Number of Replicates: 3
Autosampler Position: 349
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	227174.0	1.7				ug/L	199689	Standard
	Be	9	26.7	43.3	**0.0027**	0.005	166.5	ug/L	22	Standard
	Al	27	10895435.2	1.9	**52.4977**	1.244	2.4	ug/L	615	Standard
	Sc	45	44995.0	1.0				ug/L	46336	Standard
	Ti	47	284.0	4.6	**0.7374**	0.023	3.1	ug/L	20	Standard
	V	51	8085.2	5.7	**1.4175**	0.062	4.4	ug/L	893	Standard
	Cr	52	8334.3	3.1	**0.9981**	0.020	2.0	ug/L	3436	Standard
	Cr	53	2615.2	5.5	**2.1780**	0.182	8.3	ug/L	325	Standard
	Mn	55	5490.3	1.8	**0.4785**	0.014	2.9	ug/L	949	Standard
	Co	59	555.0	8.7	**0.0753**	0.006	8.6	ug/L	109	Standard
	Ni	60	2897.6	5.1	**1.2108**	0.041	3.3	ug/L	187	Standard
	Cu	65	1061.4	5.6	**0.4340**	0.036	8.4	ug/L	95	Standard
	Zn	66	6202.6	3.0	**4.7573**	0.123	2.6	ug/L	320	Standard
>	**Ge**	72	471905.8	2.0				ug/L	478028	Standard
	As	75	2708.5	4.0	**2.1818**	0.047	2.1	ug/L	-247	Standard
	Se	82	1110.0	3.8	**8.0149**	0.171	2.1	ug/L	-45	Standard
	Se-1	77	270.7	8.7	**2.0105**	0.319	15.9	ug/L	101	Standard
>	**Ga**	71	35.0	14.3				mg/L	38	Standard
	Rb	85	17803.8	1.3				ug/L	27	Standard
	Y	89	412077.3	2.5				ug/L	457712	Standard
>	**Rh**	103	96.7	14.9				ug/L	7	Standard
	Mo	98	1811.0	2.8	**0.6883**	0.012	1.7	ug/L	7	Standard
	Ag	107	135.0	3.2	**0.0129**	0.001	4.3	ug/L	60	Standard
	Cd	111	14.1	25.6	**0.0018**	0.002	111.8	mg/L	2	Standard
	Cd	114	51.3	24.6	**-0.0023**	0.003	116.4	ug/L	28	Standard
>	**In**	115	460435.8	1.7				ug/L	514607	Standard
	Sn	118	199.3	4.7	**0.0739**	0.008	10.7	ug/L	125	Standard
	Sb	123	99.5	7.4	**0.0228**	0.003	12.5	ug/L	14	Standard
	Ba	135	54816.3	1.9	**31.5299**	0.076	0.2	ug/L	10	Standard
	Ce	140	200.0	27.8				ug/L	25	Standard
>	**Tb**	159	548672.5	1.5				ug/L	648946	Standard
	Ho	165	11.7	24.7				ug/L	2	Standard
	Tl	203	160.3	15.9	**0.0264**	0.005	20.2	ug/L	4	Standard
	Tl	205	223.3	11.3	**0.0385**	0.005	13.1	ug/L	0	Standard
	Pb	206	146.7	6.7	**0.0223**	0.005	24.0	ug/L	113	Standard
	Pb	207	139.0	7.6	**0.0190**	0.004	18.8	ug/L	88	Standard
	Pb	208	352.7	7.1	**0.0228**	0.005	21.9	ug/L	233	Standard
	U	238	1533.1	2.3	**0.4351**	0.006	1.4	ug/L	1	Standard
>	**Bi**	209	269912.0	2.6				ug/L	321163	Standard

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	Na	23	78.3	7.4	**28.8430**	2.040	7.1	mg/L	2	Standard
	Mg	24	11537.7	0.6	**11.8243**	0.077	0.7	mg/L	48	Standard
	K	39	56.7	28.4	**0.7174**	0.218	30.3	mg/L	2	Standard
	Ca	43	393.3	4.8	**31.7686**	2.007	6.3	mg/L	38	Standard
	Fe	54	349.0	21.3	**0.0958**	0.042	43.9	mg/L	218	Standard
	Fe	57	473.3	3.7	**0.4338**	0.041	9.4	mg/L	283	Standard
>	**Sc-1**	45	44995.0	1.0				mg/L	46336	Standard
	Cl	35	8282.3	0.8				ug/L	7415	Standard
	Kr	83	93.0	4.9				ug/L	106	Standard
	Br	81	211776.4	0.4				ug/L	2367	Standard
	P	31	390324.0	1.0				ug/L	257843	Standard
	S	34	23241.2	2.2				ug/L	25966	Standard
	Sr	88	531.7	8.7				ug/L	92	Standard
	C	12	20.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	83.3	48.5				mg/L	0	Standard
	Dy	164	5.5	203.1				mg/L	10	Standard
	Ho-1	165	11.7	24.7				mg/L	2	Standard
	Er	166	23.3	24.7				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		113.764	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.719	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.473
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.042
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Approved: November 06, 2013

Method 6020 - Summary Report

Sample ID: L1311005102
Sample Date/Time: Tuesday, November 05, 2013 19:17:10
Number of Replicates: 3
Autosampler Position: 350
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	224514.5	0.3				ug/L	199689	Standard
	Be	9	30.0	44.1	**0.0043**	0.006	129.0	ug/L	22	Standard
	Al	27	5228493.6	1.3	**25.4849**	0.307	1.2	ug/L	615	Standard
	Sc	45	46419.4	4.6				ug/L	46336	Standard
	Ti	47	584.0	5.2	**1.5771**	0.123	7.8	ug/L	20	Standard
	V	51	15340.3	3.1	**2.8358**	0.070	2.5	ug/L	893	Standard
	Cr	52	14686.5	3.6	**2.2847**	0.058	2.5	ug/L	3436	Standard
	Cr	53	3463.7	5.5	**2.9596**	0.151	5.1	ug/L	325	Standard
	Mn	55	9538.0	5.6	**0.9116**	0.044	4.8	ug/L	949	Standard
	Co	59	332.7	8.5	**0.0360**	0.005	13.4	ug/L	109	Standard
	Ni	60	4944.5	4.7	**2.1207**	0.093	4.4	ug/L	187	Standard
	Cu	65	699.0	3.0	**0.2661**	0.004	1.5	ug/L	95	Standard
	Zn	66	6418.4	2.6	**4.9128**	0.130	2.6	ug/L	320	Standard
>	**Ge**	72	473964.0	2.7				ug/L	478028	Standard
	As	75	1298.8	4.6	**1.1417**	0.041	3.6	ug/L	-247	Standard
	Se	82	149.9	17.0	**1.3462**	0.154	11.4	ug/L	-45	Standard
	Se-1	77	222.3	8.5	**1.4576**	0.247	16.9	ug/L	101	Standard
>	**Ga**	71	40.0	45.1				mg/L	38	Standard
	Rb	85	29902.9	6.2				ug/L	27	Standard
	Y	89	405904.6	3.6				ug/L	457712	Standard
>	**Rh**	103	56.7	35.7				ug/L	7	Standard
	Mo	98	5084.7	4.4	**1.9487**	0.063	3.3	ug/L	7	Standard
	Ag	107	62.3	12.1	**-0.0006**	0.001	258.5	ug/L	60	Standard
	Cd	111	25.9	22.2	**0.0079**	0.003	34.9	mg/L	2	Standard
	Cd	114	86.9	36.8	**0.0046**	0.006	132.8	ug/L	28	Standard
>	**In**	115	464448.9	2.1				ug/L	514607	Standard
	Sn	118	238.7	9.0	**0.1069**	0.017	16.3	ug/L	125	Standard
	Sb	123	243.8	9.9	**0.0691**	0.007	9.6	ug/L	14	Standard
	Ba	135	93664.4	2.5	**53.4228**	0.571	1.1	ug/L	10	Standard
	Ce	140	1010.0	3.1				ug/L	25	Standard
>	**Tb**	159	557930.9	3.0				ug/L	648946	Standard
	Ho	165	18.3	31.5				ug/L	2	Standard
	Tl	203	146.7	10.6	**0.0233**	0.002	9.3	ug/L	4	Standard
	Tl	205	150.0	13.3	**0.0247**	0.003	13.1	ug/L	0	Standard
	Pb	206	254.3	3.9	**0.0685**	0.004	5.5	ug/L	113	Standard
	Pb	207	200.0	13.6	**0.0478**	0.013	26.9	ug/L	88	Standard
	Pb	208	556.7	6.1	**0.0597**	0.004	7.5	ug/L	233	Standard
	U	238	1277.7	5.7	**0.3562**	0.012	3.5	ug/L	1	Standard
>	**Bi**	209	274109.8	2.7				ug/L	321163	Standard

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	Na	23	58.3	13.1	**20.8086**	2.364	11.4	mg/L	2	Standard
	Mg	24	7213.4	2.1	**7.1579**	0.175	2.4	mg/L	48	Standard
	K	39	70.0	35.7	**0.8801**	0.357	40.6	mg/L	2	Standard
	Ca	43	255.0	7.1	**18.8759**	0.529	2.8	mg/L	38	Standard
	Fe	54	240.5	13.7	**0.0278**	0.015	53.2	mg/L	218	Standard
	Fe	57	318.3	7.7	**0.0819**	0.034	41.4	mg/L	283	Standard
>	**Sc-1**	45	46419.4	4.6				mg/L	46336	Standard
	Cl	35	7672.6	3.7				ug/L	7415	Standard
	Kr	83	82.0	13.2				ug/L	106	Standard
	Br	81	15244.3	3.0				ug/L	2367	Standard
	P	31	445269.0	1.6				ug/L	257843	Standard
	S	34	23349.7	2.6				ug/L	25966	Standard
	Sr	88	348.3	9.8				ug/L	92	Standard
	C	12	6.7	86.6				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	50.0	40.0				mg/L	0	Standard
	Dy	164	33.2	46.7				mg/L	10	Standard
	Ho-1	165	18.3	31.5				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.432	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.150	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	90.253
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	85.349
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1311005102
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Method 6020 - Summary Report

Sample ID: L1311005103
Sample Date/Time: Tuesday, November 05, 2013 19:20:14
Number of Replicates: 3
Autosampler Position: 351
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	225165.7	5.5				ug/L	199689	Standard
	Be	9	48.3	43.1	**0.0121**	0.009	76.5	ug/L	22	Standard
	Al	27	5482786.3	2.3	**26.6819**	0.992	3.7	ug/L	615	Standard
	Sc	45	45578.5	4.2				ug/L	46336	Standard
	Ti	47	370.3	4.7	**0.9793**	0.015	1.6	ug/L	20	Standard
	V	51	11269.7	4.8	**2.0431**	0.039	1.9	ug/L	893	Standard
	Cr	52	7134.3	4.0	**0.7510**	0.012	1.6	ug/L	3436	Standard
	Cr	53	2510.2	8.9	**2.0715**	0.135	6.5	ug/L	325	Standard
	Mn	55	11220.7	66.2	**1.0824**	0.755	69.7	ug/L	949	Standard
	Co	59	361.7	18.7	**0.0411**	0.010	23.7	ug/L	109	Standard
	Ni	60	1739.8	3.9	**0.6908**	0.006	0.8	ug/L	187	Standard
	Cu	65	1257.4	4.7	**0.5225**	0.009	1.7	ug/L	95	Standard
	Zn	66	6013.2	3.0	**4.5968**	0.029	0.6	ug/L	320	Standard
>	**Ge**	72	472384.5	3.2				ug/L	478028	Standard
	As	75	740.0	11.4	**0.7335**	0.047	6.4	ug/L	-247	Standard
	Se	82	235.0	14.6	**1.9380**	0.186	9.6	ug/L	-45	Standard
	Se-1	77	261.0	8.0	**1.9015**	0.314	16.5	ug/L	101	Standard
>	**Ga**	71	36.7	56.8				mg/L	38	Standard
	Rb	85	25656.7	4.4				ug/L	27	Standard
	Y	89	413689.8	4.3				ug/L	457712	Standard
>	**Rh**	103	65.0	40.7				ug/L	7	Standard
	Mo	98	2703.1	3.4	**1.0348**	0.005	0.5	ug/L	7	Standard
	Ag	107	97.0	15.6	**0.0058**	0.002	42.5	ug/L	60	Standard
	Cd	111	19.6	28.8	**0.0047**	0.003	69.7	mg/L	2	Standard
	Cd	114	76.0	15.3	**0.0026**	0.003	105.5	ug/L	28	Standard
>	**In**	115	461213.4	3.0				ug/L	514607	Standard
	Sn	118	209.7	5.6	**0.0826**	0.007	8.1	ug/L	125	Standard
	Sb	123	146.5	7.2	**0.0380**	0.003	7.7	ug/L	14	Standard
	Ba	135	50529.8	3.0	**29.0150**	0.136	0.5	ug/L	10	Standard
	Ce	140	485.0	11.2				ug/L	25	Standard
>	**Tb**	159	553070.6	3.4				ug/L	648946	Standard
	Ho	165	11.7	24.7				ug/L	2	Standard
	Tl	203	147.3	11.2	**0.0236**	0.003	11.4	ug/L	4	Standard
	Tl	205	170.0	18.4	**0.0283**	0.005	17.4	ug/L	0	Standard
	Pb	206	236.0	12.5	**0.0610**	0.013	20.8	ug/L	113	Standard
	Pb	207	201.3	0.3	**0.0490**	0.002	3.8	ug/L	88	Standard
	Pb	208	551.3	2.7	**0.0593**	0.002	3.3	ug/L	233	Standard
	U	238	622.3	3.6	**0.1726**	0.004	2.2	ug/L	1	Standard
>	**Bi**	209	272710.1	2.1				ug/L	321163	Standard

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	Na	23	63.3	38.9	**23.0348**	8.937	38.8	mg/L	2	Standard
	Mg	24	8916.0	5.3	**9.0135**	0.351	3.9	mg/L	48	Standard
	K	39	45.0	19.2	**0.5474**	0.095	17.3	mg/L	2	Standard
	Ca	43	225.0	17.6	**16.7796**	4.008	23.9	mg/L	38	Standard
	Fe	54	280.8	8.1	**0.0542**	0.017	31.1	mg/L	218	Standard
	Fe	57	371.7	8.8	**0.2095**	0.101	48.4	mg/L	283	Standard
>	**Sc-1**	45	45578.5	4.2				mg/L	46336	Standard
	Cl	35	7917.4	6.3				ug/L	7415	Standard
	Kr	83	88.3	9.1				ug/L	106	Standard
	Br	81	37880.6	0.7				ug/L	2367	Standard
	P	31	411350.1	4.1				ug/L	257843	Standard
	S	34	23902.2	1.5				ug/L	25966	Standard
	Sr	88	353.3	24.9				ug/L	92	Standard
	C	12	26.7	142.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	8.9	120.7				mg/L	10	Standard
	Ho-1	165	11.7	24.7				mg/L	2	Standard
	Er	166	23.3	65.5				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.758	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		98.819	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	89.624
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	84.913
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310187711
Sample Date/Time: Tuesday, November 05, 2013 19:23:18
Number of Replicates: 3
Autosampler Position: 352
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	198213.3	1.4				ug/L	199689	Standard
	Be	9	21.7	13.3	**0.0020**	0.001	66.9	ug/L	22	Standard
	Al	27	391063.2	1.5	**2.1558**	0.012	0.6	ug/L	615	Standard
	Sc	45	37324.3	3.4				ug/L	46336	Standard
	Ti	47	23.0	26.4	**0.0113**	0.021	183.6	ug/L	20	Standard
	V	51	921.2	4.9	**0.0284**	0.014	50.5	ug/L	893	Standard
	Cr	52	3253.3	2.2	**0.0420**	0.034	81.6	ug/L	3436	Standard
	Cr	53	285.0	8.0	**0.0169**	0.032	188.8	ug/L	325	Standard
	Mn	55	75117.1	1.0	**9.0241**	0.139	1.5	ug/L	949	Standard
	Co	59	234.0	8.5	**0.0242**	0.005	21.2	ug/L	109	Standard
	Ni	60	375.0	4.4	**0.1000**	0.004	3.8	ug/L	187	Standard
	Cu	65	141.7	16.7	**0.0202**	0.010	51.6	ug/L	95	Standard
	Zn	66	1374.4	1.2	**0.9288**	0.046	5.0	ug/L	320	Standard
>	**Ge**	72	419714.5	2.5				ug/L	478028	Standard
	As	75	-159.6	18.8	**0.0587**	0.026	43.6	ug/L	-247	Standard
	Se	82	-24.3	20.9	**0.1227**	0.042	34.0	ug/L	-45	Standard
	Se-1	77	99.3	21.9	**0.2278**	0.268	117.8	ug/L	101	Standard
>	**Ga**	71	20.0	66.1				mg/L	38	Standard
	Rb	85	73.3	17.2				ug/L	27	Standard
	Y	89	368184.8	2.4				ug/L	457712	Standard
>	**Rh**	103	6.7	86.6				ug/L	7	Standard
	Mo	98	13.2	22.2	**-0.0128**	0.001	9.9	ug/L	7	Standard
	Ag	107	51.0	5.2	**-0.0017**	0.001	44.8	ug/L	60	Standard
	Cd	111	4.7	44.8	**-0.0030**	0.001	38.2	mg/L	2	Standard
	Cd	114	20.5	28.2	**-0.0082**	0.001	17.0	ug/L	28	Standard
>	**In**	115	420386.9	2.2				ug/L	514607	Standard
	Sn	118	106.3	10.4	**0.0003**	0.010	3257.1	ug/L	125	Standard
	Sb	123	17.0	57.8	**-0.0036**	0.004	100.5	ug/L	14	Standard
	Ba	135	4350.6	2.5	**2.7239**	0.019	0.7	ug/L	10	Standard
	Ce	140	98.3	2.9				ug/L	25	Standard
>	**Tb**	159	497832.2	2.2				ug/L	648946	Standard
	Ho	165	10.0	50.0				ug/L	2	Standard
	Tl	203	39.3	18.7	**0.0046**	0.001	28.9	ug/L	4	Standard
	Tl	205	53.3	42.3	**0.0082**	0.005	55.1	ug/L	0	Standard
	Pb	206	93.0	4.3	**0.0007**	0.003	420.1	ug/L	113	Standard
	Pb	207	75.7	7.3	**-0.0102**	0.002	15.8	ug/L	88	Standard
	Pb	208	216.0	11.1	**-0.0008**	0.003	413.6	ug/L	233	Standard
	U	238	24.7	12.4	**0.0038**	0.001	17.8	ug/L	1	Standard
>	**Bi**	209	255160.7	3.2				ug/L	321163	Standard

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	Na	23	1.7	173.2	**0.7198**	1.238	172.0	mg/L	2	Standard
	Mg	24	496.7	10.1	**0.5831**	0.070	12.0	mg/L	48	Standard
	K	39	5.0	100.0	**0.0191**	0.080	420.3	mg/L	2	Standard
	Ca	43	38.3	19.9	**1.1964**	0.745	62.3	mg/L	38	Standard
	Fe	54	137.5	18.0	**-0.0113**	0.018	160.8	mg/L	218	Standard
	Fe	57	246.7	15.2	**0.0607**	0.117	193.3	mg/L	283	Standard
>	**Sc-1**	45	37324.3	3.4				mg/L	46336	Standard
	Cl	35	7541.2	1.4				ug/L	7415	Standard
	Kr	83	81.7	11.0				ug/L	106	Standard
	Br	81	3927.2	0.4				ug/L	2367	Standard
	P	31	105959.3	2.0				ug/L	257843	Standard
	S	34	25007.3	3.0				ug/L	25966	Standard
	Sr	88	80.0	27.2				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	6.3	93.2				mg/L	10	Standard
	Ho-1	165	10.0	50.0				mg/L	2	Standard
	Er	166	6.7	86.6				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		99.261	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		87.801	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	81.691
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	79.449
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1310187714
Sample Date/Time: Tuesday, November 05, 2013 19:26:23
Number of Replicates: 3
Autosampler Position: 353
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	197869.4	2.9				ug/L	199689	Standard
	Be	9	18.3	31.5	**0.0005**	0.003	588.4	ug/L	22	Standard
	Al	27	177618.4	0.9	**0.9793**	0.021	2.1	ug/L	615	Standard
	Sc	45	36988.5	4.2				ug/L	46336	Standard
	Ti	47	23.7	23.3	**0.0126**	0.019	151.8	ug/L	20	Standard
	V	51	997.2	5.6	**0.0428**	0.012	28.7	ug/L	893	Standard
	Cr	52	3332.4	1.1	**0.0520**	0.010	18.9	ug/L	3436	Standard
	Cr	53	183.3	1.6	**-0.0931**	0.002	2.4	ug/L	325	Standard
	Mn	55	31233.5	3.5	**3.6446**	0.045	1.2	ug/L	949	Standard
	Co	59	191.3	7.1	**0.0153**	0.003	20.7	ug/L	109	Standard
	Ni	60	479.3	3.5	**0.1502**	0.004	2.6	ug/L	187	Standard
	Cu	65	147.0	7.8	**0.0223**	0.005	22.5	ug/L	95	Standard
	Zn	66	1680.8	2.4	**1.1956**	0.004	0.3	ug/L	320	Standard
>	**Ge**	72	423999.5	2.4				ug/L	478028	Standard
	As	75	-204.2	32.2	**0.0243**	0.052	211.7	ug/L	-247	Standard
	Se	82	-31.7	43.6	**0.0691**	0.104	150.5	ug/L	-45	Standard
	Se-1	77	85.0	14.5	**0.0401**	0.179	445.8	ug/L	101	Standard
>	**Ga**	71	41.7	6.9				mg/L	38	Standard
	Rb	85	130.0	35.3				ug/L	27	Standard
	Y	89	368101.7	4.4				ug/L	457712	Standard
>	**Rh**	103	5.0	100.0				ug/L	7	Standard
	Mo	98	18.5	22.0	**-0.0105**	0.002	17.8	ug/L	7	Standard
	Ag	107	55.7	8.9	**-0.0007**	0.001	102.0	ug/L	60	Standard
	Cd	111	4.3	75.0	**-0.0032**	0.002	61.3	mg/L	2	Standard
	Cd	114	26.2	34.5	**-0.0069**	0.002	27.2	ug/L	28	Standard
>	**In**	115	420614.6	2.6				ug/L	514607	Standard
	Sn	118	142.7	10.1	**0.0358**	0.017	48.8	ug/L	125	Standard
	Sb	123	44.2	6.9	**0.0061**	0.001	15.1	ug/L	14	Standard
	Ba	135	5410.0	3.4	**3.3895**	0.027	0.8	ug/L	10	Standard
	Ce	140	71.7	26.4				ug/L	25	Standard
>	**Tb**	159	500083.2	2.3				ug/L	648946	Standard
	Ho	165	6.7	114.6				ug/L	2	Standard
	Tl	203	10.3	39.1	**-0.0010**	0.001	73.3	ug/L	4	Standard
	Tl	205	6.7	86.6	**-0.0008**	0.001	133.9	ug/L	0	Standard
	Pb	206	107.0	4.9	**0.0066**	0.002	28.0	ug/L	113	Standard
	Pb	207	95.0	16.3	**-0.0006**	0.009	1473.2	ug/L	88	Standard
	Pb	208	245.3	5.6	**0.0045**	0.002	38.6	ug/L	233	Standard
	U	238	19.3	33.3	**0.0021**	0.002	84.6	ug/L	1	Standard
>	**Bi**	209	258595.0	2.6				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	296.7	6.4	**0.3389**	0.037	11.0	mg/L	48	Standard
K	39	1.7	173.2	**-0.0345**	0.048	138.1	mg/L	2	Standard
Ca	43	31.7	18.2	**0.5442**	0.716	131.6	mg/L	38	Standard
Fe	54	102.6	36.6	**-0.0355**	0.026	72.5	mg/L	218	Standard
Fe	57	263.3	14.7	**0.1056**	0.079	74.4	mg/L	283	Standard
Sc-1	45	36988.5	4.2				mg/L	46336	Standard
Cl	35	7962.1	1.6				ug/L	7415	Standard
Kr	83	86.7	9.8				ug/L	106	Standard
Br	81	2450.2	7.1				ug/L	2367	Standard
P	31	110723.3	2.9				ug/L	257843	Standard
S	34	26414.7	0.7				ug/L	25966	Standard
Sr	88	61.7	40.8				ug/L	92	Standard
C	12	0.0					mg/L	10	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	9.2	195.8				mg/L	10	Standard
Ho-1	165	6.7	114.6				mg/L	2	Standard
Er	166	16.7	91.7				mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		99.089	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		88.698	
As	75			
Se	82			
Se-1	77			
> Ga	71			
Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	81.735
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	80.518
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Tuesday, November 05, 2013 19:29:28
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	221006.8	3.9				ug/L	199689	Standard
	Be	9	110955.0	3.0	**47.2753**	0.707	1.5	ug/L	22	Standard
	Al	27	8675872.5	3.7	**42.9692**	0.756	1.8	ug/L	615	Standard
	Sc	45	43079.5	3.4				ug/L	46336	Standard
	Ti	47	34313.2	2.7	**96.6172**	1.144	1.2	ug/L	20	Standard
	V	51	257127.1	5.4	**50.5527**	1.925	3.8	ug/L	893	Standard
	Cr	52	247761.2	5.7	**50.0182**	2.145	4.3	ug/L	3436	Standard
	Cr	53	53258.5	1.9	**49.8806**	1.031	2.1	ug/L	325	Standard
	Mn	55	483368.9	3.2	**52.2219**	0.877	1.7	ug/L	949	Standard
	Co	59	293630.4	3.9	**51.5913**	1.218	2.4	ug/L	109	Standard
	Ni	60	111519.3	3.7	**50.0049**	1.045	2.1	ug/L	187	Standard
	Cu	65	111587.5	5.2	**51.0879**	1.878	3.7	ug/L	95	Standard
	Zn	66	63971.6	4.3	**52.2921**	1.476	2.8	ug/L	320	Standard
>	**Ge**	72	471443.7	1.6				ug/L	478028	Standard
	As	75	67944.3	3.2	**50.1865**	0.871	1.7	ug/L	-247	Standard
	Se	82	6851.5	3.8	**47.9000**	1.056	2.2	ug/L	-45	Standard
	Se-1	77	4756.1	3.5	**52.2076**	1.077	2.1	ug/L	101	Standard
>	**Ga**	71	61.7	47.5				mg/L	38	Standard
	Rb	85	1125.0	8.6				ug/L	27	Standard
	Y	89	412565.1	2.3				ug/L	457712	Standard
>	**Rh**	103	33.3	22.9				ug/L	7	Standard
	Mo	98	314818.6	4.1	**120.8604**	3.533	2.9	ug/L	7	Standard
	Ag	107	300608.1	3.7	**54.3619**	1.369	2.5	ug/L	60	Standard
	Cd	111	101350.5	3.1	**52.7146**	1.017	1.9	mg/L	2	Standard
	Cd	114	262087.0	3.7	**51.8411**	1.468	2.8	ug/L	28	Standard
>	**In**	115	467953.4	1.3				ug/L	514607	Standard
	Sn	118	61469.9	3.7	**53.5503**	1.596	3.0	ug/L	125	Standard
	Sb	123	149756.4	2.6	**48.0966**	0.697	1.4	ug/L	14	Standard
	Ba	135	89068.2	3.0	**50.4140**	0.920	1.8	ug/L	10	Standard
	Ce	140	76.7	33.5				ug/L	25	Standard
>	**Tb**	159	551621.8	2.2				ug/L	648946	Standard
	Ho	165	3.3	86.6				ug/L	2	Standard
	Tl	203	280815.9	3.6	**50.1275**	1.143	2.3	ug/L	4	Standard
	Tl	205	312428.6	3.1	**55.5203**	0.954	1.7	ug/L	0	Standard
	Pb	206	120062.7	4.0	**52.4531**	1.415	2.7	ug/L	113	Standard
	Pb	207	107881.3	3.1	**52.4080**	0.897	1.7	ug/L	88	Standard
	Pb	208	279727.9	2.4	**51.8542**	0.610	1.2	ug/L	233	Standard
	U	238	175332.9	2.2	**49.1484**	0.507	1.0	ug/L	1	Standard
>	**Bi**	209	275489.9	1.3				ug/L	321163	Standard

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	Na	23	5.0	100.0	**1.8858**	1.868	99.1	mg/L	2	Standard
	Mg	24	4482.3	3.3	**4.7849**	0.306	6.4	mg/L	48	Standard
	K	39	198.3	8.9	**2.7875**	0.193	6.9	mg/L	2	Standard
	Ca	43	58.3	9.9	**2.4955**	0.406	16.3	mg/L	38	Standard
	Fe	54	8428.7	2.8	**5.0543**	0.115	2.3	mg/L	218	Standard
	Fe	57	2496.9	4.1	**4.9888**	0.201	4.0	mg/L	283	Standard
>	**Sc-1**	45	43079.5	3.4				mg/L	46336	Standard
	Cl	35	8631.8	3.5				ug/L	7415	Standard
	Kr	83	93.0	7.5				ug/L	106	Standard
	Br	81	2366.9	8.8				ug/L	2367	Standard
	P	31	314586.0	1.3				ug/L	257843	Standard
	S	34	29580.5	3.1				ug/L	25966	Standard
	Sr	88	105.0	8.2				ug/L	92	Standard
	C	12	3.3	173.2				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	0	Standard
	Dy	164	6.5	93.0				mg/L	10	Standard
	Ho-1	165	3.3	86.6				mg/L	2	Standard
	Er	166	3.3	173.2				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.676	
	Be	9	94.551		
	Al	27	85.938		
	Sc	45			
	Ti	47	96.617		
	V	51	101.105		
	Cr	52	100.036		
	Cr	53			
	Mn	55	104.444		
	Co	59	103.183		
	Ni	60	100.010		
	Cu	65	102.176		
	Zn	66	104.584		
>	Ge	72		98.623	
	As	75	100.373		
	Se	82	95.800		
	Se-1	77			
>	Ga	71			
	Rb	85			

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Y	89			
> Rh	103			
Mo	98	120.860		
Ag	107	108.724		
Cd	111	105.429		
Cd	114			
> In	115		90.934	
Sn	118	107.101		
Sb	123	96.193		
Ba	135	100.828		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	100.255		
Tl	205			
Pb	206			
Pb	207			
Pb	208	103.708		
U	238	98.297		
> Bi	209		85.779	
Na	23			
Mg	24			
K	39			
Ca	43			
Fe	54			
Fe	57			
> Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			
Dy	164			
Ho-1	165			
Er	166			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Tuesday, November 05, 2013 19:32:33
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	212227.1	3.3				ug/L	199689	Standard
	Be	9	40.0		**0.0095**	0.001	6.2	ug/L	22	Standard
	Al	27	1085.0	9.4	**0.0020**	0.001	25.6	ug/L	615	Standard
	Sc	45	40143.3	6.9				ug/L	46336	Standard
	Ti	47	14.0	12.4	**-0.0202**	0.003	17.1	ug/L	20	Standard
	V	51	904.3	4.8	**0.0128**	0.005	37.5	ug/L	893	Standard
	Cr	52	3150.0	3.1	**-0.0240**	0.015	63.7	ug/L	3436	Standard
	Cr	53	123.3	19.2	**-0.1628**	0.018	10.8	ug/L	325	Standard
	Mn	55	916.0	6.1	**-0.0107**	0.002	18.8	ug/L	949	Standard
	Co	59	96.7	11.3	**-0.0042**	0.001	28.4	ug/L	109	Standard
	Ni	60	291.3	7.6	**0.0494**	0.012	24.8	ug/L	187	Standard
	Cu	65	107.0	31.3	**-0.0011**	0.014	1203.6	ug/L	95	Standard
	Zn	66	234.0	8.7	**-0.1390**	0.009	6.2	ug/L	320	Standard
>	**Ge**	72	445643.9	5.0				ug/L	478028	Standard
	As	75	-250.1	12.0	**-0.0038**	0.020	518.2	ug/L	-247	Standard
	Se	82	-36.4	47.4	**0.0477**	0.115	241.5	ug/L	-45	Standard
	Se-1	77	96.7	14.1	**0.1283**	0.197	153.5	ug/L	101	Standard
>	**Ga**	71	18.3	41.7				mg/L	38	Standard
	Rb	85	16.7	17.3				ug/L	27	Standard
	Y	89	387943.5	5.5				ug/L	457712	Standard
>	**Rh**	103	1.7	173.2				ug/L	7	Standard
	Mo	98	52.4	25.7	**0.0027**	0.005	182.2	ug/L	7	Standard
	Ag	107	56.0	16.4	**-0.0013**	0.002	137.9	ug/L	60	Standard
	Cd	111	3.6	89.3	**-0.0038**	0.002	46.1	mg/L	2	Standard
	Cd	114	45.0	23.3	**-0.0033**	0.002	66.7	ug/L	28	Standard
>	**In**	115	444220.3	4.8				ug/L	514607	Standard
	Sn	118	126.0	3.6	**0.0129**	0.004	28.8	ug/L	125	Standard
	Sb	123	341.3	33.4	**0.1047**	0.033	31.4	ug/L	14	Standard
	Ba	135	8.0	12.5	**-0.0137**	0.001	5.3	ug/L	10	Standard
	Ce	140	11.7	65.5				ug/L	25	Standard
>	**Tb**	159	524344.1	5.7				ug/L	648946	Standard
	Ho	165	5.0	100.0				ug/L	2	Standard
	Tl	203	16.3	63.7	**0.0001**	0.002	2268.8	ug/L	4	Standard
	Tl	205	20.0	25.0	**0.0016**	0.001	45.9	ug/L	0	Standard
	Pb	206	91.7	9.9	**-0.0017**	0.002	117.3	ug/L	113	Standard
	Pb	207	83.0	8.4	**-0.0081**	0.001	15.2	ug/L	88	Standard
	Pb	208	194.3	7.2	**-0.0066**	0.002	31.3	ug/L	233	Standard
	U	238	4.3	58.1	**-0.0024**	0.001	31.1	ug/L	1	Standard
>	**Bi**	209	265314.0	5.7				ug/L	321163	Standard

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	Na	23	3.3	173.2	**1.3858**	2.392	172.6	mg/L	2	Standard
	Mg	24	30.0	44.1	**0.0011**	0.013	1242.9	mg/L	48	Standard
	K	39	13.3	108.3	**0.1444**	0.224	154.9	mg/L	2	Standard
	Ca	43	21.7	58.1	**-0.6951**	1.273	183.1	mg/L	38	Standard
	Fe	54	192.9	3.9	**0.0187**	0.012	66.0	mg/L	218	Standard
	Fe	57	228.3	14.2	**-0.0264**	0.100	379.1	mg/L	283	Standard
>	**Sc-1**	45	40143.3	6.9				mg/L	46336	Standard
	Cl	35	8426.3	1.8				ug/L	7415	Standard
	Kr	83	88.7	15.4				ug/L	106	Standard
	Br	81	2306.8	4.8				ug/L	2367	Standard
	P	31	261057.1	2.2				ug/L	257843	Standard
	S	34	28832.4	3.1				ug/L	25966	Standard
	Sr	88	86.7	6.7				ug/L	92	Standard
	C	12	10.0	100.0				mg/L	10	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	0	Standard
	Dy	164	12.9	117.7				mg/L	10	Standard
	Ho-1	165	5.0	100.0				mg/L	2	Standard
	Er	166	10.0	100.0				mg/L	10	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.279	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		93.225	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			
	Rb	85			

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	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	86.322
	Sn	118	
	Sb	123	
	Ba	135	
	Ce	140	
>	Tb	159	
	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	82.610
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Tuesday, November 05, 2013 19:35:39
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH user
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	215334.4	0.4				ug/L	199689	Standard
	Be	9	526.7	6.3	**0.2221**	0.015	6.9	ug/L	22	Standard
	Al	27	3277.3	107.9	**0.0131**	0.018	137.4	ug/L	615	Standard
	Sc	45	42344.1	0.7				ug/L	46336	Standard
	Ti	47	25.3	9.9	**0.0100**	0.008	75.0	ug/L	20	Standard
	V	51	3006.2	0.9	**0.4214**	0.021	5.0	ug/L	893	Standard
	Cr	52	7205.0	2.0	**0.7785**	0.040	5.1	ug/L	3436	Standard
	Cr	53	966.7	6.2	**0.6307**	0.040	6.4	ug/L	325	Standard
	Mn	55	5710.7	3.4	**0.5068**	0.011	2.2	ug/L	949	Standard
	Co	59	2375.2	4.7	**0.3980**	0.009	2.3	ug/L	109	Standard
	Ni	60	3840.8	2.2	**1.6475**	0.012	0.7	ug/L	187	Standard
	Cu	65	1854.1	6.7	**0.8022**	0.033	4.2	ug/L	95	Standard
	Zn	66	9139.4	3.2	**7.2262**	0.047	0.6	ug/L	320	Standard
>	**Ge**	72	468494.5	2.8				ug/L	478028	Standard
	As	75	293.4	18.8	**0.4075**	0.035	8.5	ug/L	-247	Standard
	Se	82	21.5	71.8	**0.4613**	0.104	22.5	ug/L	-45	Standard
	Se-1	77	109.7	14.4	**0.2181**	0.207	94.9	ug/L	101	Standard
>	**Ga**	71	26.7	109.9				mg/L	38	Standard
	Rb	85	18.3	56.8				ug/L	27	Standard
	Y	89	405348.1	3.5				ug/L	457712	Standard
>	**Rh**	103	5.0	0.0				ug/L	7	Standard
	Mo	98	33.4	22.8	**-0.0053**	0.003	61.1	ug/L	7	Standard
	Ag	107	2424.5	2.1	**0.4342**	0.008	1.9	ug/L	60	Standard
	Cd	111	473.6	7.3	**0.2448**	0.014	5.5	mg/L	2	Standard
	Cd	114	1268.8	3.7	**0.2428**	0.013	5.3	ug/L	28	Standard
>	**In**	115	460123.0	2.5				ug/L	514607	Standard
	Sn	118	110.7	3.8	**-0.0047**	0.006	129.9	ug/L	125	Standard
	Sb	123	1295.2	3.1	**0.4135**	0.010	2.5	ug/L	14	Standard
	Ba	135	1297.1	3.2	**0.7285**	0.009	1.2	ug/L	10	Standard
	Ce	140	11.7	49.5				ug/L	25	Standard
>	**Tb**	159	540770.4	2.1				ug/L	648946	Standard
	Ho	165	8.3	69.3				ug/L	2	Standard
	Tl	203	446.3	5.0	**0.0784**	0.006	7.4	ug/L	4	Standard
	Tl	205	593.3	21.4	**0.1056**	0.024	22.9	ug/L	0	Standard
	Pb	206	589.7	5.0	**0.2197**	0.011	5.1	ug/L	113	Standard
	Pb	207	487.0	6.9	**0.1914**	0.012	6.0	ug/L	88	Standard
	Pb	208	1337.4	5.4	**0.2090**	0.013	6.3	ug/L	233	Standard
	U	238	1404.7	3.7	**0.3978**	0.009	2.2	ug/L	1	Standard
>	**Bi**	209	270225.4	2.6				ug/L	321163	Standard

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Na	23	0.0		**0.0050**	0.000	0.0	mg/L	2	Standard
Mg	24	56.7	22.2	**0.0290**	0.014	48.9	mg/L	48	Standard
K	39	1.7	173.2	**-0.0377**	0.042	112.3	mg/L	2	Standard
Ca	43	11.7	24.7	**-1.7707**	0.271	15.3	mg/L	38	Standard
Fe	54	220.4	15.9	**0.0287**	0.022	77.8	mg/L	218	Standard
Fe	57	206.7	6.1	**-0.1075**	0.030	28.3	mg/L	283	Standard
Sc-1	45	42344.1	0.7				mg/L	46336	Standard
Cl	35	8339.6	3.0				ug/L	7415	Standard
Kr	83	86.7	14.3				ug/L	106	Standard
Br	81	2426.9	5.9				ug/L	2367	Standard
P	31	301317.5	3.6				ug/L	257843	Standard
S	34	27823.9	3.6				ug/L	25966	Standard
Sr	88	101.7	5.7				ug/L	92	Standard
C	12	13.3	114.6				mg/L	10	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	3.3	173.2				mg/L	10	Standard
Ho-1	165	8.3	69.3				mg/L	2	Standard
Er	166	0.0					mg/L	10	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		107.835	
Be	9	111.033		
Al	27			
Sc	45			
Ti	47			
V	51	105.351		
Cr	52	97.312		
Cr	53			
Mn	55	101.353		
Co	59	99.491		
Ni	60	102.968		
Cu	65	100.272		
Zn	66	115.619		
> Ge	72		98.006	
As	75	101.873		
Se	82	115.326		
Se-1	77			
> Ga	71			
Rb	85			

Sample ID: QC Std 8
Report Date/Time: Tuesday, November 05, 2013 19:37:52
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Approved: November 06, 2013

⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98		
|	Ag	107	108.559	
|	Cd	111	101.983	
|	Cd	114		
|>	In	115		89.413
|	Sn	118		
|	Sb	123	103.369	
⌊	Ba	135	97.127	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	98.000	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	104.492	
|	U	238	99.460	
⌊>	Bi	209		84.140
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 8
Report Date/Time: Tuesday, November 05, 2013 19:37:52
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Approved: November 06, 2013

2.1.3 Metals CVAA Data (Mercury)

2.1.3.1 Summary Data

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 13-1013-1	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:19
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	M7.110413.111901
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 13-1013-2	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:26
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	M7.110413.112633
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 1-1013-1	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:31
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	M7.110413.113136
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 18-1013-1	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:34
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	M7.110413.113407
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	CVAA1
Client ID:	MPL 6-1013-1	**Prep Method:**	7470A	**Prep Date:**	11/01/2013 09:02
Matrix:	Water	**Analytical Method:**	7470A	**Cal Date:**	11/04/2013 09:57
Workgroup #:	WG451271	**Analyst:**	PDM	**Run Date:**	11/04/2013 11:41
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	M7.110413.114143
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100

U	Analyte was not detected. The concentration is below the reported LOD.

2.1.3.2 QC Summary

Example Cold Vapor Mercury Calculations
Hydra AA Mercury Analyzer / CETAC M-7600 Quick Trace Mercury Analyzer

1.0 Initial Calibration (ICAL) Parameters
The system performs linear regression from data consisting of a blank and five standards.

2.0 Calculating the concentration (C) of an element in water using data from run log and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (ug/L)	0.1
Vf = Diluted to Volume (mL)	40
Vi = Aliquot Volume (mL)	40
D = Manual dilution factor, if required (10X = 10)	1
Cx = Concentration of element in ppb (ug/L)	0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Ws} \times D$$

Where:	**Example:**
Cs = Concentration computed by the data system (ug/L)	0.1
Vf = Diluted to volume (mL)	40
Ws = Aliquot weight (g)	0.6
D = Manual dilution factor	1
Cx = Concentration of element in ug/kg	6.67

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

1 Cx = Concentration calculated as received (wet basis)	6.67
Px = Percent solids of sample (%wt)	80
$Cdry$ = Concentration calculated as dry weight (ug/kg)	8.33

8.33 ug/kg = 0.00833 mg/kg

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG451092
Analyst: REK
Spike Analyst: REK
Method: 7470A
Run Date: 11/01/2013 09:02
Hotblock Start Temp: 95 @ 09:00
Hotblock End Temp: 94.9 @ 11:00
Instrument: HB6

SOP: ME404 Revison 15
Spike Solution: STD61104
Spike Witness: ERP
HNO3 Lot #: COA16631
Digestion Tubes Lot #: COA16971
H2SO4 Lot #: COA16973
K2S2O8 1:1 Lot #: RGT28479
KMnO4 1:1 Lot #: RGT28499
Mercury Water ICV Lot #: STD61106
HG H2O STDS 10PPM Lot #: STD61112

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG451092-02	BLANK	1	40 mL	40 mL		
2	WG451092-03	LCS	1	40 mL	40 mL	4 mL	
3	WG451092-01	REF	1	40 mL	40 mL		
4	L13101868-01	SAMP	1	40 mL	40 mL		11/11/13
5	L13101868-02	SAMP	1	40 mL	40 mL		11/11/13
6	L13101868-03	SAMP	1	40 mL	40 mL		11/11/13
7	L13101868-04	SAMP	1	40 mL	40 mL		11/11/13
8	L13101868-05	SAMP	1	40 mL	40 mL		11/11/13
9	L13101886-01	SAMP	1	40 mL	40 mL		11/11/13
10	L13101886-02	SAMP	1	40 mL	40 mL		11/11/13
11	L13101886-03	SAMP	1	40 mL	40 mL		11/11/13
12	L13101886-04	SAMP	1	40 mL	40 mL		11/11/13
13	L13101886-05	SAMP	1	40 mL	40 mL		11/11/13
14	L13101886-06	SAMP	1	40 mL	40 mL		11/11/13
15	L13101886-07	SAMP	1	40 mL	40 mL		11/11/13
16	L13101886-08	SAMP	1	40 mL	40 mL		11/11/13
17	L13101886-09	SAMP	1	40 mL	40 mL		11/11/13
18	L13101886-10	SAMP	1	40 mL	40 mL		11/11/13
19	L13101886-11	SAMP	1	40 mL	40 mL		11/11/13
20	L13101886-12	SAMP	1	40 mL	40 mL		11/11/13
21	L13101886-13	SAMP	1	40 mL	40 mL		11/11/13
22	L13101886-14	SAMP	1	40 mL	40 mL		11/11/13
23	WG451092-04	MS	1	36 mL	40 mL	4 mL	
24	WG451092-05	MSD	1	36 mL	40 mL	4 mL	

Analyst: _____

Reviewer: _____

* All calibration and check standards are prepared and digested with sample batch following the procedures in section 7.0 of SOP ME404/ME405.

HB_DIG - Modified 07/26/2012
PDF ID: 3179452
Report generated: 11/01/2013 12:53

Microbac Laboratories Inc.

Instrument Run Log

Instrument: CVAA1 Dataset: 110413B.CSV
Analyst1: PDM Analyst2: N/A
Method: 7470 SOP: ME404 Rev: 15
Maintenance Log ID: 48030

Calibration Std: STD61112 ICV Std: STD61106 Post Spike: STD61112
ICSA: N/A ICSAB: N/A Int. Std:
CCV: LLCCV: Tuning Sol :
Stannous : RGT27563 Hydroxylamine : RGT27561

Workgroups: 451262,451271

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	M7.110413.094511	WG451331-01	Calibration Point		1		11/04/13 09:45
2	M7.110413.094742	WG451331-02	Calibration Point		1		11/04/13 09:47
3	M7.110413.095014	WG451331-03	Calibration Point		1		11/04/13 09:50
4	M7.110413.095246	WG451331-04	Calibration Point		1		11/04/13 09:52
5	M7.110413.095519	WG451331-05	Calibration Point		1		11/04/13 09:55
6	M7.110413.095753	WG451331-06	Calibration Point		1		11/04/13 09:57
7	M7.110413.100027	WG451331-07	Initial Calibration Verification		1		11/04/13 10:00
8	M7.110413.100258	WG451331-08	Initial Calib Blank		1		11/04/13 10:02
9	M7.110413.100531	WG451331-09	CCV		1		11/04/13 10:05
10	M7.110413.100801	WG451331-10	CCB		1		11/04/13 10:08
11	M7.110413.101033	WG451059-03	Method/Prep Blank	40/40	1		11/04/13 10:10
12	M7.110413.101304	WG451059-04	Laboratory Control S	40/40	1		11/04/13 10:13
13	M7.110413.101535	L13101757-03	ERT003:EB-6:W102813	40/40	1		11/04/13 10:15
14	M7.110413.101807	WG451262-01	Post Digestion Spike		1	L13101757-03	11/04/13 10:18
15	M7.110413.102039	L13101819-01	14-NWS-58-5-G-2	40/40	1		11/04/13 10:20
16	M7.110413.102311	L13101819-02	14-NWS-58-3A-G-2	40/40	1		11/04/13 10:23
17	M7.110413.102543	L13101819-03	14-NWS-58-8D-G-2	40/40	1		11/04/13 10:25
18	M7.110413.102816	L13101819-04	14-NWS-58-8D-G-2-D	40/40	1		11/04/13 10:28
19	M7.110413.103049	L13101819-05	14-NWS-58-8S-G-2	40/40	1		11/04/13 10:30
20	M7.110413.103323	L13101819-06	14-NWS-58-6-G-2	40/40	1	WG451059-01	11/04/13 10:33
21	M7.110413.103555	WG451331-11	CCV		1		11/04/13 10:35
22	M7.110413.103826	WG451331-12	CCB		1		11/04/13 10:38
23	M7.110413.104100	WG451059-05	Matrix Spike	36/40	1	L13101819-06	11/04/13 10:41
24	M7.110413.104334	WG451059-06	Matrix Spike Duplica	36/40	1	L13101819-06	11/04/13 10:43
25	M7.110413.104604	L13101819-09	14-NWS-58-7-G-2	40/40	1		11/04/13 10:46
26	M7.110413.104835	L13101819-10	14-NWS-58-4-G-2	40/40	1		11/04/13 10:48
27	M7.110413.105106	L13101866-01	14-NWS-58-9-G-2	40/40	1		11/04/13 10:51
28	M7.110413.105337	L13101867-01	18-018007-G-1	40/40	1		11/04/13 10:53
29	M7.110413.105609	L13101867-02	18-018008-G-1	40/40	1	WG451059-02	11/04/13 10:56
30	M7.110413.105840	WG451059-07	Matrix Spike	36/40	1	L13101867-02	11/04/13 10:58
31	M7.110413.110112	WG451059-08	Matrix Spike Duplica	36/40	1	L13101867-02	11/04/13 11:01
32	M7.110413.110345	L13101867-05	18-01801A-G-1	40/40	1		11/04/13 11:03
33	M7.110413.110618	WG451331-13	CCV		1		11/04/13 11:06
34	M7.110413.110848	WG451331-14	CCB		1		11/04/13 11:08

Page: 1 Approved: November 07, 2013

Maren Berry

Microbac Laboratories Inc.

Instrument Run Log

Instrument: CVAA1 Dataset: 110413B.CSV
Analyst1: PDM Analyst2: N/A
Method: 7470 SOP: ME404 Rev: 15
Maintenance Log ID: 48030

Calibration Std: STD61112 ICV Std: STD61106 Post Spike: STD61112
ICSA: N/A ICSAB: N/A Int. Std:
CCV: LLCCV: Tuning Sol :
Stannous : RGT27563 Hydroxylamine : RGT27561

Workgroups: 451262,451271

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	M7.110413.111121	L13101867-06	18-01801A-G-D-1	40/40	1		11/04/13 11:11
36	M7.110413.111354	WG451092-02	Method/Prep Blank	40/40	1		11/04/13 11:13
37	M7.110413.111627	WG451092-03	Laboratory Control S	40/40	1		11/04/13 11:16
38	M7.110413.111901	WG451092-01	Reference Sample	40/40	1	L13101868-01	11/04/13 11:19
39	M7.110413.112132	WG451092-04	Matrix Spike	36/40	1	L13101868-01	11/04/13 11:21
40	M7.110413.112402	WG451092-05	Matrix Spike Duplica	36/40	1	L13101868-01	11/04/13 11:24
41	M7.110413.112633	L13101868-02	MPL 13-1013-2	40/40	1		11/04/13 11:26
42	M7.110413.112904	WG451271-01	Post Digestion Spike		1	L13101868-02	11/04/13 11:29
43	M7.110413.113136	L13101868-03	MPL 1-1013-1	40/40	1		11/04/13 11:31
44	M7.110413.113407	L13101868-04	MPL 18-1013-1	40/40	1		11/04/13 11:34
45	M7.110413.113640	WG451331-15	CCV		1		11/04/13 11:36
46	M7.110413.113911	WG451331-16	CCB		1		11/04/13 11:39
47	M7.110413.114143	L13101868-05	MPL 6-1013-1	40/40	1		11/04/13 11:41
48	M7.110413.114415	L13101886-01	ERT003:HMW-1:G103013	40/40	1		11/04/13 11:44
49	M7.110413.114648	L13101886-02	ERT003:HMW-2:G103113	40/40	1		11/04/13 11:46
50	M7.110413.114921	L13101886-03	ERT003:HMW-4:G103113	40/40	1		11/04/13 11:49
51	M7.110413.115154	L13101886-04	ERT003:HMW-5:G103113	40/40	1		11/04/13 11:51
52	M7.110413.115428	L13101886-05	ERT003:HMW-6:G103013	40/40	1		11/04/13 11:54
53	M7.110413.115659	L13101886-06	ERT003:HMW-7:G103013	40/40	1		11/04/13 11:56
54	M7.110413.115930	L13101886-07	ERT003:HMW-11:G103013	40/40	1		11/04/13 11:59
55	M7.110413.120201	L13101886-08	ERT003:HMW-12:G103013A	40/40	1		11/04/13 12:02
56	M7.110413.120432	L13101886-09	ERT003:HMW-12:G103013	40/40	1		11/04/13 12:04
57	M7.110413.120704	WG451331-17	CCV		1		11/04/13 12:07
58	M7.110413.120935	WG451331-18	CCB		1		11/04/13 12:09
59	M7.110413.121206	L13101886-10	ERT003:HMW-12BR:G10301	40/40	1		11/04/13 12:12
60	M7.110413.121438	L13101886-11	ERT003:HMW-13:G103113	40/40	1		11/04/13 12:14
61	M7.110413.121710	L13101886-12	ERT003:HMW-13BR:G10311	40/40	1		11/04/13 12:17
62	M7.110413.121943	L13101886-13	ERT003:EB-6:W103013	40/40	1		11/04/13 12:19
63	M7.110413.122216	L13101886-14	ERT003:EB-7:W103113	40/40	1		11/04/13 12:22
64	M7.110413.122448	WG451331-19	CCV		1		11/04/13 12:24
65	M7.110413.122719	WG451331-20	CCB		1		11/04/13 12:27

Page: 2 Approved: November 07, 2013

Maren Berry

Microbac Laboratories Inc.

Data Checklist

Date: 04-NOV-2013
Analyst: PDM
Analyst: NA
Method: 7470/245.1
Instrument: CVAA1
Curve Workgroup: 451331
Runlog ID: 56849
Analytical Workgroups: 451262,451271

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	1819,1866,1867,1868
Client Forms	X
Level X	
Level 3	
Level 4	1819,1866,1867,1868
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	PDM
Secondary Reviewer	MMB
Comments	

Primary Reviewer: 04-NOV-2013 Pierce Morris

Secondary Reviewer: 07-NOV-2013 Maren Berry

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-07-2013 19:18:12

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A

AAB#: WG451271

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/01/2013	2	28		11/04/13	5.1	28	
MPL 13-1013-2	02	10/30/13					11/01/2013	2	28		11/04/13	5.1	28	
MPL 1-1013-1	03	10/30/13					11/01/2013	1.8	28		11/04/13	4.9	28	
MPL 18-1013-1	04	10/30/13					11/01/2013	1.8	28		11/04/13	4.9	28	
MPL 6-1013-1	05	10/30/13					11/01/2013	1.7	28		11/04/13	4.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3182557
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: M7.110413.111354
Prep Date: 11/01/13 09:02
Analyzed Date: 11/04/13 11:13
Analyst: PDM

Work Group: WG451271
Blank Sample ID: WG451092-02
Instrument ID: CVAA1
Method: 7470A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451092-03	M7.110413.111627	11/04/13 11:16	01
MPL 13-1013-1	L13101868-01	M7.110413.111901	11/04/13 11:19	01
MPL 13-1013-2	L13101868-02	M7.110413.112633	11/04/13 11:26	01
MPL 1-1013-1	L13101868-03	M7.110413.113136	11/04/13 11:31	01
MPL 18-1013-1	L13101868-04	M7.110413.113407	11/04/13 11:34	01
MPL 6-1013-1	L13101868-05	M7.110413.114143	11/04/13 11:41	01

Report Name: BLANK_SUMMARY
PDF File ID: 3182558
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/01/13 09:02 Sample ID: WG451092-02
Instrument ID: CVAA1 Run Date: 11/04/13 11:13 Prep Method: 7470A
File ID: M7.110413.111354 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG451271 Matrix: Water Units: mg/L
Contract #: Cal ID: CVAA1-04-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3182559
04-NOV-2013 13:28

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/04/2013 Sample ID: WG451092-03
Instrument ID: CVAA1 Run Time: 11:16 Prep Method: 7470A
File ID: M7.110413.111627 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG451271 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD61104 Cal ID: CVAA1-04-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00375	93.7	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 3182560
Report generated: 11/04/2013 13:28

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L13101868 Cal ID: CVAA1 - Worknum: WG451271
Instrument ID: CVAA1 Contract #: Method: 7470A
Parent ID: WG451092-01 File ID: M7.110413.111901 Dil: 1 Matrix: WATER
Sample ID: WG451092-04 MS File ID: M7.110413.112132 Dil: 1 Units: mg/L
Sample ID: WG451092-05 MSD File ID: M7.110413.112402 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury	ND	0.00444	0.00431	97.0	0.00444	0.00427	96.0	1.01	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_MS_MSD_DRYWT - Modified 05/26/2011
PDF File ID: 3191768
Report generated 11/08/2013 12:40

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L13101868 **Worknum:** WG451271
Instrument ID: CVAA1 **Method:** 7470A
Post Spike ID: WG451271-01 **File ID:** M7.110413.112904 **Dil:** 1 **Units:** ug/L
Sample ID: L13101868-02 **File ID:** M7.110413.112633 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.943		0	U	1	94.3	85 - 115	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 3182556
Report generated: 11/04/2013 13:28

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L13101868
Analytical Method: 7470A
ICAL Worknum: WG451331

Workgroup (AAB#): WG451271
Instrument ID: CVAA1
Initial Calibration Date: 11/04/2013 09:57

Analyte	WG451331-01		WG451331-02		WG451331-03		WG451331-04		WG451331-05		WG451331-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	-64.72	0.200	1523	1.00	7461	2.00	15070	5.00	37220	10.0	73910

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 3182561
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L13101868
Analytical Method: 7470A
ICAL Worknum: WG451331

Workgroup (AAB#): WG451271
Instrument ID: CVAA1
Initial Calibration Date: 11/04/2013 09:57

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 3182561
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L13101868
Instrument ID: CVAA1
File ID: M7.110413.100258
Workgroup (AAB#): WG451271
Matrix: WATER

Run Date: 11/04/2013
Run Time: 10:02
Analyst: PDM
Cal ID: CVAA1 - 04-NOV-13

Sample ID: WG451331-08
Method: 7470A
Units: ug/L

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 3182563
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/04/2013
Sample ID: WG451331-10
Instrument ID: CVAA1
Run Time: 10:08
Method: 7470A
File ID: M7.110413.100801
Analyst: PDM
Units: ug/L
Workgroup (AAB#): WG451271
Cal ID: CVAA1 - 04-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3182565
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/04/2013
Sample ID: WG451331-14
Instrument ID: CVAA1
Run Time: 11:08
Method: 7470A
File ID: M7.110413.110848
Analyst: PDM
Units: ug/L
Workgroup (AAB#): WG451271
Cal ID: CVAA1 - 04-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3182565
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868 Run Date: 11/04/2013 Sample ID: WG451331-16

Instrument ID: CVAA1 Run Time: 11:39 Method: 7470A

File ID: M7.110413.113911 Analyst: PDM Units: ug/L

Workgroup (AAB#): WG451271 Cal ID: CVAA1 - 04-NOV-13

Matrix: WATER QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3182565
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/04/2013
Sample ID: WG451331-18
Instrument ID: CVAA1
Run Time: 12:09
Method: 7470A
File ID: M7.110413.120935
Analyst: PDM
Units: ug/L
Workgroup (AAB#): WG451271
Cal ID: CVAA1 - 04-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3182565
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)

(Alternate Source)

Login Number: L13101868 Run Date: 11/04/2013 Sample ID: WG451331-07

Instrument ID: CVAA1 Run Time: 10:00 Method: 7470A

File ID: M7.110413.100027 Analyst: PDM Units: ug/L

Workgroup (AAB#): WG451271 Cal ID: CVAA1 - 04-NOV-13

QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Mercury		2	2.01	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008

PDF File ID: 3182562

Report generated 11/04/2013 13:28

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Instrument ID: CVAA1
File ID: M7.110413.100531
Workgroup (AAB#): WG451271
Matrix: WATER

Run Date: 11/04/2013
Run Time: 10:05
Analyst: PDM
Cal ID: CVAA1 - 04-NOV-13

Sample ID: WG451331-09
Method: 7470A
QC Key: DOD4

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00202	mg/L	101	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3182564
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/04/2013
Sample ID: WG451331-13
Instrument ID: CVAA1
Run Time: 11:06
Method: 7470A
File ID: M7.110413.110618
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG451271
Cal ID: CVAA1 - 04-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00210	mg/L	105	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3182564
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/04/2013
Sample ID: WG451331-15
Instrument ID: CVAA1
Run Time: 11:36
Method: 7470A
File ID: M7.110413.113640
Analyst: PDM
QC Key: DOD4
Workgroup (AAB#): WG451271
Cal ID: CVAA1 - 04-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00218	mg/L	109	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3182564
Report generated 11/04/2013 13:28

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Instrument ID: CVAA1
File ID: M7.110413.120704
Workgroup (AAB#): WG451271
Matrix: WATER

Run Date: 11/04/2013
Run Time: 12:07
Analyst: PDM
Cal ID: CVAA1 - 04-NOV-13

Sample ID: WG451331-17
Method: 7470A
QC Key: DOD4

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Mercury, Total		0.00200	0.00208	mg/L	104	80 - 120		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 3182564
Report generated 11/04/2013 13:28

2.1.3.3 Raw Data

PDM

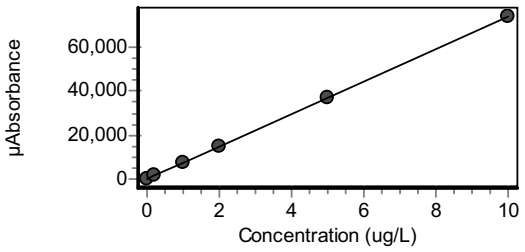
Report Generated By CETAC QuickTrace
Analyst: Mercury Analyzer
Worksheet file: C:\Program Files\QuickTrace\Worksheets\110413b.wsz
Date Started: 11/4/2013 9:42:35 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Standard #0					STD	11/04/13 09:45:11 am	0.0000	-65	33.01		1.00
Replicates	-45.8	-46.9	-86.1	-80.1							
Standard #1 (0.2 ug/L)					STD	11/04/13 09:47:42 am	0.2000	1523	2.29		1.00
Replicates	1490.1	1497.7	1543.7	1561.7							
Standard #2 (1.0 ug/L)					STD	11/04/13 09:50:14 am	1.0000	7461	1.07		1.00
Replicates	7372.1	7420.9	7505.9	7547.2							
Standard #3 (2.0 ug/L)					STD	11/04/13 09:52:46 am	2.0000	15066	1.15		1.00
Replicates	14887.7	14985.7	15102.3	15289.5							
Standard #4 (5.0 ug/L)					STD	11/04/13 09:55:19 am	5.0000	37219	1.31		1.00
Replicates	36660.8	37033.7	37376.6	37804.7							
Standard #5 (10.0 ug/L)					STD	11/04/13 09:57:53 am	10.0000	73913	1.21		1.00
Replicates	72875.6	73594.3	74196.8	74983.7							

Calibration

Equation: A = 93.452 + 7393.255C
R2: 0.99998
SEE: 158.8798
Flags:



ICV					ICV	11/04/13 10:00:27 am	2.0100	14955	1.03		1.00
Replicates	14785.7	14895.8	14990.8	15148.0							
% Recovery	100.51										

Approved: 11/04/2013 14:52
Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
ICB					ICB	11/04/13 10:02:58 am	-0.0138	-9	234.87		1.00
	Replicates	-27.5	-23.4	2.6	14.1						
CCV					CCV	11/04/13 10:05:31 am	2.0220	15044	1.38		1.00
	Replicates	14797.3	14975.8	15113.3	15288.2						
	% Recovery	101.11									
CCB					CCB	11/04/13 10:08:01 am	-0.0147	-15	195.96		1.00
	Replicates	-18.7	5.8	-57.2	8.1						
WG451059-03					MB	11/04/13 10:10:33 am	-0.0123	3	483.75		1.00
	Replicates	-6.6	5.0	-8.5	21.6						
WG451059-04					LCS	11/04/13 10:13:04 am	3.9310	29157	1.37		1.00
	Replicates	28694.2	29003.4	29300.2	29628.4						
	% Recovery	98.28									
L1310175703					UNK	11/04/13 10:15:35 am	-0.0155	-21	106.72		1.00
	Replicates	-40.8	-2.2	-40.9	-1.0						
WG451262-01					SPK	11/04/13 10:18:07 am	0.9291	6963	1.52		1.00
	Replicates	6852.5	6899.7	7014.0	7084.2						
	% Recovery	94.46									
L1310181901					UNK	11/04/13 10:20:39 am	0.0067	143	12.11		1.00
	Replicates	143.0	166.9	128.5	132.2						
L1310181902					UNK	11/04/13 10:23:11 am	-0.0136	-7	134.09		1.00
	Replicates	-12.9	1.0	-17.2	1.0						
L1310181903					UNK	11/04/13 10:25:43 am	-0.0102	18	111.60		1.00
	Replicates	-6.2	9.8	39.2	30.5						
L1310181904					UNK	11/04/13 10:28:16 am	-0.0112	10	225.74		1.00
	Replicates	25.2	-3.3	-15.1	34.9						
L1310181905					UNK	11/04/13 10:30:49 am	-0.0106	15	129.59		1.00
	Replicates	28.8	1.7	-4.8	33.5						

Approved: 11/04/2013 14:52

Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
L1310181906					UNK	11/04/13 10:33:23 am	-0.0135	-6	173.71		1.00
Replicates	-6.5	9.4	-14.6	-13.8							
CCV					CCV	11/04/13 10:35:55 am	2.0460	15223	1.26		1.00
Replicates	15005.7	15140.8	15296.9	15449.3							
% Recovery	102.32										
CCB					CCB	11/04/13 10:38:26 am	-0.0159	-25	90.40		1.00
Replicates	0.5	-22.2	-53.5	-22.8							
WG451059-05					MSK	11/04/13 10:41:00 am	3.8600	28628	1.59		1.00
Replicates	28086.4	28483.6	28777.9	29164.4							
% Recovery	96.83										
WG451059-06					MSDUP	11/04/13 10:43:34 am	3.9280	29133	1.65		1.00
Replicates	28569.4	28958.1	29306.3	29696.5							
% Recovery	98.53	RPD 1.75									
L1310181909					UNK	11/04/13 10:46:04 am	-0.0085	30	49.18		1.00
Replicates	9.1	43.9	36.1	32.9							
L1310181910					UNK	11/04/13 10:48:35 am	-0.0076	37	45.20		1.00
Replicates	28.9	61.3	35.6	23.1							
L1310186601					UNK	11/04/13 10:51:06 am	-0.0127	-1	521.16		1.00
Replicates	2.4	-20.8	0.2	15.8							
L1310186701					UNK	11/04/13 10:53:37 am	-0.0126	0	991.01		1.00
Replicates	-7.9	13.2	-12.4	7.2							
L1310186702					UNK	11/04/13 10:56:09 am	-0.0103	17	52.59		1.00
Replicates	26.9	17.8	19.3	5.0							
WG451059-07					MSK	11/04/13 10:58:40 am	3.1460	23354	7.46	N	1.00
Replicates	21264.5	22721.7	24154.7	25275.0							
% Recovery	78.91										
WG451059-08					MSDUP	11/04/13 11:01:12 am	3.3520	24879	1.18	D	1.00
Replicates	24539.6	24780.1	24965.6	25231.7							
% Recovery	84.07	RPD 6.35									

Approved: 11/04/2013 14:52

Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
L1310186705					UNK	11/04/13 11:03:45 am	-0.0382	-189	4.34		1.00
Replicates	-200.1	-187.5	-180.2	-189.0							
CCV					CCV	11/04/13 11:06:18 am	2.1020	15634	1.38		1.00
Replicates	15385.9	15544.5	15720.5	15883.5							
% Recovery	105.10										
CCB					CCB	11/04/13 11:08:48 am	-0.0139	-10	120.51		1.00
Replicates	-10.3	-8.1	4.2	-23.8							
L1310186706					UNK	11/04/13 11:11:21 am	-0.0112	10	90.19		1.00
Replicates	11.2	12.2	20.2	-2.3							
WG451092-02					MB	11/04/13 11:13:54 am	-0.0164	-28	29.32		1.00
Replicates	-27.6	-21.7	-39.0	-22.0							
WG451092-03					LCS	11/04/13 11:16:27 am	3.7470	27794	1.75		1.00
Replicates	27232.3	27610.7	27957.5	28374.8							
% Recovery	93.67										
L1310186801					UNK	11/04/13 11:19:01 am	-0.0067	44	32.00		1.00
Replicates	35.6	33.2	43.9	64.4							
WG451092-04					MSK	11/04/13 11:21:32 am	3.8800	28778	1.66		1.00
Replicates	28222.3	28607.4	28937.4	29345.6							
% Recovery	97.16										
WG451092-05					MSDUP	11/04/13 11:24:02 am	3.8410	28488	1.68		1.00
Replicates	27946.5	28297.9	28644.6	29064.7							
% Recovery	96.18	RPD 1.02									
L1310186802					UNK	11/04/13 11:26:33 am	-0.0100	19	57.82		1.00
Replicates	16.5	6.3	33.1	21.0							
WG451271-01					SPK	11/04/13 11:29:04 am	0.9434	7068	1.94		1.00
Replicates	6921.8	6994.6	7126.0	7229.5							
% Recovery	95.34										
L1310186803					UNK	11/04/13 11:31:36 am	0.0066	142	10.40		1.00
Replicates	122.6	140.2	148.5	157.2							

Approved: 11/04/2013 14:52

Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
L1310186804					UNK	11/04/13 11:34:07 am	-0.0121	4	228.17		1.00
Replicates	7.9	-9.9	10.0	8.3							
CCV					CCV	11/04/13 11:36:40 am	2.1750	16175	1.23		1.00
Replicates	15942.8	16099.2	16252.2	16405.0							
% Recovery	108.76										
CCB					CCB	11/04/13 11:39:11 am	-0.0140	-10	207.79		1.00
Replicates	-32.5	-20.7	0.0	13.5							
L1310186805					UNK	11/04/13 11:41:43 am	-0.0118	7	63.29		1.00
Replicates	7.0	8.3	10.3	0.7							
L1310188601					UNK	11/04/13 11:44:15 am	-0.0156	-22	87.58		1.00
Replicates	-2.3	-31.6	-10.1	-44.2							
L1310188602					UNK	11/04/13 11:46:48 am	-0.0130	-3	390.23		1.00
Replicates	6.3	-9.1	5.5	-12.8							
L1310188603					UNK	11/04/13 11:49:21 am	-0.0115	9	154.21		1.00
Replicates	18.0	1.7	22.0	-6.6							
L1310188604					UNK	11/04/13 11:51:54 am	-0.0097	22	38.84		1.00
Replicates	17.5	16.7	34.6	18.7							
L1310188605					UNK	11/04/13 11:54:28 am	-0.0083	32	62.35		1.00
Replicates	28.5	48.5	5.4	47.0							
L1310188606					UNK	11/04/13 11:56:59 am	-0.0089	27	19.15		1.00
Replicates	21.4	27.0	27.2	34.2							
L1310188607					UNK	11/04/13 11:59:30 am	0.0198	240	4.37		1.00
Replicates	239.9	242.4	250.7	225.6							
L1310188608					UNK	11/04/13 12:02:01 pm	-0.0094	24	92.96		1.00
Replicates	44.1	13.0	-2.0	42.1							

Approved: 11/04/2013 14:52

Pierce Morris

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
L1310188609					UNK	11/04/13 12:04:32 pm	-0.0141	-11	126.97		1.00
Replicates	-6.1	-5.2	-0.7	-30.7							
CCV					CCV	11/04/13 12:07:04 pm	2.0830	15494	1.46		1.00
Replicates	15229.9	15409.8	15575.8	15758.9							
% Recovery	104.15										
CCB					CCB	11/04/13 12:09:35 pm	-0.0147	-15	57.85		1.00
Replicates	-16.7	-4.9	-25.8	-12.6							
L1310188610					UNK	11/04/13 12:12:06 pm	0.0260	286	4.17		1.00
Replicates	284.6	293.1	295.4	269.1							
L1310188611					UNK	11/04/13 12:14:38 pm	-0.0118	7	212.92		1.00
Replicates	16.8	-14.0	13.7	9.7							
L1310188612					UNK	11/04/13 12:17:10 pm	-0.0108	13	108.65		1.00
Replicates	-5.1	8.7	23.9	25.7							
L1310188613					UNK	11/04/13 12:19:43 pm	-0.0144	-13	173.99		1.00
Replicates	-40.8	-18.0	-7.5	14.0							
L1310188614					UNK	11/04/13 12:22:16 pm	-0.0138	-8	283.25		1.00
Replicates	17.1	-39.8	-0.9	-9.9							
CCV					CCV	11/04/13 12:24:48 pm	2.0860	15513	2.70		1.00
Replicates	15001.9	15386.7	15683.3	15981.8							
% Recovery	104.28										
CCB					CCB	11/04/13 12:27:19 pm	-0.0164	-28	100.53		1.00
Replicates	-35.3	-8.6	-3.1	-63.8							

Approved: 11/04/2013 14:52

Pierce Morris

2.2 General Chemistry Data

2.2.1 Method 9056

2.2.1.1 Summary Data

Login Number: L13101868
Department: General Chromatography
Analyst: Jeremy Kinney

METHOD

Analysis EPA300.0/SW846 9056

HOLDING TIMES

Sample Analysis: Hold times for NO2 and NO3 are 48 hours and the hold times for F, Cl, Br, and SO4 are 28 days. The hold time forms calculate the hold time based on 48 hours. All samples were analyzed in hold.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group.

SAMPLES

Samples: Fractions -01 and -02 were analyzed at dilution only due to the concentrations of one or more of the target analytes being near or greater than the ICAL.

MANUAL INTEGRATION: No manual integration was required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74235
Approved By: Mike Cochran

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 13-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/07/2013 12:03
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG451877	**Analyst:**	JBK	**Run Date:**	11/07/2013 14:54
Collect Date:	10/30/2013 09:45	**Dilution:**	3	**File ID:**	I1_110713-13
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	32.0		0.600	0.300
Fluoride	16984-48-8	0.336	J	0.600	0.300
Sulfate	14808-79-8	51.5		3.00	1.50

J	Estimated value ; the analyte concentration was less than the LOQ.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 13-1013-2	**Prep Method:**	300.0	**Prep Date:**	11/08/2013 09:47
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG452040	**Analyst:**	JBK	**Run Date:**	11/08/2013 10:54
Collect Date:	10/30/2013 09:45	**Dilution:**	2	**File ID:**	I1_110813-07
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	34.8		0.400	0.200
Fluoride	16984-48-8	0.332	J	0.400	0.200
Sulfate	14808-79-8	53.8		2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 1-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/08/2013 09:47
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG452040	**Analyst:**	JBK	**Run Date:**	11/08/2013 11:11
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	I1_110813-08
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	40.5	J	0.200	0.100
Fluoride	16984-48-8	0.221		0.200	0.100
Sulfate	14808-79-8	45.7		1.00	0.500

J	Estimated value ; the analyte concentration was greater than the highest standard

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 1-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/07/2013 12:03
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG451877	**Analyst:**	JBK	**Run Date:**	11/07/2013 16:03
Collect Date:	10/30/2013 13:00	**Dilution:**	5	**File ID:**	I1_110713-17
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	32.7		1.00	0.500
Fluoride	16984-48-8		U	1.00	0.500
Sulfate	14808-79-8	41.4		5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 18-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/08/2013 09:47
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG452040	**Analyst:**	JBK	**Run Date:**	11/08/2013 11:29
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	I1_110813-09
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	13.7		0.200	0.100
Fluoride	16984-48-8	0.305		0.200	0.100
Sulfate	14808-79-8	37.2		1.00	0.500

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	MPL 6-1013-1	**Prep Method:**	300.0	**Prep Date:**	11/08/2013 09:47
Matrix:	Water	**Analytical Method:**	300.0	**Cal Date:**	11/06/2013 10:26
Workgroup #:	WG452040	**Analyst:**	JBK	**Run Date:**	11/08/2013 11:46
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	I1_110813-10
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	21.3		0.200	0.100
Fluoride	16984-48-8	0.302		0.200	0.100
Sulfate	14808-79-8	39.9		1.00	0.500

2.2.1.2 QC Summary Data

Example Calculations - Ion Chromatography

A. Methods 9056/300.0 (Quadratic with Offset)

1. Retrieve Curve Data from the ICAL Curve

c2 = the value of curve constant
c1= the curve slope
c0 = the curve offset

2. Obtain the area, y , from the instrument raw data

3. Calculate the concentration of the analyte, f(y), where:

$$f(y) = \frac{1}{2 * c_2} * \left(- c_1 \pm \sqrt{c_1^2 - 4 * c_2 * (c_0 - y)}\right)$$

Example Calculation:

Value of constant, c2, (curve):	0.0003
Value of curve constant, c1, (slope):	0.0869
Value of curve constant, c0, (offset):	-0.0103
Area of target analyte, y, (uS*min):	2.993
Calculated concentration, f(y), (mg/L):	31.1998864
or:	-40.1161215 *
Dilution factor (D):	1.00
Concentration of analyte in sample (mg/L):	31.200

* There are two possible solutions, but only one is valid.

B. Method 314.0 - Perchlorate (Linear)

Retrieve Curve Data from Linear Plot

c1 = the curve slope

Obtain the area, y , from the quantitation report

Calculate the concentration of the analyte, f(y), where:

f (y) = y / c1

Example Calculation:

Value of c1, slope:	0.0034
Area of target analyte, y:	0.083
Calculated concentration:	24.4117647
Dilution Factor:	1
Concentration in sample:	24.4117647

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 110613 ICAL IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 300/9056 SOP: IC01 Rev: 14

Maintenance Log ID: 48076 Syringe Filter Lot#: 00166429
Eluent ID#: RGT28571

Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM

Workgroups: WG450536 (ICAL) WG451714 (LOD/LOQ)

Internal STD: NA Surrogate STD: NA Calibration STD STD60856

CCV STD: STD60856 LCS STD: STD60857 MS/MSD STD: NA

Comments: WG450536 300/9056 ICAL
Q4 2013 WATER LOD/LOQ Verification

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_110613-01	WG450536-01 STD \#6	1	1		11/06/13 08:59
2	I1_110613-02	WG450536-02 STD \#5	1	1		11/06/13 09:17
3	I1_110613-03	WG450536-03 STD \#4	1	1		11/06/13 09:34
4	I1_110613-04	WG450536-04 STD \#3	1	1		11/06/13 09:51
5	I1_110613-05	WG450536-05 STD \#2	1	1		11/06/13 10:09
6	I1_110613-06	WG450536-06 STD \#1	1	1		11/06/13 10:26
7	I1_110613-07	WG450536-07 ALT STD	1	1		11/06/13 11:07
8	I1_110613-08	L13100001-01 LOD (F,CL,BR,SO4)	1	1		11/06/13 11:24
9	I1_110613-09	L13100003-01 LOQ (F,CL,BR,SO4)	1	1		11/06/13 11:42
10	I1_110613-10	L13100001-01 LOD (NO2,NO3)	1	1		11/06/13 11:59
11	I1_110613-11	L13100003-01 LOQ (NO2,NO3)	1	1		11/06/13 12:16
12	I1_110613-12	LEVEL 4 (CCV/LCS)	1	1		11/06/13 12:34
13	I1_110613-13	LEVEL 6 (LCR)	1	1		11/06/13 12:51
14	I1_110613-14	WG451714-01 BLANK	1	1		11/06/13 13:09
15	I1_110613-15	END	1	1		11/06/13 13:26

Comments

Seq.	Rerun	Dil.	Reason	Analytes

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 110713 IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 300/9056 SOP: IC01 Rev: 14

Maintenance Log ID: 48108 Syringe Filter Lot#: 00169000
Eluent ID#: RGT28573
Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Workgroups: WG451877
Internal STD: NA Surrogate STD: NA Calibration STD STD60856 (11/6/13)
CCV STD: STD60856 LCS STD: STD60857 MS/MSD STD: STD60856

Comments: L13101877-07; L13101868-01; L13110051-02-04; L13110146 (ALL) analyzed at dilutions only due to the concentratios of the target analyte(s) being near or greater than the ICAL.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_110713-01	ELUENT	1	1		11/07/13 11:24
2	I1_110713-02	DI WATER	1	1		11/07/13 11:42
3	I1_110713-03	WG451878-01 ANION CCV	1	1		11/07/13 11:59
4	I1_110713-04	WG451878-02 ANION CCB	1	1		11/07/13 12:17
5	I1_110713-05	WG451877-01 ANION BLANK	1	1		11/07/13 12:34
6	I1_110713-06	WG451877-02 ANION LCS	1	1		11/07/13 12:52
7	I1_110713-07	L13101877-05 (SO4)	1	1		11/07/13 13:09
8	I1_110713-08	L13101877-07 1/2 (SO4)	1	2		11/07/13 13:26
9	I1_110713-09	L13101877-10 (SO4)	1	1		11/07/13 13:44
10	I1_110713-10	L13101877-11 (SO4)	1	1		11/07/13 14:01
11	I1_110713-11	L13101877-13 (SO4)	1	1		11/07/13 14:19
12	I1_110713-12	L13101877-14 (SO4)	1	1		11/07/13 14:36
13	I1_110713-13	L13101868-01 1/3 (F,CL,SO4)	1	3		11/07/13 14:54
14	I1_110713-14	L13101868-02 1/5 (F,CL,SO4) NR	1	5		11/07/13 15:11
15	I1_110713-15	WG451878-03 ANION CCV	1	1		11/07/13 15:28
16	I1_110713-16	WG451878-04 ANION CCB	1	1		11/07/13 15:46
17	I1_110713-17	L13101868-03 1/5 CL	1	5		11/07/13 16:03
18	I1_110713-18	L13101868-04 1/2 (F,CL,SO4) NR	1	2		11/07/13 16:21
19	I1_110713-19	L13101868-05 1/2 (F,CL,SO4) NR	1	2		11/07/13 16:38
20	I1_110713-20	L13110051-01 (F,CL,SO4)	1	1		11/07/13 16:55
21	I1_110713-21	L13110051-01 1/10 RR CL,SO4	1	10		11/07/13 17:13
22	I1_110713-22	L13110051-02 1/3 (F,CL,SO4)	1	3		11/07/13 17:30
23	I1_110713-23	L13110051-03 1/5 (F,CL,SO4)	1	5		11/07/13 17:48
24	I1_110713-24	L13110051-04 1/5 (F,CL,SO4)	1	5		11/07/13 18:05
25	I1_110713-25	L13110146-01 1/5 RS (F,CL,SO4)	1	5		11/07/13 18:22
26	I1_110713-26	WG451877-04 1/5 DUP 0146-01	1	5		11/07/13 18:40
27	I1_110713-27	WG451878-05 ANION CCV	1	1		11/07/13 18:57
28	I1_110713-28	WG451878-06 ANION CCB	1	1		11/07/13 19:15
29	I1_110713-29	L13110146-02 1/5 MS	1	5		11/07/13 19:32
30	I1_110713-30	L13110146-03 1/5 SD	1	5		11/07/13 19:49
31	I1_110713-31	L13110146-04 1/5 (F,CL,SO4)	1	5		11/07/13 20:07
32	I1_110713-32	L13110146-06 1/5 (F,CL,SO4)	1	5		11/07/13 20:24
33	I1_110713-33	L13110146-05 1/5 (F,CL,SO4)	1	5		11/07/13 20:42

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 110713 IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 300/9056 SOP: IC01 Rev: 14

Maintenance Log ID: 48108 Syringe Filter Lot#: 00169000
Eluent ID#: RGT28573
Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Workgroups: WG451877
Internal STD: NA Surrogate STD: NA STD60856 (11/6/13)
CCV STD: STD60856 LCS STD: STD60857 STD60856

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	I1_110713-34	WG451878-07 ANION CCV	1	1		11/07/13 20:59
35	I1_110713-35	WG451878-08 ANION CCB	1	1		11/07/13 21:17
36	I1_110713-36	END	1	1		11/07/13 21:34

Comments

Seq.	Rerun	Dil.	Reason	Analytes
14	X	1	Analyzed too dilute	ALL
	L13101868-02 1/5 (F,CL,SO4): Results not reported.			
17	X	1	Analyzed too dilute	F,SO4
	L13101868-03 1/5 CL: Cl only reported.			
18	X	1	Analyzed too dilute	ALL
	L13101868-04 1/2 (F,CL,SO4): Results not reported.			
19	X	1	Analyzed too dilute	ALL
	L13101868-05 1/2 (F,CL,SO4): Results not reported.			

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 110813 IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 300/9056 SOP: IC01 Rev: 14

Maintenance Log ID: 48112 Syringe Filter Lot#: 00169000
Eluent ID#: RGT28591
Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Workgroups: WG452040
Internal STD: NA Surrogate STD: NA Calibration STD STD60856 (11/6/13)
CCV STD: STD60856 LCS STD: STD60857 MS/MSD STD: STD60856

Comments: L13101868-02, L13110333-06, L13110380-01 were analyzed at dilutions only due to the concentrations of one or more target analytes being near or greater than the ICAL.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_110813-01	ELUENT	1	1		11/08/13 09:09
2	I1_110813-02	DI WATER	1	1		11/08/13 09:27
3	I1_110813-03	WG452140-01 ANION CCV	1	1		11/08/13 09:44
4	I1_110813-04	WG452140-02 ANION CCB	1	1		11/08/13 10:01
5	I1_110813-05	WG452040-01 ANION BLANK	1	1		11/08/13 10:19
6	I1_110813-06	WG452040-02 ANION LCS	1	1		11/08/13 10:36
7	I1_110813-07	L13101868-02 1/2 (F,CL,SO4)	1	2		11/08/13 10:54
8	I1_110813-08	L13101868-03 F,SO4	1	1		11/08/13 11:11
9	I1_110813-09	L13101868-04 (F,CL,SO4)	1	1		11/08/13 11:29
10	I1_110813-10	L13101868-05 (F,CL,SO4)	1	1		11/08/13 11:46
11	I1_110813-11	L13110337-01 (F,CL,SO4)	1	1		11/08/13 12:03
12	I1_110813-12	L13110337-02 (F,CL,SO4)	1	1		11/08/13 12:21
13	I1_110813-13	L13110337-03 (F,CL,SO4)	1	1		11/08/13 12:38
14	I1_110813-14	L13110333-02 (SO4)	1	1		11/08/13 12:56
15	I1_110813-15	WG452140-03 ANION CCV	1	1		11/08/13 13:13
16	I1_110813-16	WG452140-04 ANION CCB	1	1		11/08/13 13:30
17	I1_110813-17	L13110333-03 RS (SO4)	1	1		11/08/13 13:48
18	I1_110813-18	WG452040-04 DUP 333-03	1	1		11/08/13 14:05
19	I1_110813-19	L13110333-04 MS	1	1		11/08/13 14:23
20	I1_110813-20	L13110333-05 SD	1	1		11/08/13 14:40
21	I1_110813-21	L13110333-06 1/10 (SO4)	1	10		11/08/13 14:58
22	I1_110813-22	L13110333-07 (SO4)	1	1		11/08/13 15:15
23	I1_110813-23	L13110333-08 (SO4)	1	1		11/08/13 15:32
24	I1_110813-24	L13110371-01 1/100 (F)	1	100		11/08/13 15:50
25	I1_110813-25	L13110380-01 1/20 (CL)	1	20		11/08/13 16:07
26	I1_110813-26	L13110383-01 (CL,BR,SO4)	1	1		11/08/13 16:25
27	I1_110813-27	WG452140-05 ANION CCV	1	1		11/08/13 16:42
28	I1_110813-28	WG452140-06 ANION CCB	1	1		11/08/13 16:59
29	I1_110813-29	L13110383-02 (CL,BR,SO4)	1	1		11/08/13 17:17
30	I1_110813-30	L13110337-01 1/5 RR CL,SO4	1	5		11/08/13 17:34
31	I1_110813-31	L13110337-02 1/5 RR CL	1	5		11/08/13 17:52
32	I1_110813-32	L13110337-03 1/10 RR CL,SO4	1	10		11/08/13 18:09
33	I1_110813-33	L13110510-04 (ALL)	1	1		11/08/13 18:26

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 110813 IC1.SEQ
Analyst1: JBK Analyst2: NA
Method: 300/9056 SOP: IC01 Rev: 14

Maintenance Log ID: 48112 Syringe Filter Lot#: 00169000
Eluent ID#: RGT28591
Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Workgroups: WG452040
Internal STD: NA Surrogate STD: NA STD60856 (11/6/13)
CCV STD: STD60856 LCS STD: STD60857 STD60856

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	I1_110813-34	L13110510-04 1/5	1	5		11/08/13 18:44
35	I1_110813-35	L13110510-03 (ALL)	1	1		11/08/13 19:01
36	I1_110813-36	L13110510-03 1/5	1	5		11/08/13 19:19
37	I1_110813-37	COLUMN RINSE	1	1		11/08/13 19:36
38	I1_110813-38	L13110477-01 (BR,SO4)	2	1		11/08/13 19:53
39	I1_110813-39	WG452140-07 ANION CCV	1	1		11/08/13 20:11
40	I1_110813-40	WG452140-08 ANION CCB	1	1		11/08/13 20:28
41	I1_110813-41	END	1	1		11/08/13 20:46

Comments

Seq.	Rerun	Dil.	Reason	Analytes
11	X	5	Over Calibration Range	Cl SO4
	L13110337-01 (F,CL,SO4): DL this sequence.			
12	X	5	Over Calibration Range	Cl
	L13110337-02 (F,CL,SO4): DL this sequence.			
13	X	10	Over Calibration Range	Cl SO4
	L13110337-03 (F,CL,SO4): DL this sequence.			
24				
	L13110371-01 1/100 (F): Sample matrix consists of 3 distinct phases (two separate organic layers atop brine water). The bottom layer was target for analysis. Dilution due to extremely high Cl concentration.			
33				
	L13110510-04 (ALL): Received "out of hold" for NO2 and NO3.			
35				
	L13110510-03 (ALL): Received "out of hold" for NO2 and NO3.			

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Microbac Laboratories Inc.

Data Checklist

Date: 06-NOV-2013
Analyst: JBK
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 56920
Analytical Workgroups: WG450536 (ICAL) WG451714 (LOD/LOQ)

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	WG450536
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual Integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	JBK
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
06-NOV-2013

Secondary Reviewer:
08-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-08-2013 15:40:54

Microbac Laboratories Inc.

Data Checklist

Date: 07-NOV-2013
Analyst: JBK
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 56976
Analytical Workgroups: WG451877 (10-1868, 1877, 11-0051, 0146)

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual Integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	JBK
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
08-NOV-2013

Secondary Reviewer:
11-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-11-2013 10:04:09

Microbac Laboratories Inc.

Data Checklist

Date: 08-NOV-2013
Analyst: JBK
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 56990
Analytical Workgroups: WG452040 (10-1868, 11-333, 337, 371, 380, 383, 477, 510)

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	X
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual Integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	JBK
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MDC

Primary Reviewer:
11-NOV-2013

Secondary Reviewer:
11-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-11-2013 10:16:02

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 300.0 AAB#: WG451877

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/07/2013	8.1	2	*	11/07/13	8.2	2	*
MPL 1-1013-1	03	10/30/13					11/07/2013	8	2	*	11/07/13	8.1	2	*

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3193572
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 300.0 AAB#: WG452040

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-2	02	10/30/13					11/08/2013	9	2	*	11/08/13	9	2	*
MPL 1-1013-1	03	10/30/13					11/08/2013	8.9	2	*	11/08/13	8.9	2	*
MPL 18-1013-1	04	10/30/13					11/08/2013	8.8	2	*	11/08/13	8.9	2	*
MPL 6-1013-1	05	10/30/13					11/08/2013	8.8	2	*	11/08/13	8.8	2	*

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3193572
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: I1_110713-05
Prep Date: 11/07/13 12:03
Analyzed Date: 11/07/13 12:34
Analyst: JBK

Work Group: WG451877
Blank Sample ID: WG451877-01
Instrument ID: IC1
Method: 300.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451877-02	I1_110713-06	11/07/13 12:52	01
MPL 13-1013-1	L13101868-01	I1_110713-13	11/07/13 14:54	DL01
MPL 1-1013-1	L13101868-03	I1_110713-17	11/07/13 16:03	DL01
DUP	WG451877-04	I1_110713-26	11/07/13 18:40	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 3193573
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: I1_110813-05
Prep Date: 11/08/13 09:47
Analyzed Date: 11/08/13 10:19
Analyst: JBK

Work Group: WG452040
Blank Sample ID: WG452040-01
Instrument ID: IC1
Method: 300.0

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG452040-02	I1_110813-06	11/08/13 10:36	01
MPL 13-1013-2	L13101868-02	I1_110813-07	11/08/13 10:54	DL01
MPL 1-1013-1	L13101868-03	I1_110813-08	11/08/13 11:11	01
MPL 18-1013-1	L13101868-04	I1_110813-09	11/08/13 11:29	01
MPL 6-1013-1	L13101868-05	I1_110813-10	11/08/13 11:46	01
DUP	WG452040-04	I1_110813-18	11/08/13 14:05	01

Report Name: BLANK_SUMMARY
PDF File ID: 3193573
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/07/13 12:03 Sample ID: WG451877-01
Instrument ID: IC1 Run Date: 11/07/13 12:34 Prep Method: 300.0
File ID: I1 110713-05 Analyst: JBK Method: 300.0
Workgroup (AAB#): WG451877 Matrix: Water Units: mg/L
Contract #: Cal ID: IC1-06-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chloride	0.100	0.200	0.100	1	U
Fluoride	0.100	0.200	0.100	1	U
Sulfate	0.500	1.00	0.500	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3193574
11-NOV-2013 11:34

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/08/13 09:47 Sample ID: WG452040-01
Instrument ID: IC1 Run Date: 11/08/13 10:19 Prep Method: 300.0
File ID: I1 110813-05 Analyst: JBK Method: 300.0
Workgroup (AAB#): WG452040 Matrix: Water Units: mg/L
Contract #: Cal ID: IC1-06-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Chloride	0.100	0.200	0.100	1	U
Fluoride	0.100	0.200	0.100	1	U
Sulfate	0.500	1.00	0.500	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3193574
11-NOV-2013 11:34

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/07/2013 Sample ID: WG451877-02
Instrument ID: IC1 Run Time: 12:52 Prep Method: 300.0
File ID: I1 110713-06 Analyst: JBK Method: 300.0
Workgroup (AAB#): WG451877 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD60856 Cal ID: IC1-06-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	7.67	95.8	90 - 110	
Fluoride	8.00	7.96	99.4	90 - 110	
Sulfate	40.0	38.8	97.0	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 3193575
Report generated: 11/11/2013 11:34

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/08/2013 Sample ID: WG452040-02
Instrument ID: IC1 Run Time: 10:36 Prep Method: 300.0
File ID: I1 110813-06 Analyst: JBK Method: 300.0
Workgroup (AAB#): WG452040 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD60856 Cal ID: IC1-06-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	7.86	98.3	90 - 110	
Fluoride	8.00	8.04	100	90 - 110	
Sulfate	40.0	39.8	99.4	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 3193575
Report generated: 11/11/2013 11:34

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L13101868
Analytical Method: 300.0
ICAL Workgroup: WG450536

Instrument ID: IC1
Initial Calibration Date: 06-NOV-13 10:26
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloride		5.674	7.25	0.99900	
Fluoride		3.960	8.13	1.00000	
Sulfate		7.597	10.2	0.99900	

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 3193576
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L13101868

Analytical Method: 300.0

Instrument ID: IC1

Initial Calibration Date: 06-NOV-13 10:26

Column ID: F

Analyte	WG450536-01			WG450536-02			WG450536-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	24.0	4.80400000	4.996	12.0	2.19100000	5.477	8.00	1.39700000	5.727
Fluoride	24.0	6.64400000	3.612	12.0	3.26400000	3.676	8.00	2.11900000	3.775
Sulfate	120	18.5710000	6.462	60.0	8.42900000	7.118	40.0	5.34100000	7.489

INT_CAL - Modified 03/06/2008
PDF File ID: 3193576
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L13101868

Analytical Method: 300.0

Instrument ID: IC1

Initial Calibration Date: 06-NOV-13 10:26

Column ID: F

Analyte	WG450536-04			WG450536-05			WG450536-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	4.00	0.682000000	5.865	1.00	0.169000000	5.917	0.200	0.0330000000	6.061
Fluoride	4.00	0.992000000	4.032	1.00	0.237000000	4.219	0.200	0.0450000000	4.444
Sulfate	20.0	2.56800000	7.788	5.00	0.606000000	8.251	1.00	0.118000000	8.475

INT_CAL - Modified 03/06/2008
PDF File ID: 3193576
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L13101868 Run Date: 11/06/2013 Sample ID: WG450536-07
Instrument ID: IC1 Run Time: 11:07 Method: 300.0
File ID: I1 110613-07 Analyst: JBK QC Key: DOD4
ICal Workgroup: WG450536 Cal ID: IC1 - 06-NOV-13

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloride		8.00	7.82	mg/L	5.71	2.30	10	
Fluoride		8.00	8.17	mg/L	3.76	2.10	10	
Sulfate		40.0	39.6	mg/L	7.46	1.00	10	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 3193577
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868 Run Date: 11/07/2013 Sample ID: WG451878-02

Instrument ID: IC1 Run Time: 12:17 Method: 300.0

File ID: I1_110713-04 Analyst: JBK Units: mg/L

Workgroup (AAB#): WG451877 Cal ID: IC1 - 06-NOV-13

Matrix: WATER QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Fluoride	0.100	0.200	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3193579
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/07/2013
Sample ID: WG451878-04
Instrument ID: IC1
Run Time: 15:46
Method: 300.0
File ID: I1_110713-16
Analyst: JBK
Units: mg/L
Workgroup (AAB#): WG451877
Cal ID: IC1 - 06-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Fluoride	0.100	0.200	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3193579
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868 Run Date: 11/07/2013 Sample ID: WG451878-06

Instrument ID: IC1 Run Time: 19:15 Method: 300.0

File ID: I1_110713-28 Analyst: JBK Units: mg/L

Workgroup (AAB#): WG451877 Cal ID: IC1 - 06-NOV-13

Matrix: WATER QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Fluoride	0.100	0.200	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3193579
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/08/2013
Sample ID: WG452140-02
Instrument ID: IC1
Run Time: 10:01
Method: 300.0
File ID: I1_110813-04
Analyst: JBK
Units: mg/L
Workgroup (AAB#): WG452040
Cal ID: IC1 - 06-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Fluoride	0.100	0.200	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3193579
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L13101868
Run Date: 11/08/2013
Sample ID: WG452140-04
Instrument ID: IC1
Run Time: 13:30
Method: 300.0
File ID: I1_110813-16
Analyst: JBK
Units: mg/L
Workgroup (AAB#): WG452040
Cal ID: IC1 - 06-NOV-13
Matrix: WATER
QAPP: DOD4_NOFLAG

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.200	0.100	U
Fluoride	0.100	0.200	0.100	U
Sulfate	0.500	1.00	0.500	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 3193579
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/07/2013
Sample ID: WG451878-01
Instrument ID: IC1
Run Time: 11:59
Method: 300.0
File ID: I1 110713-03
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG451877
Cal ID: IC1 - 06-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.63	mg/L	5.85	4.66	10	
Fluoride		8.00	7.92	mg/L	3.88	0.975	10	
Sulfate		40.0	38.8	mg/L	7.63	3.12	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 3193578
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/07/2013
Sample ID: WG451878-03
Instrument ID: IC1
Run Time: 15:28
Method: 300.0
File ID: I1 110713-15
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG451877
Cal ID: IC1 - 06-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.80	mg/L	5.72	2.48	10	
Fluoride		8.00	8.06	mg/L	3.81	0.713	10	
Sulfate		40.0	39.6	mg/L	7.46	0.908	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 3193578
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/07/2013
Sample ID: WG451878-05
Instrument ID: IC1
Run Time: 18:57
Method: 300.0
File ID: I1 110713-27
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG451877
Cal ID: IC1 - 06-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.81	mg/L	5.71	2.36	10	
Fluoride		8.00	8.09	mg/L	3.80	1.06	10	
Sulfate		40.0	39.8	mg/L	7.43	0.505	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 3193578
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/08/2013
Sample ID: WG452140-01
Instrument ID: IC1
Run Time: 09:44
Method: 300.0
File ID: I1 110813-03
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG452040
Cal ID: IC1 - 06-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.86	mg/L	5.68	1.73	10	
Fluoride		8.00	8.03	mg/L	3.82	0.400	10	
Sulfate		40.0	39.9	mg/L	7.40	0.163	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 3193578
Report generated 11/11/2013 11:34

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L13101868
Run Date: 11/08/2013
Sample ID: WG452140-03
Instrument ID: IC1
Run Time: 13:13
Method: 300.0
File ID: I1 110813-15
Analyst: JBK
QC Key: DOD4
Workgroup (AAB#): WG452040
Cal ID: IC1 - 06-NOV-13
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.89	mg/L	5.66	1.38	10	
Fluoride		8.00	8.01	mg/L	3.84	0.0625	10	
Sulfate		40.0	40.3	mg/L	7.34	0.655	10	

* Exceeds %D Criteria

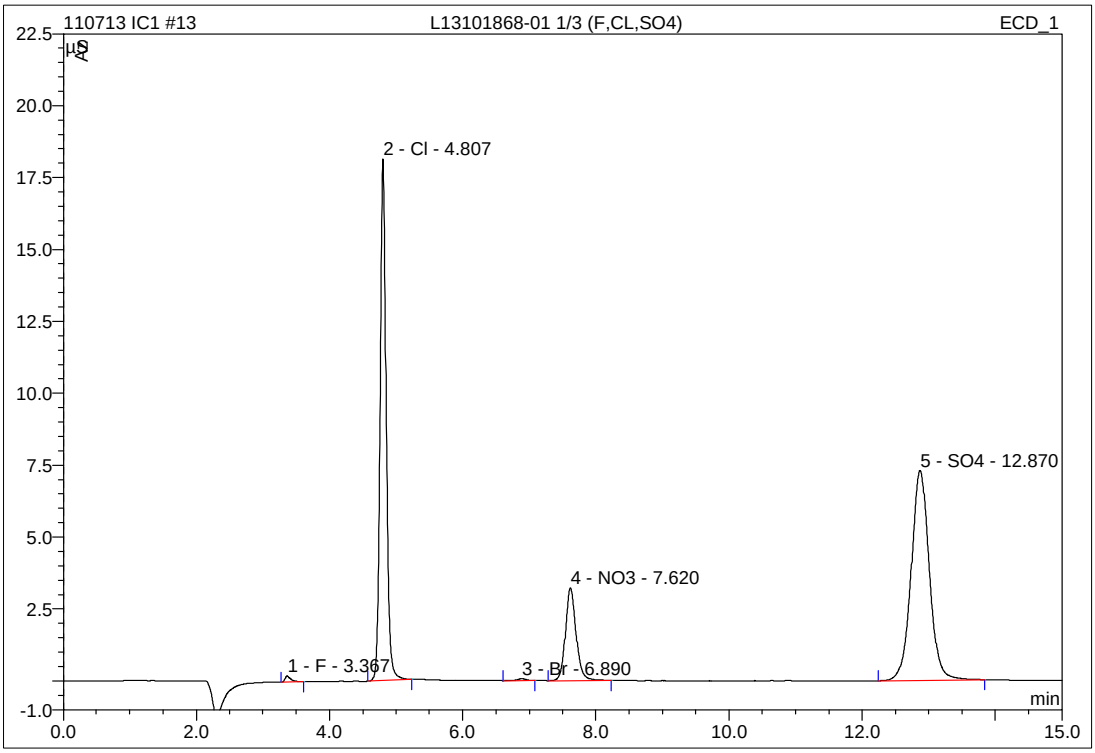
CCV - Modified 03/05/2008
PDF File ID: 3193578
Report generated 11/11/2013 11:34

2.2.1.3 Sample Data

13 L13101868-01 1/3 (F,CL,SO4)

1,3 JBK

Sample Name:	**L13101868-01 1/3 (F,CL,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 14:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	0.212	0.021	0.44	0.112	BMB
2	4.81	Cl	18.145	1.910	39.35	10.651	BMB
3	6.89	Br	0.067	0.011	0.22	0.149	BMB
4	7.62	NO3	3.229	0.602	12.41	1.383	BMB
5	12.87	SO4	7.302	2.310	47.58	17.154	BMB
Total:			28.954	4.854	100.00	29.449	

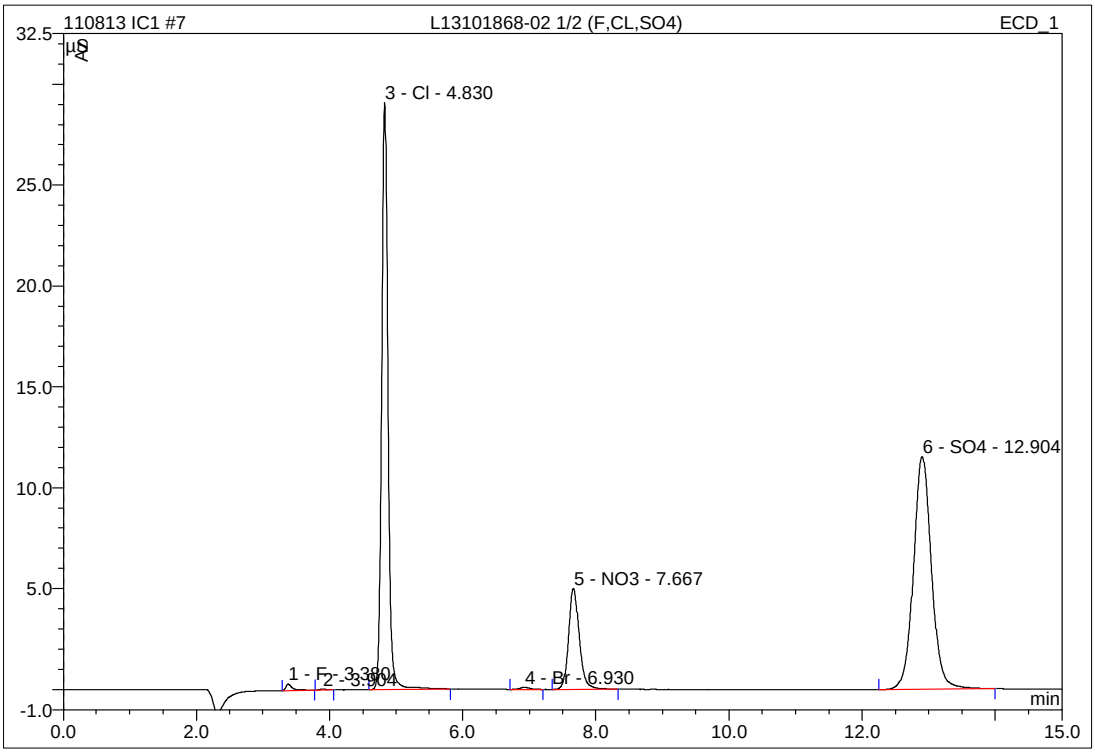
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

7 L13101868-02 1/2 (F,CL,SO4)

1,2 JBK

Sample Name:	**L13101868-02 1/2 (F,CL,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 10:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	0.324	0.035	0.46	0.166	BMB
2	3.90	n.a.	0.054	0.006	0.07	n.a.	BMB
3	4.83	Cl	29.074	3.121	40.28	17.387	BMB
4	6.93	Br	0.102	0.018	0.23	0.252	BMB
5	7.67	NO3	5.013	0.938	12.10	2.140	BMB
6	12.90	SO4	11.540	3.630	46.85	26.877	BMB
Total:			46.106	7.748	100.00	46.821	

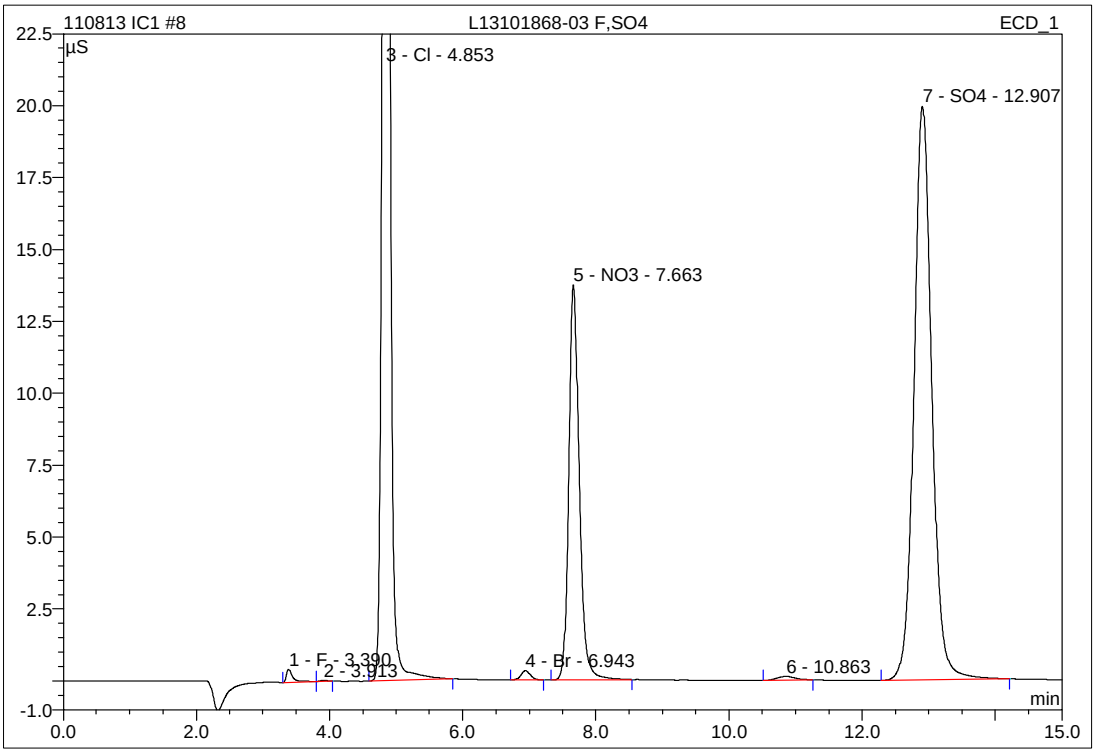
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

8 L13101868-03 F,SO4

1,1 JBK

Sample Name:	**L13101868-03 F,SO4**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 11:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	0.457	0.050	0.31	0.221	BMB
2	3.91	n.a.	0.041	0.004	0.03	n.a.	bMB
3	4.85	Cl	63.565	7.266	45.08	40.450	BMB
4	6.94	Br	0.329	0.054	0.34	0.756	BMB
5	7.66	NO3	13.731	2.508	15.56	5.684	BMB
6	10.86	n.a.	0.135	0.043	0.27	n.a.	BMB
7	12.91	SO4	19.945	6.194	38.43	45.749	BMB
Total:			98.202	16.118	100.00	92.859	

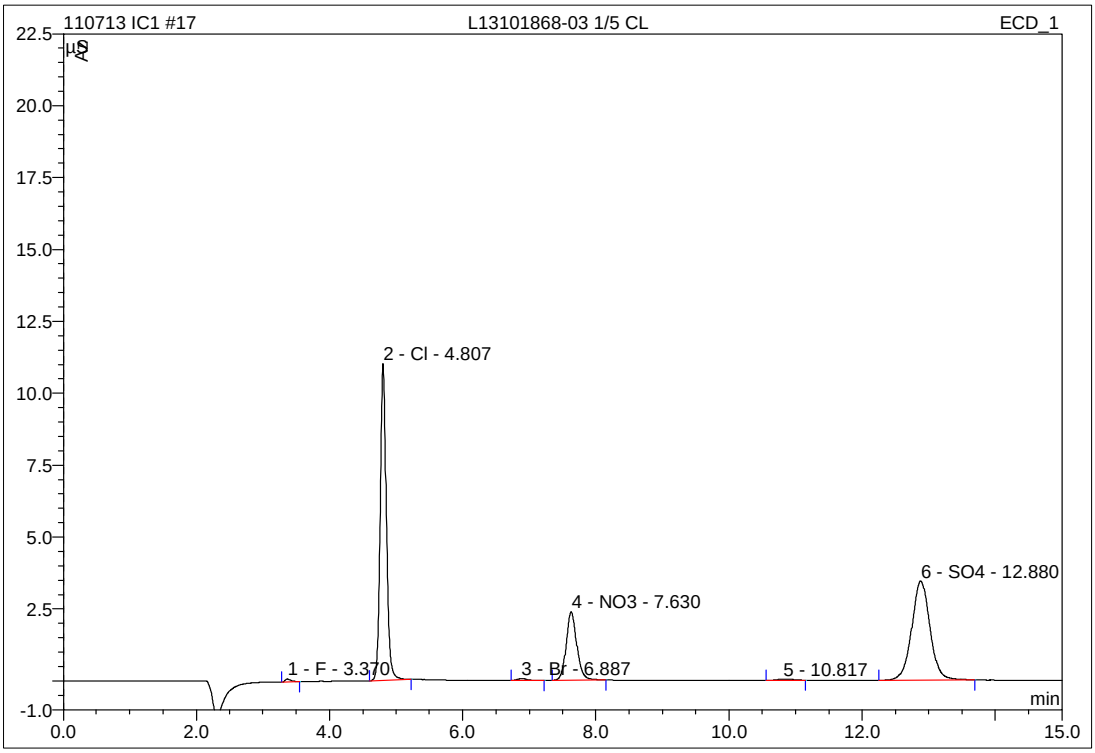
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

17 L13101868-03 1/5 CL

1,5 JBK (RR 1X F,SO4)

Sample Name:	**L13101868-03 1/5 CL**	*Injection Volume:*	**20.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 16:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	0.102	0.009	0.34	0.066	BMB
2	4.81	Cl	11.012	1.173	42.62	6.546	BMB
3	6.89	Br	0.066	0.011	0.41	0.159	BMB
4	7.63	NO3	2.377	0.443	16.11	1.023	BMB
5	10.82	n.a.	0.040	0.011	0.42	n.a.	BMB
6	12.88	SO4	3.450	1.103	40.10	8.273	BMB
Total:			17.046	2.751	100.00	16.067	

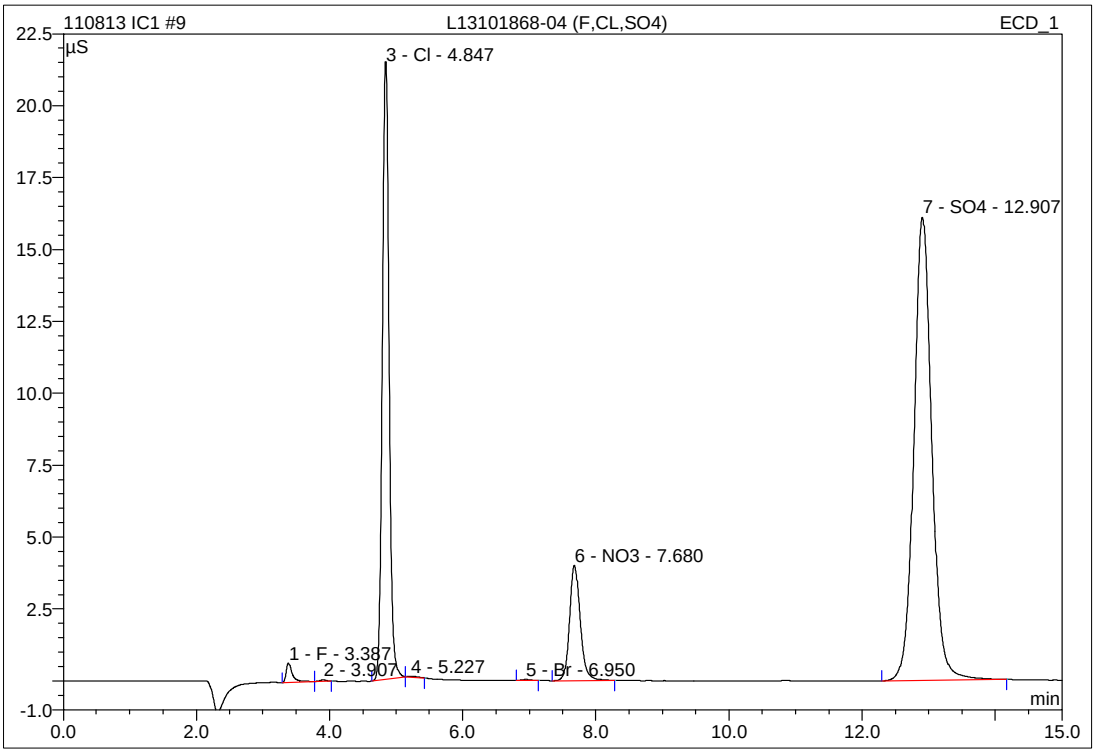
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

9 L13101868-04 (F,CL,SO4)

1,1 JBK

Sample Name:	**L13101868-04 (F,CL,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 11:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	0.675	0.072	0.86	0.305	BMB
2	3.91	n.a.	0.052	0.005	0.06	n.a.	bMB
3	4.85	Cl	21.477	2.453	29.47	13.668	BMb
4	5.23	n.a.	0.029	0.005	0.07	n.a.	bMB
5	6.95	Br	0.036	0.005	0.06	0.076	BMB
6	7.68	NO3	4.008	0.751	9.02	1.718	BMB
7	12.91	SO4	16.105	5.031	60.45	37.192	BMB
Total:			42.381	8.322	100.00	52.959	

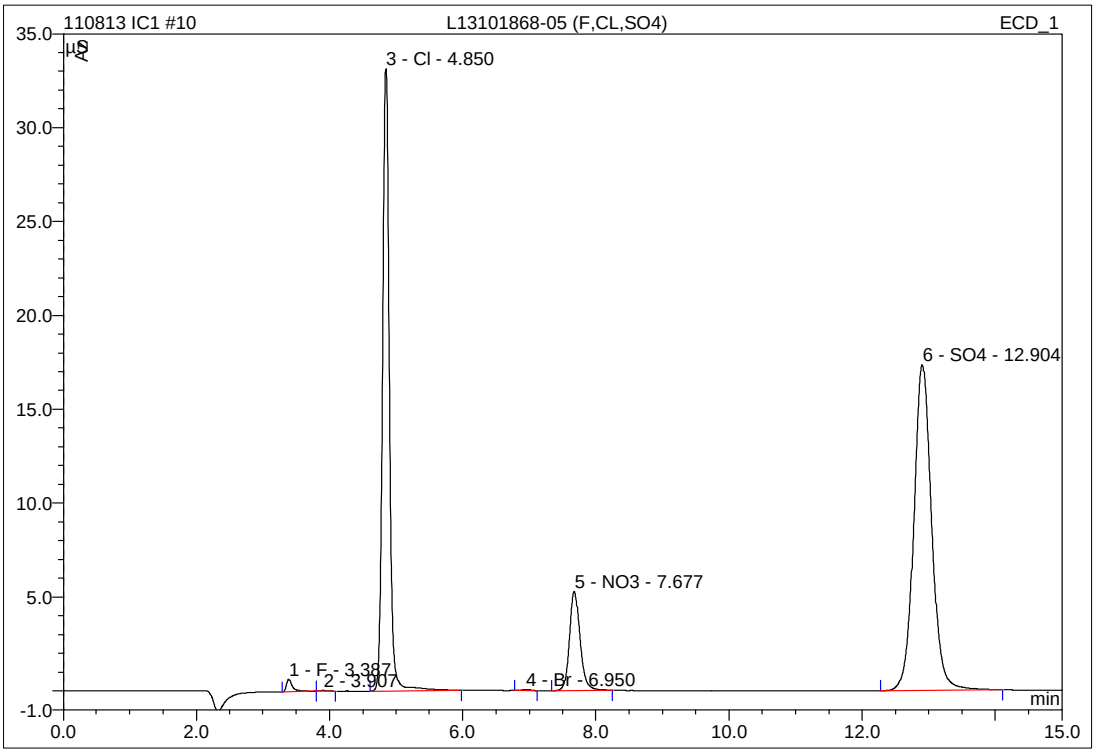
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

10 L13101868-05 (F,CL,SO4)

1,1 JBK

Sample Name:	**L13101868-05 (F,CL,SO4)**	*Injection Volume:*	**20.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 11:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	0.669	0.071	0.69	0.302	BMb
2	3.91	n.a.	0.036	0.004	0.04	n.a.	bMB
3	4.85	Cl	33.145	3.833	37.21	21.346	BMB
4	6.95	Br	0.056	0.008	0.08	0.119	BMB
5	7.68	NO3	5.279	0.980	9.52	2.235	BMB
6	12.90	SO4	17.352	5.404	52.47	39.939	BMB
Total:			56.537	10.300	100.00	63.942	

IC/Integration

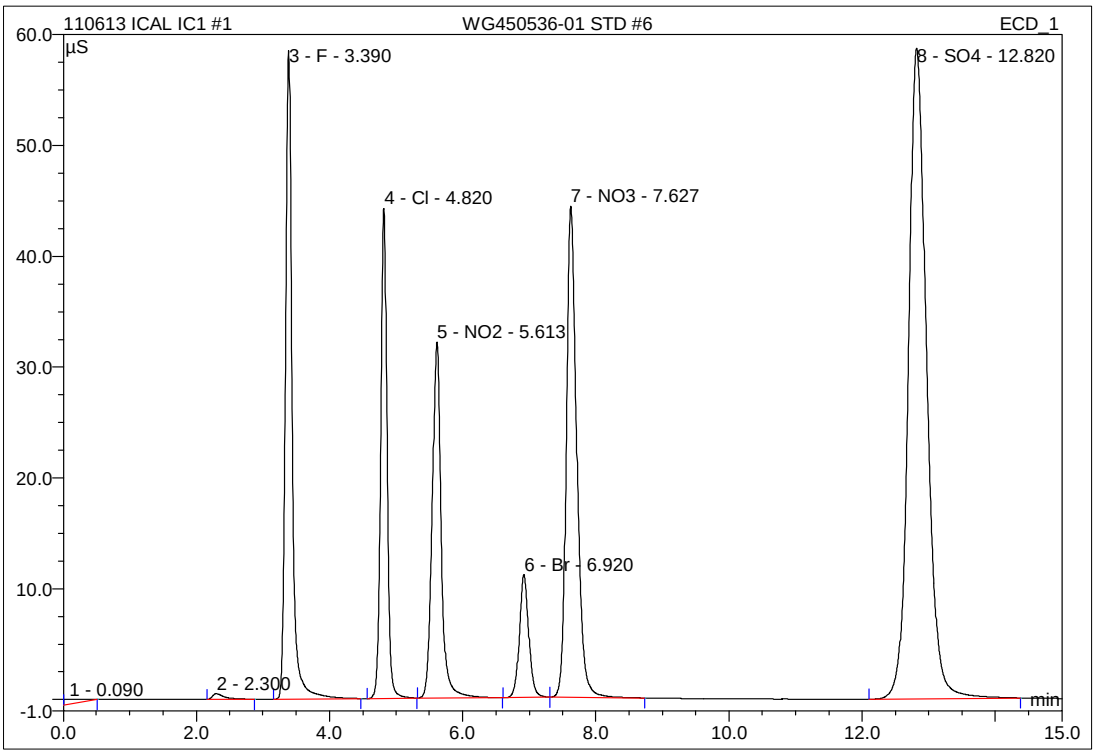
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2.2.1.4 Standards Data

1 WG450536-01 STD #6

1,1 JBK STD60856

Sample Name:	**WG450536-01 STD #6**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 8:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	0.09	n.a.	0.431	0.132	0.29	n.a.	BMB
2	2.30	n.a.	0.527	0.110	0.24	n.a.	BMB
3	3.39	F	58.509	6.644	14.68	25.442	BMB
4	4.82	Cl	44.229	4.804	10.62	26.751	BMB
5	5.61	NO2	32.141	5.066	11.19	15.551	BMB
6	6.92	Br	11.090	1.809	4.00	25.227	BMb
7	7.63	NO3	44.330	8.117	17.94	18.347	bMB
8	12.82	SO4	58.721	18.571	41.04	136.882	BMB
Total:			249.979	45.254	100.00	248.200	

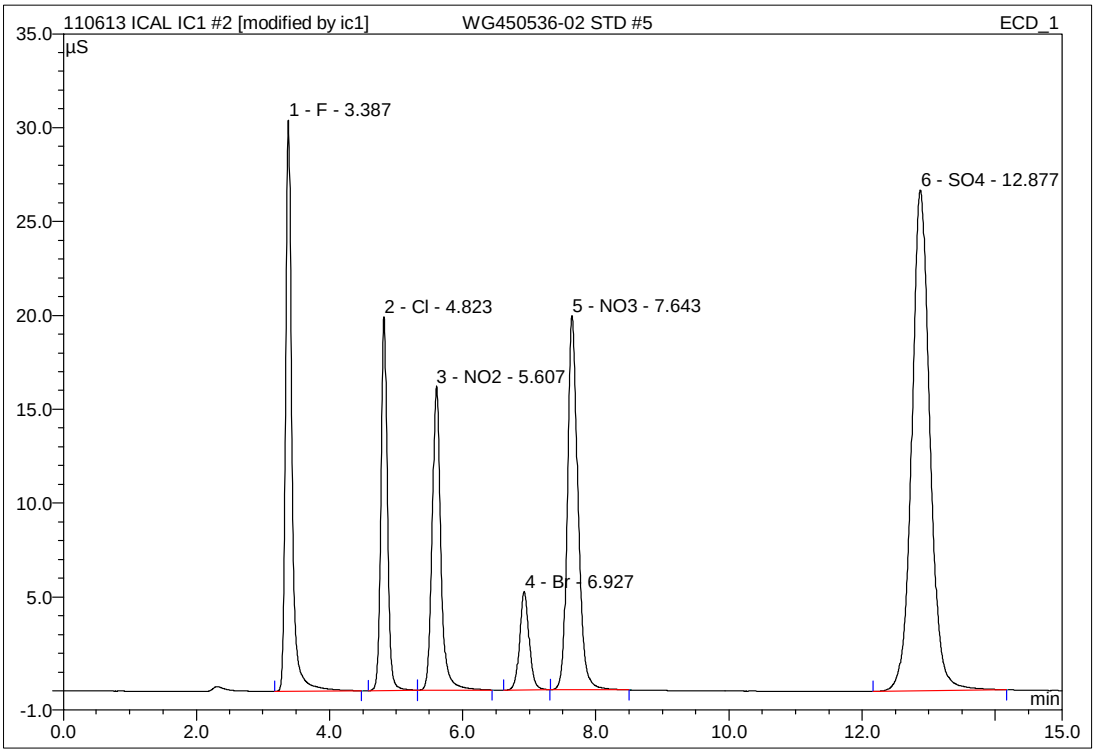
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2 WG450536-02 STD #5

1,1 JBK STD60856

Sample Name:	**WG450536-02 STD #5**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 9:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	30.428	3.264	15.63	12.514	BMB*
2	4.82	Cl	19.929	2.191	10.49	12.214	BMB
3	5.61	NO2	16.200	2.454	11.75	7.542	BMB
4	6.93	Br	5.239	0.867	4.15	12.094	BMB
5	7.64	NO3	19.921	3.678	17.61	8.325	BMB
6	12.88	SO4	26.681	8.429	40.36	62.207	BMB
Total:			118.398	20.883	100.00	114.896	

IC/Integration

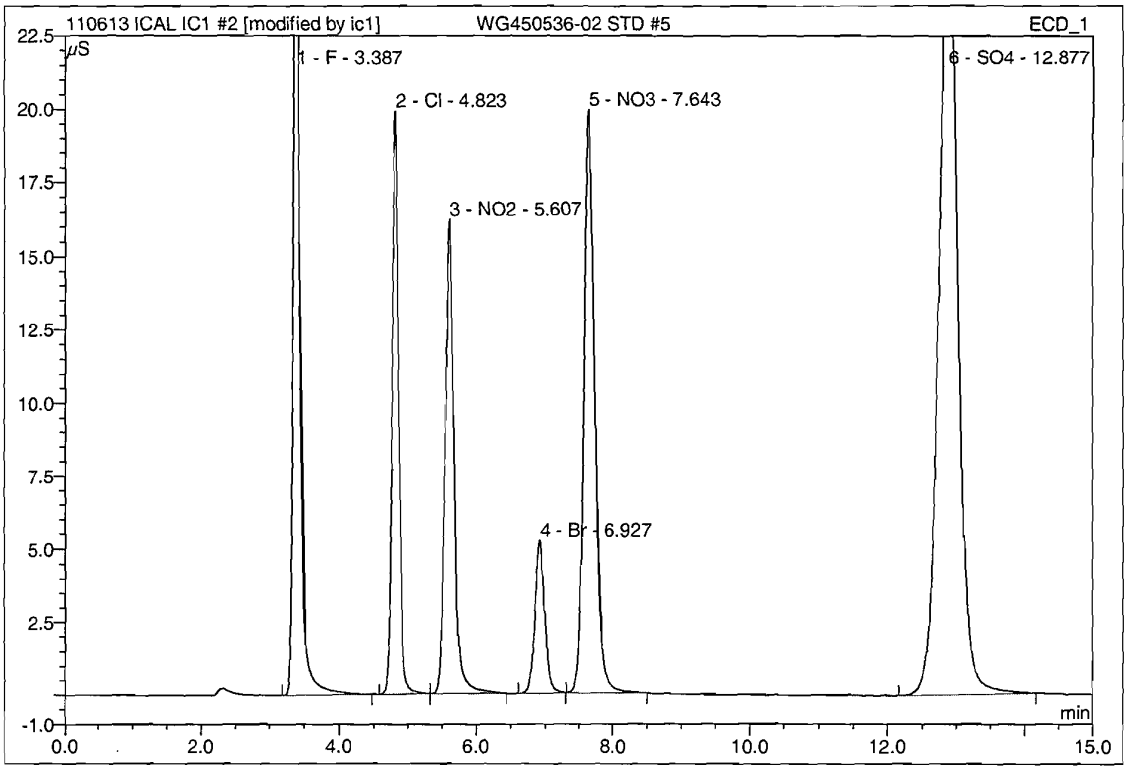
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2 WG450536-02 STD #5

1,1 JBK STD60856

#753019

Sample Name:	**WG450536-02 STD #5**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 9:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	30.428	3.264	15.63	12.514	BMB*
2	4.82	Cl	19.929	2.191	10.49	12.214	BMB
3	5.61	NO2	16.200	2.454	11.75	7.542	BMB
4	6.93	Br	5.239	0.867	4.15	12.094	BMB
5	7.64	NO3	19.921	3.678	17.61	8.325	BMB
6	12.88	SO4	26.681	8.429	40.36	62.207	BMB
Total:			118.398	20.883	100.00	114.896	

JBK #1
11/11/13
11/11/13

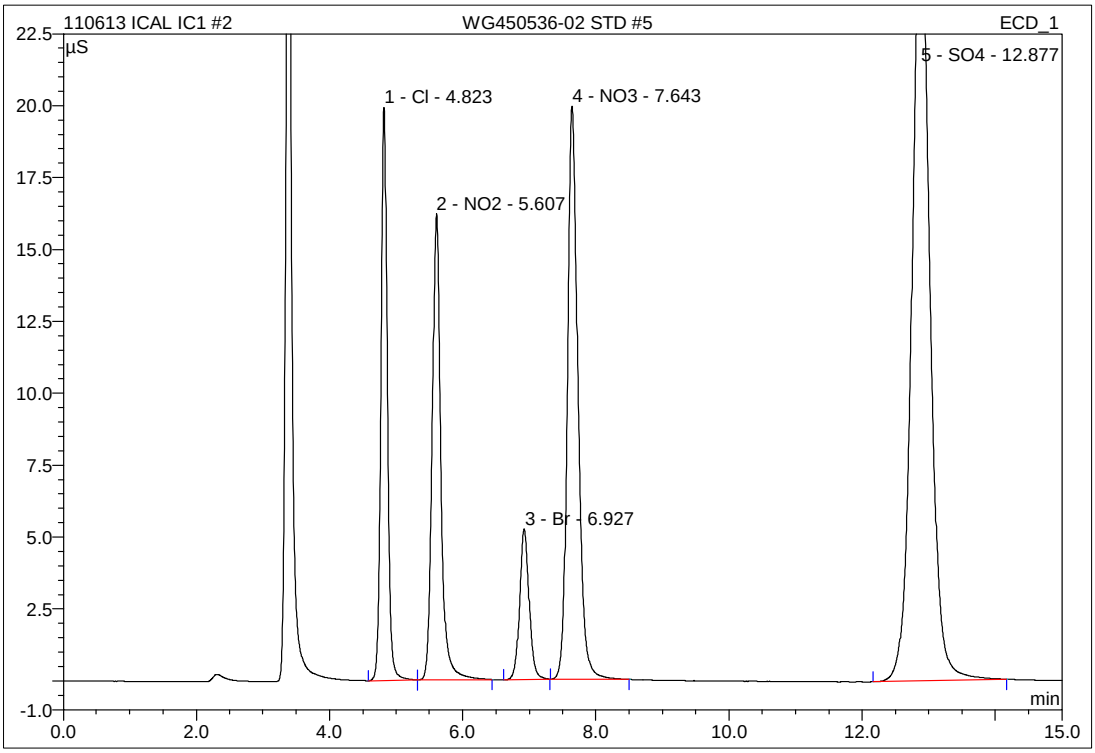
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2 WG450536-02 STD #5

1,1 JBK STD60856

Sample Name:	**WG450536-02 STD #5**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 9:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

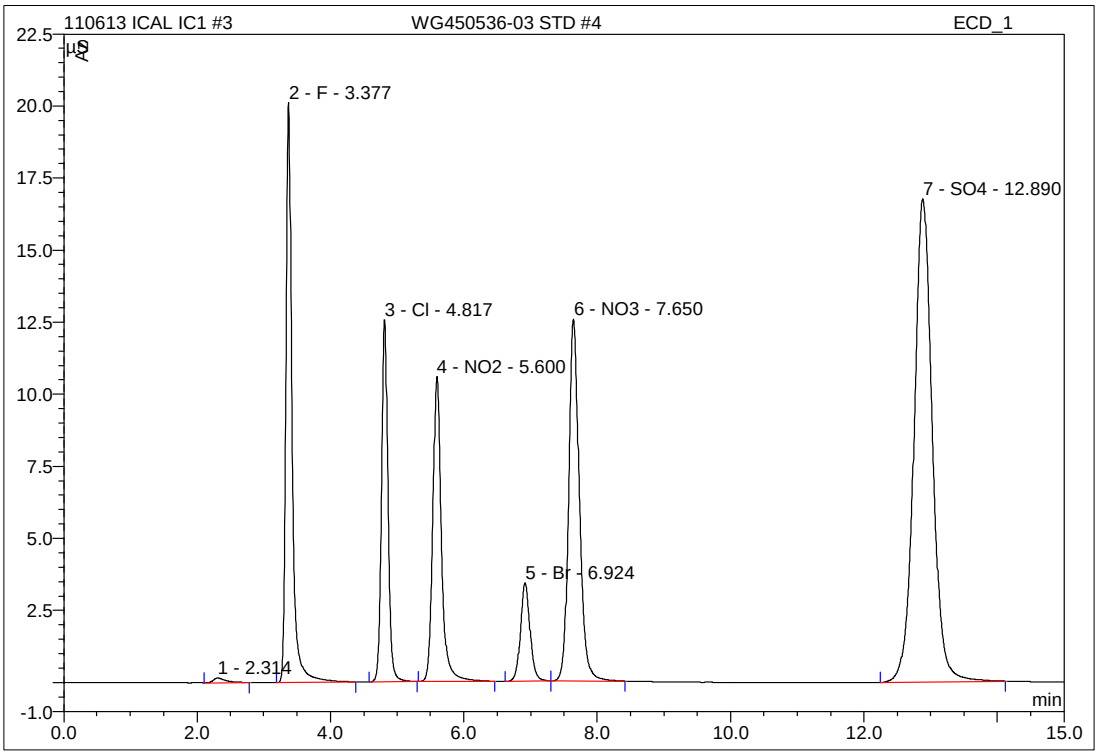


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.82	Cl	19.929	2.191	12.44	12.214	BMB
2	5.61	NO2	16.200	2.454	13.93	7.542	BMB
3	6.93	Br	5.239	0.867	4.92	12.094	BMB
4	7.64	NO3	19.921	3.678	20.87	8.325	BMB
5	12.88	SO4	26.681	8.429	47.84	62.207	BMB
Total:			87.970	17.619	100.00	102.381	

3 WG450536-03 STD #4

1,1 JBK STD60856

Sample Name:	**WG450536-03 STD #4**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 9:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.31	n.a.	0.162	0.036	0.27	n.a.	BMB
2	3.38	F	20.121	2.119	15.83	8.136	BMB
3	4.82	Cl	12.573	1.397	10.43	7.794	BMB
4	5.60	NO2	10.582	1.591	11.88	4.896	BMB
5	6.92	Br	3.413	0.568	4.25	7.930	BMB
6	7.65	NO3	12.548	2.339	17.46	5.302	BMB
7	12.89	SO4	16.761	5.341	39.89	39.473	BMB
Total:			76.160	13.391	100.00	73.532	

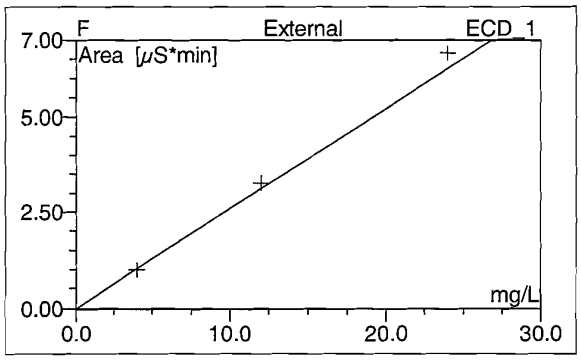
IC/Integration

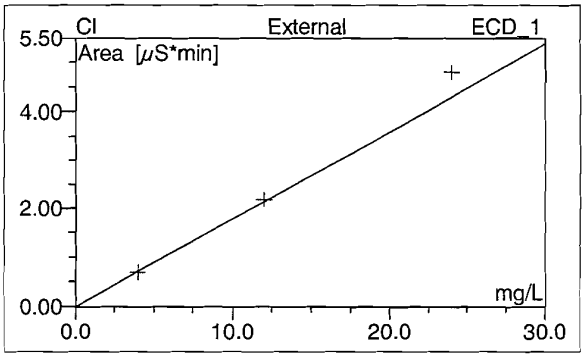
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

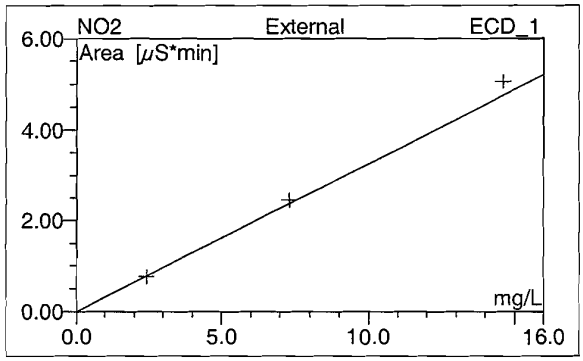
3 WG450536-03 STD #4

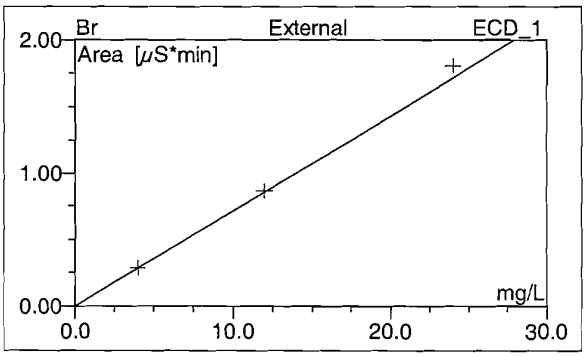
1,1 JBK STD60856

Sample Name:	**WG450536-03 STD #4**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 9:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**







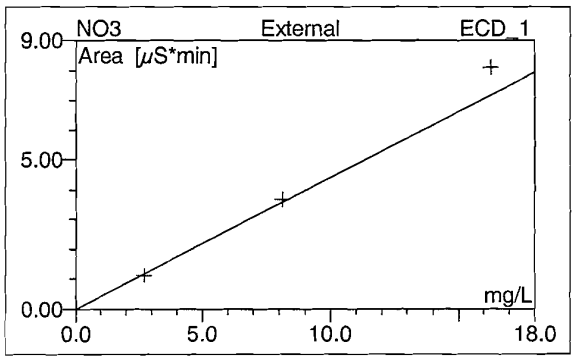


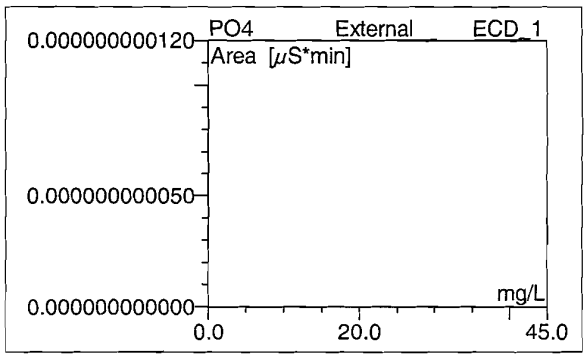
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.31	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.38	F	YYLOff	3	99.9997	-0.0079	0.2615	0.0000
3	4.82	Cl	YYLOff	3	99.8983	-0.0037	0.1797	0.0000
4	5.60	NO2	YYLOff	3	99.9953	-0.0063	0.3262	0.0000
5	6.92	Br	YYLOff	3	99.9728	-0.0002	0.0717	0.0000
6	7.65	NO3	YYLOff	3	99.8870	-0.0100	0.4430	0.0000
7	12.89	SO4	YYLOff	3	99.8991	-0.0203	0.1358	0.0000
Average:					99.9420	-0.0081	0.2363	0.0000

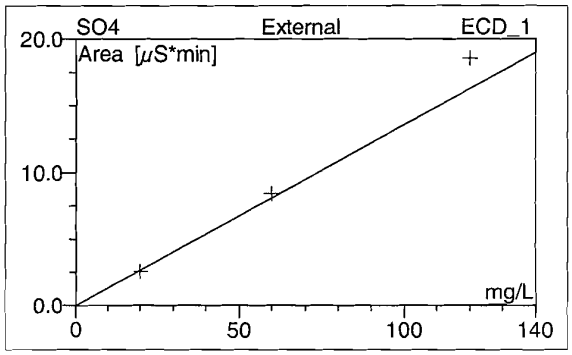
3 WG450536-03 STD #4

1,1 JBK STD60856

Sample Name:	**WG450536-03 STD #4**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 9:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**





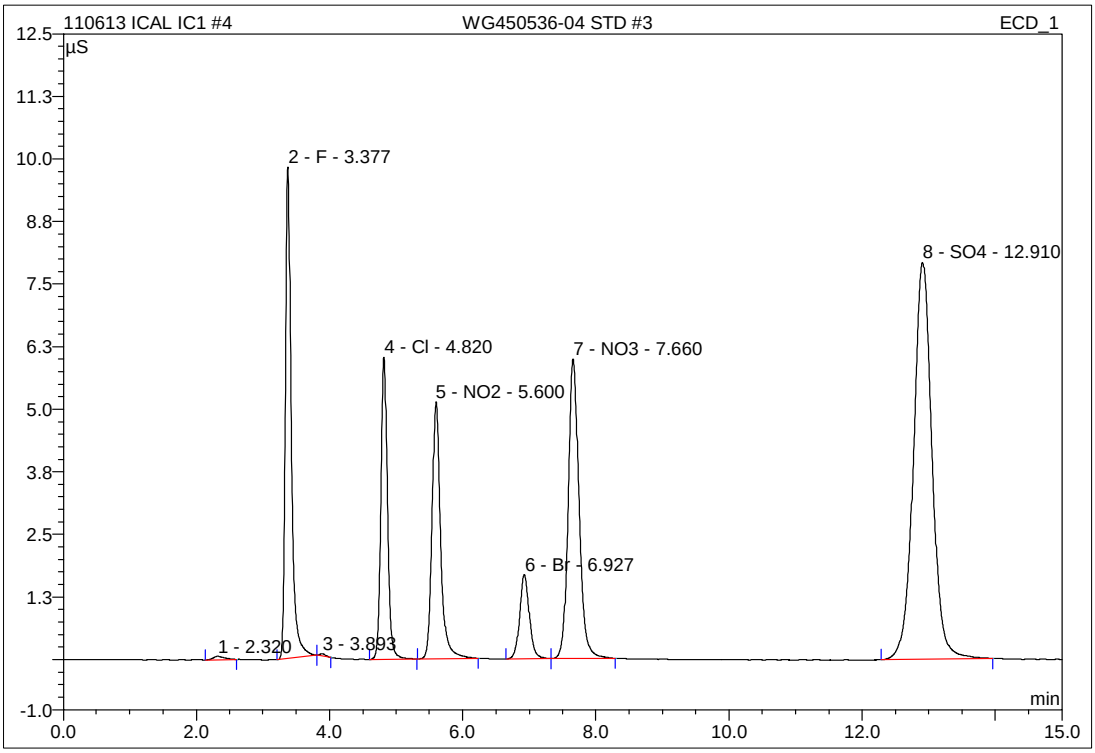


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.31	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.38	F	YYLOff	3	99.9997	-0.0079	0.2615	0.0000
3	4.82	Cl	YYLOff	3	99.8983	-0.0037	0.1797	0.0000
4	5.60	NO2	YYLOff	3	99.9953	-0.0063	0.3262	0.0000
5	6.92	Br	YYLOff	3	99.9728	-0.0002	0.0717	0.0000
6	7.65	NO3	YYLOff	3	99.8870	-0.0100	0.4430	0.0000
7	12.89	SO4	YYLOff	3	99.8991	-0.0203	0.1358	0.0000
Average:					99.9420	-0.0081	0.2363	0.0000

4 WG450536-04 STD #3

1,1 JBK STD60856

Sample Name:	**WG450536-04 STD #3**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 9:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.32	n.a.	0.067	0.013	0.20	n.a.	BMB
2	3.38	F	9.819	0.992	15.39	3.825	BMb
3	3.89	n.a.	0.050	0.005	0.07	n.a.	bMB
4	4.82	Cl	6.037	0.682	10.59	3.818	BMB
5	5.60	NO2	5.131	0.766	11.89	2.368	BMB
6	6.93	Br	1.688	0.285	4.42	3.973	BMB
7	7.66	NO3	5.989	1.134	17.59	2.582	BMB
8	12.91	SO4	7.924	2.568	39.85	19.058	BMB
Total:			36.705	6.445	100.00	35.624	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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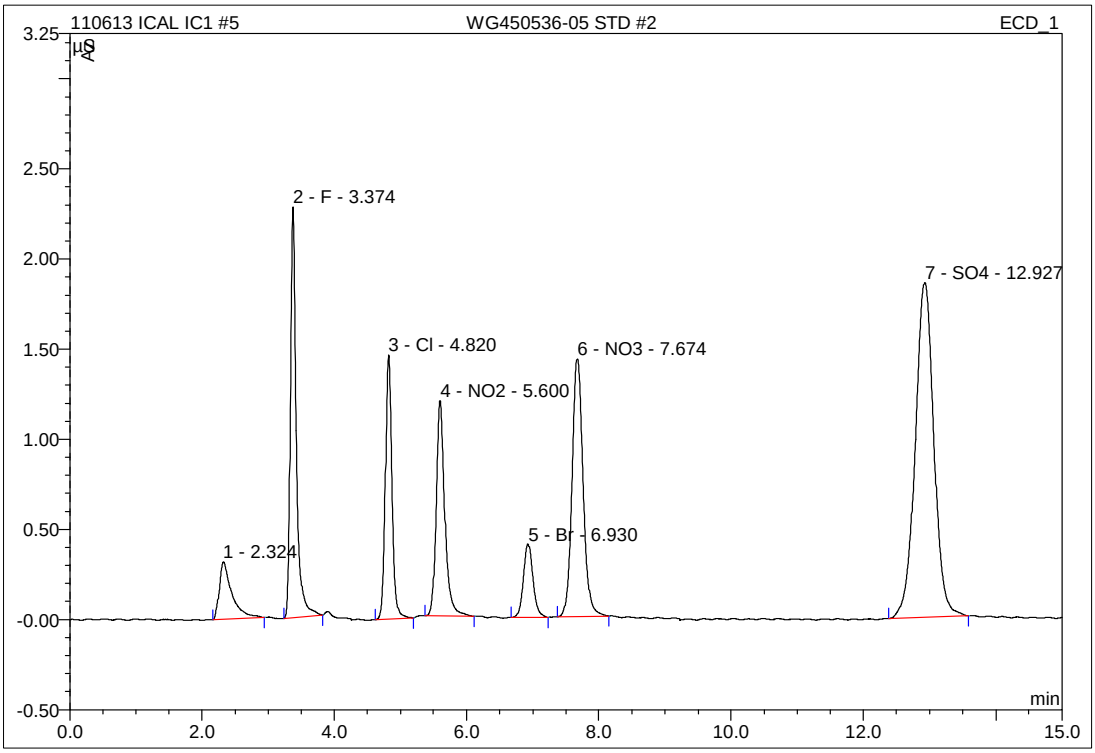
5 WG450536-05 STD #2

1,1 JBK STD60856

Sample Name:	**WG450536-05 STD #2**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 10:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.32	n.a.	0.319	0.071	4.41	n.a.	BMB
2	3.37	F	2.278	0.237	14.76	0.936	BMB
3	4.82	Cl	1.466	0.169	10.54	0.962	BMB
4	5.60	NO2	1.196	0.180	11.18	0.570	BMB
5	6.93	Br	0.407	0.068	4.26	0.956	BMB
6	7.67	NO3	1.430	0.275	17.11	0.643	BMB
7	12.93	SO4	1.857	0.606	37.74	4.612	BMB
Total:			8.952	1.606	100.00	8.680	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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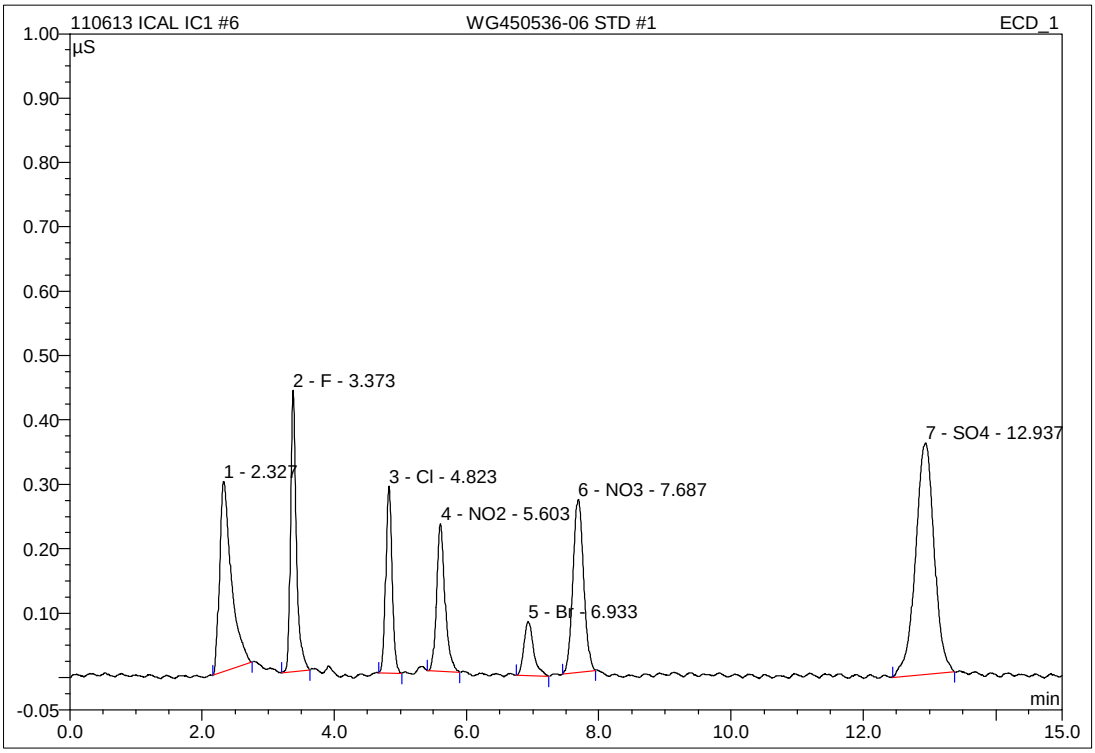
6 WG450536-06 STD #1

1,1 JBK STD60856

Sample Name:	**WG450536-06 STD #1**	*Injection Volume:*	**20.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 10:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.33	n.a.	0.296	0.062	17.32	n.a.	BMB
2	3.37	F	0.438	0.045	12.67	0.202	BMB
3	4.82	Cl	0.291	0.033	9.15	0.202	BMB
4	5.60	NO2	0.229	0.034	9.53	0.123	BMB
5	6.93	Br	0.084	0.014	4.01	0.202	BMB
6	7.69	NO3	0.269	0.051	14.23	0.137	BMB
7	12.94	SO4	0.360	0.118	33.08	1.016	BMB
Total:			1.966	0.356	100.00	1.882	

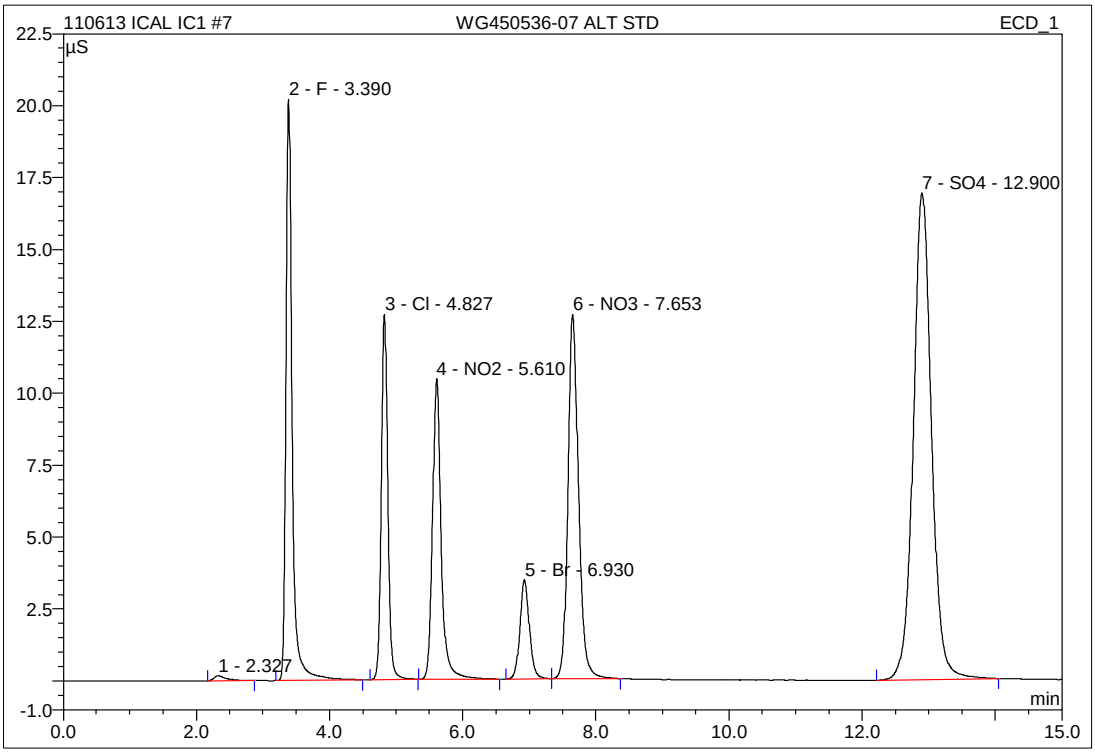
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

7 WG450536-07 ALT STD

1,1 JBK STD60857

Sample Name:	**WG450536-07 ALT STD**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 11:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.33	n.a.	0.171	0.038	0.28	n.a.	BMB
2	3.39	F	20.200	2.127	15.86	8.165	BMB
3	4.83	Cl	12.689	1.401	10.45	7.817	BMB
4	5.61	NO2	10.450	1.577	11.76	4.853	BMB
5	6.93	Br	3.435	0.567	4.23	7.912	BMB
6	7.65	NO3	12.659	2.341	17.46	5.308	BMB
7	12.90	SO4	16.913	5.360	39.97	39.614	BMB
Total:			76.517	13.411	100.00	73.669	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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7 WG450536-07 ALT STD

1,1 JBK STD60857

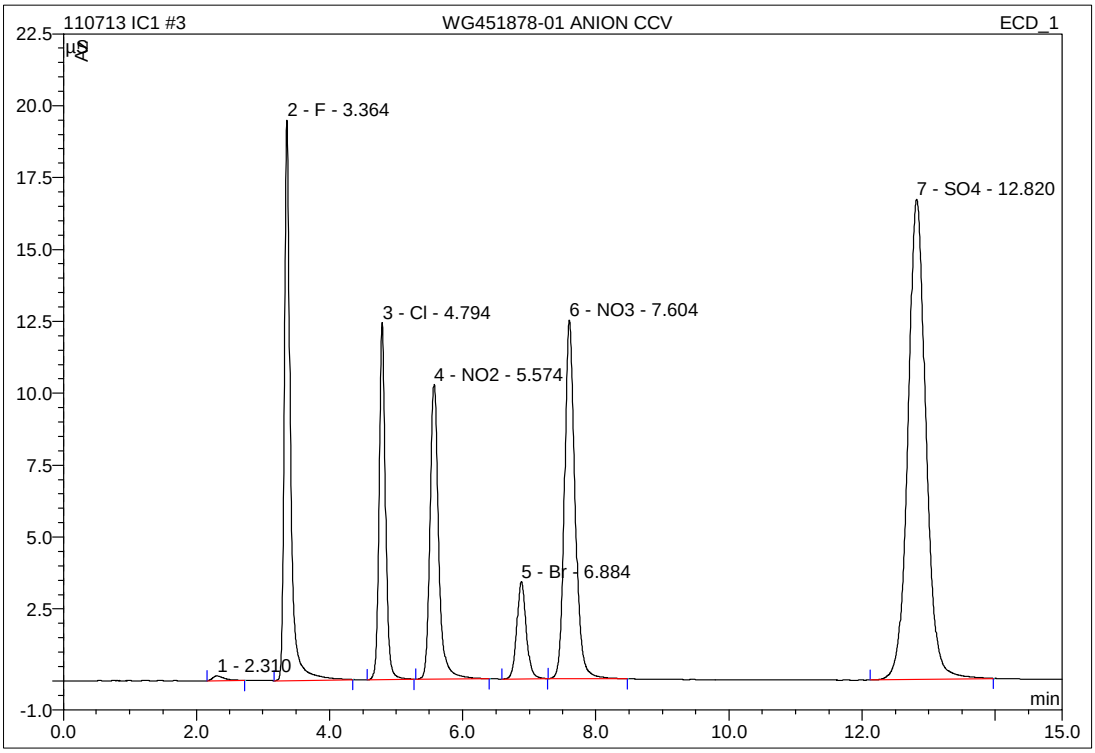
Sample Name:	**WG450536-07 ALT STD**	*Injection Volume:*	**20.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/6/2013 11:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

WG450536-07 ALT S	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	8.1653	2.07	PASS
Cl	8.00	7.8171	-2.29	PASS
NO2-N	4.8714	4.8526	-0.38	PASS
Br	8.00	7.9119	-1.10	PASS
NO3-N	5.4216	5.3082	-2.09	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.6139	-0.97	PASS

3 WG451878-01 ANION CCV

1,1 JBK STD60856 _____ psi @ _____

Sample Name:	**WG451878-01 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 11:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.31	n.a.	0.164	0.035	0.26	n.a.	BMB
2	3.36	F	19.483	2.063	15.76	7.922	BMB
3	4.79	Cl	12.419	1.367	10.44	7.627	BMB
4	5.57	NO2	10.256	1.529	11.68	4.707	BMB
5	6.88	Br	3.384	0.558	4.26	7.780	BMB
6	7.60	NO3	12.461	2.298	17.55	5.211	BMB
7	12.82	SO4	16.698	5.243	40.05	38.752	BMB
Total:			74.866	13.093	100.00	71.999	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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3 WG451878-01 ANION CCV

1,1 JBK STD60856 _____ psi @ _____

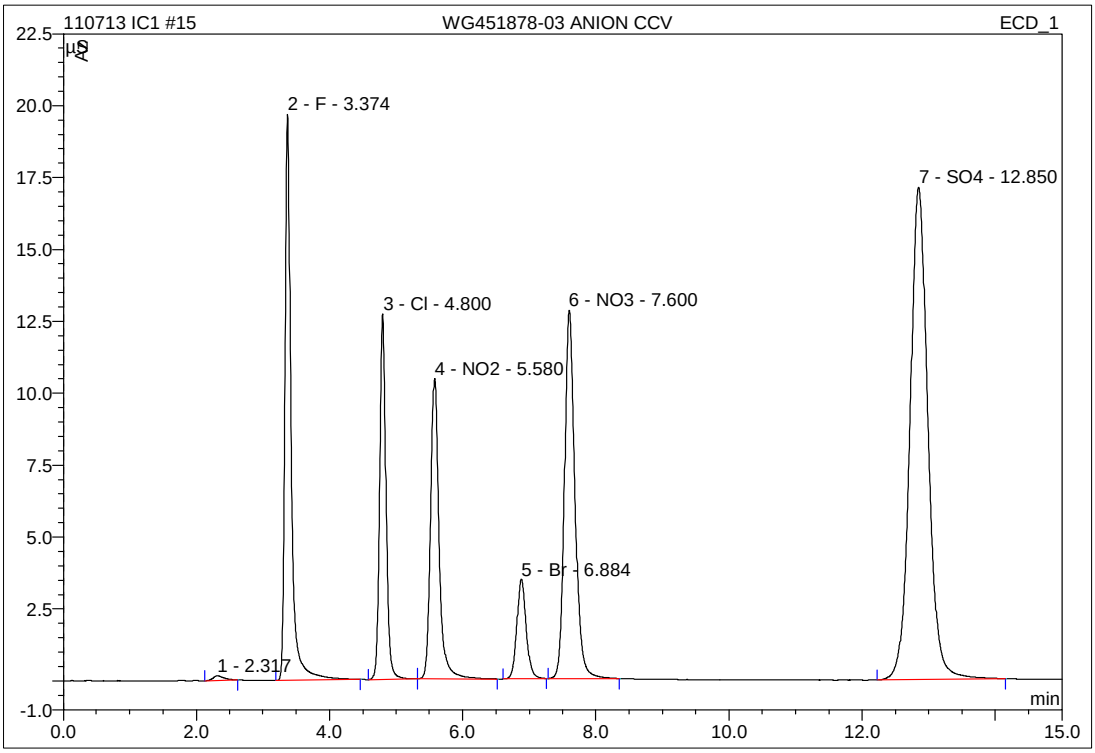
Sample Name:	**WG451878-01 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 11:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

WG451878-01 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	7.9215	-0.98	PASS
Cl	8.00	7.6267	-4.67	PASS
NO2-N	4.8714	4.7069	-3.38	PASS
Br	8.00	7.7803	-2.75	PASS
NO3-N	5.4216	5.2112	-3.88	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	38.7520	-3.12	PASS

15 WG451878-03 ANION CCV

1,1 JBK STD60856

Sample Name:	**WG451878-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 15:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.32	n.a.	0.160	0.031	0.23	n.a.	BMB
2	3.37	F	19.686	2.099	15.73	8.057	BMB
3	4.80	Cl	12.701	1.398	10.48	7.802	BMB
4	5.58	NO2	10.433	1.545	11.58	4.757	BMB
5	6.88	Br	3.468	0.565	4.23	7.880	BMB
6	7.60	NO3	12.802	2.342	17.55	5.310	BMB
7	12.85	SO4	17.126	5.363	40.19	39.637	BMB
Total:			76.376	13.344	100.00	73.443	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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15 WG451878-03 ANION CCV

1,1 JBK STD60856

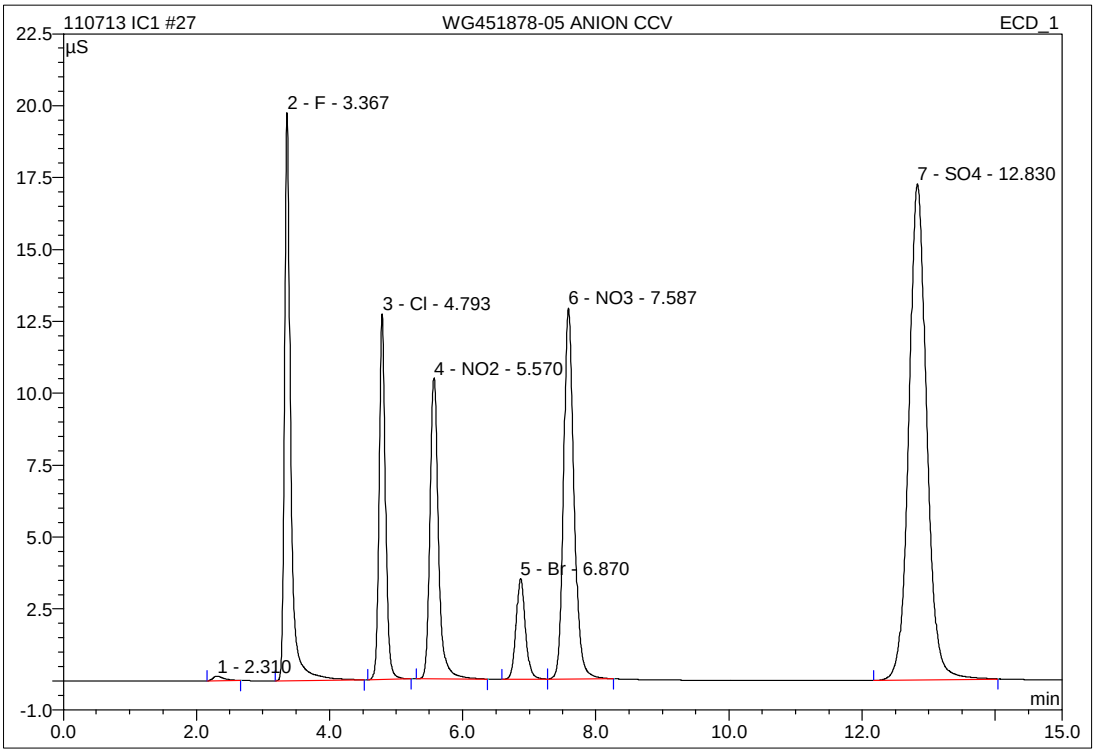
Sample Name:	**WG451878-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 15:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

WG451878-03 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	8.0567	0.71	PASS
Cl	8.00	7.8019	-2.48	PASS
NO2-N	4.8714	4.7568	-2.35	PASS
Br	8.00	7.8796	-1.50	PASS
NO3-N	5.4216	5.3105	-2.05	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.6373	-0.91	PASS

27 WG451878-05 ANION CCV

1,1 JBK STD60856

Sample Name:	**WG451878-05 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 18:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.31	n.a.	0.166	0.033	0.25	n.a.	BMB
2	3.37	F	19.757	2.106	15.75	8.085	BMB
3	4.79	Cl	12.724	1.400	10.47	7.811	BMB
4	5.57	NO2	10.468	1.529	11.43	4.707	BMB
5	6.87	Br	3.501	0.572	4.27	7.974	BMB
6	7.59	NO3	12.906	2.349	17.56	5.325	BMB
7	12.83	SO4	17.250	5.385	40.27	39.798	BMB
Total:			76.772	13.374	100.00	73.700	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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27 WG451878-05 ANION CCV

1,1 JBK STD60856

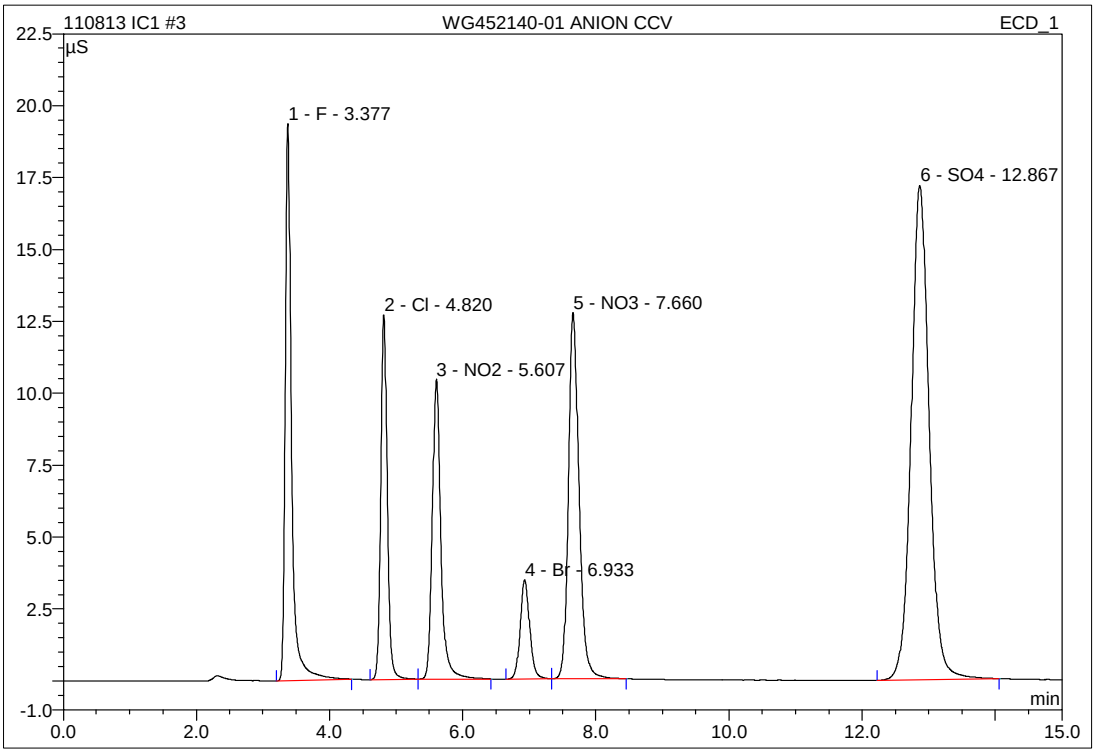
Sample Name:	**WG451878-05 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 18:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

WG451878-05 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	8.0849	1.06	PASS
Cl	8.00	7.8107	-2.37	PASS
NO2-N	4.8714	4.7071	-3.37	PASS
Br	8.00	7.9739	-0.33	PASS
NO3-N	5.4216	5.3252	-1.78	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.7984	-0.50	PASS

3 WG452140-01 ANION CCV

1,1 JBK STD60856 _____ psi @ _____

Sample Name:	**WG452140-01 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 9:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	19.359	2.092	15.62	8.032	BMB
2	4.82	Cl	12.686	1.409	10.52	7.862	BMB
3	5.61	NO2	10.426	1.556	11.62	4.791	BMB
4	6.93	Br	3.454	0.572	4.27	7.986	BMB
5	7.66	NO3	12.723	2.360	17.62	5.351	bMB
6	12.87	SO4	17.186	5.404	40.34	39.935	BMB
Total:			75.834	13.394	100.00	73.957	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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3 WG452140-01 ANION CCV

1,1 JBK STD60856 _____ psi @ _____

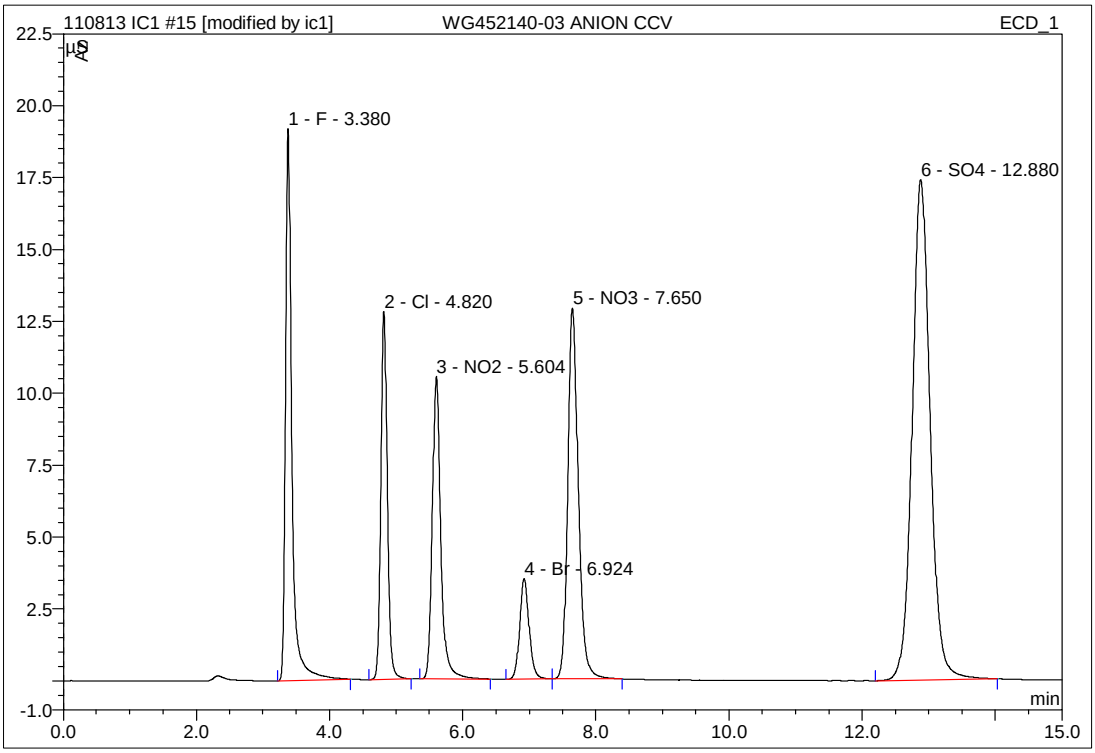
Sample Name:	**WG452140-01 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 9:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

WG452140-01 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	8.0323	0.40	PASS
Cl	8.00	7.8616	-1.73	PASS
NO2-N	4.8714	4.7905	-1.66	PASS
Br	8.00	7.9860	-0.17	PASS
NO3-N	5.4216	5.3511	-1.30	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.9351	-0.16	PASS

15 WG452140-03 ANION CCV

1,1 JBK STD60856

Sample Name:	**WG452140-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 13:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	19.183	2.085	15.50	8.005	BMB*
2	4.82	Cl	12.795	1.414	10.51	7.890	BMB
3	5.60	NO2	10.515	1.553	11.54	4.780	BMB
4	6.92	Br	3.500	0.576	4.28	8.032	BMB
5	7.65	NO3	12.902	2.378	17.67	5.390	BMB
6	12.88	SO4	17.407	5.448	40.50	40.262	BMB
Total:			76.302	13.454	100.00	74.358	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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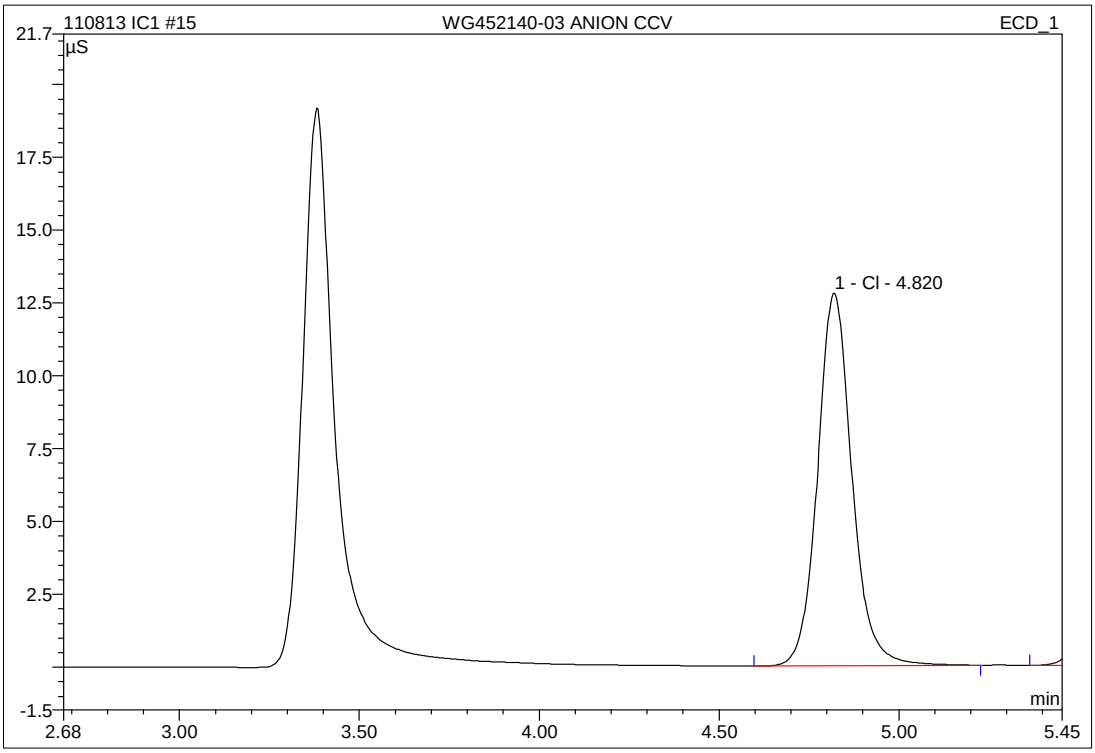
15 WG452140-03 ANION CCV

1,1 JBK STD60856

Sample Name:	**WG452140-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 13:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

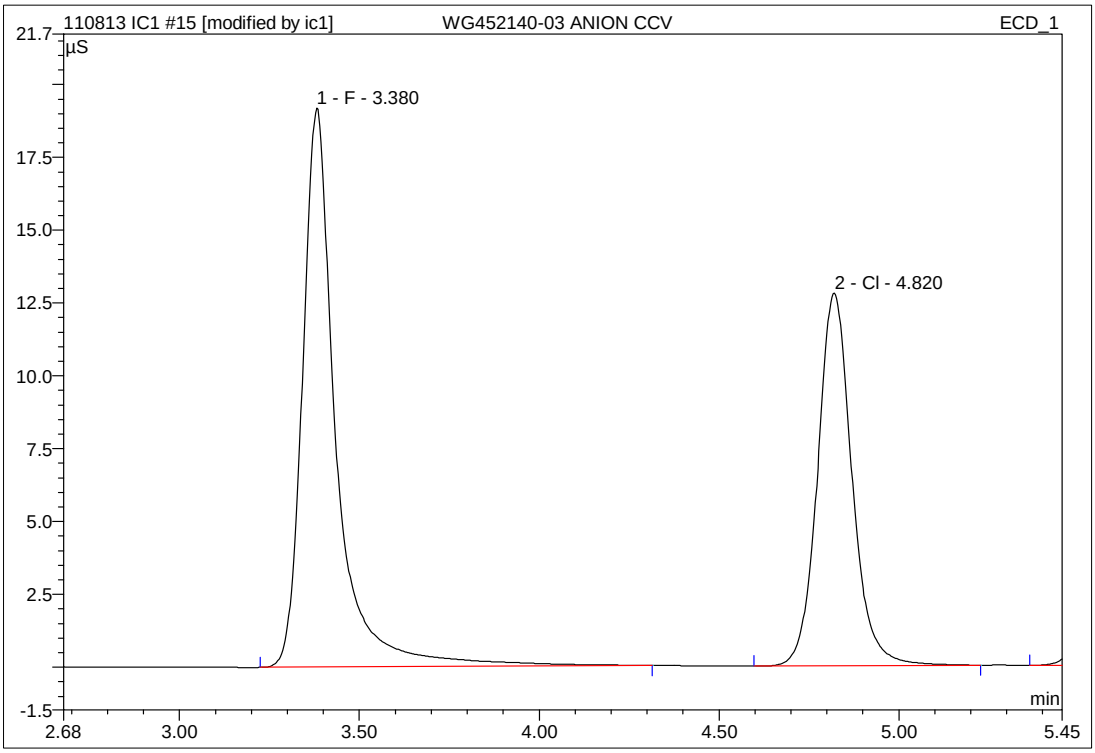


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.82	Cl	12.795	1.414	12.44	7.890	BMB
2	5.60	NO2	10.515	1.553	13.66	4.780	BMB
3	6.92	Br	3.500	0.576	5.06	8.032	BMB
4	7.65	NO3	12.902	2.378	20.91	5.390	BMB
5	12.88	SO4	17.407	5.448	47.92	40.262	BMB
Total:			57.119	11.369	100.00	66.354	

15 WG452140-03 ANION CCV

1,1 JBK STD60856

Sample Name:	**WG452140-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 13:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	19.183	2.085	15.50	8.005	BMB*
2	4.82	Cl	12.795	1.414	10.51	7.890	BMB
3	5.60	NO2	10.515	1.553	11.54	4.780	BMB
4	6.92	Br	3.500	0.576	4.28	8.032	BMB
5	7.65	NO3	12.902	2.378	17.67	5.390	BMB
6	12.88	SO4	17.407	5.448	40.50	40.262	BMB
Total:			76.302	13.454	100.00	74.358	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

Analyst: 11/11/2013 08:32 Supervisor: 11/11/2013 10:17

#1 - Data system fails to select correct peak

15 WG452140-03 ANION CCV

1,1 JBK STD60856

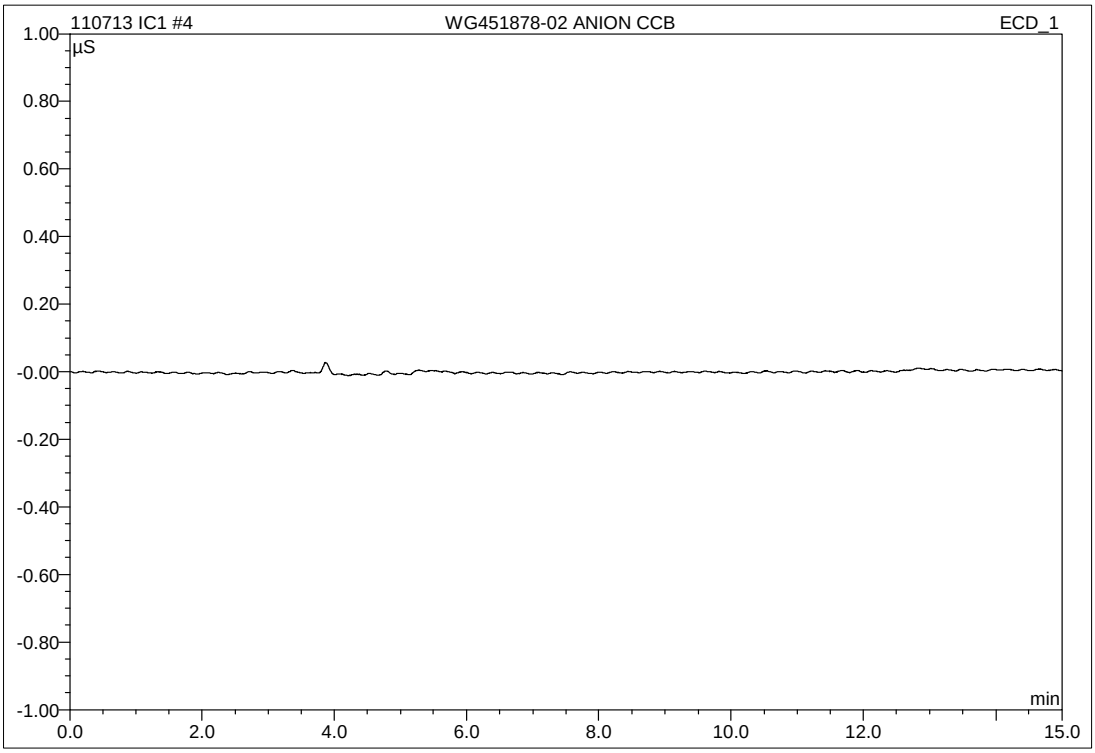
Sample Name:	**WG452140-03 ANION CCV**	*Injection Volume:*	**20.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 13:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

WG452140-03 ANIOI	Actual mg/L	Recoved mg/L	%Difference	
F	8.00	8.0047	0.06	PASS
Cl	8.00	7.8897	-1.38	PASS
NO2-N	4.8714	4.7799	-1.88	PASS
Br	8.00	8.0320	0.40	PASS
NO3-N	5.4216	5.3903	-0.58	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.2619	0.65	PASS

4 WG451878-02 ANION CCB

1,1 JBK

Sample Name:	**WG451878-02 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 12:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

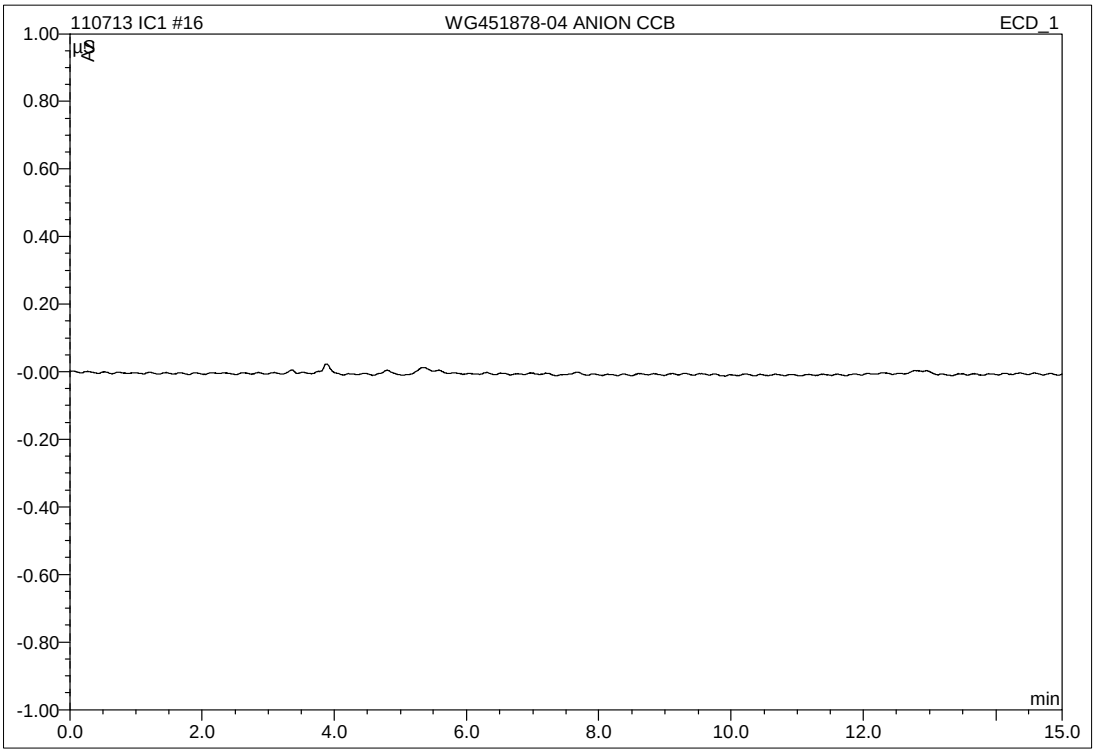
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

16 WG451878-04 ANION CCB

1,1 JBK

Sample Name:	**WG451878-04 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 15:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

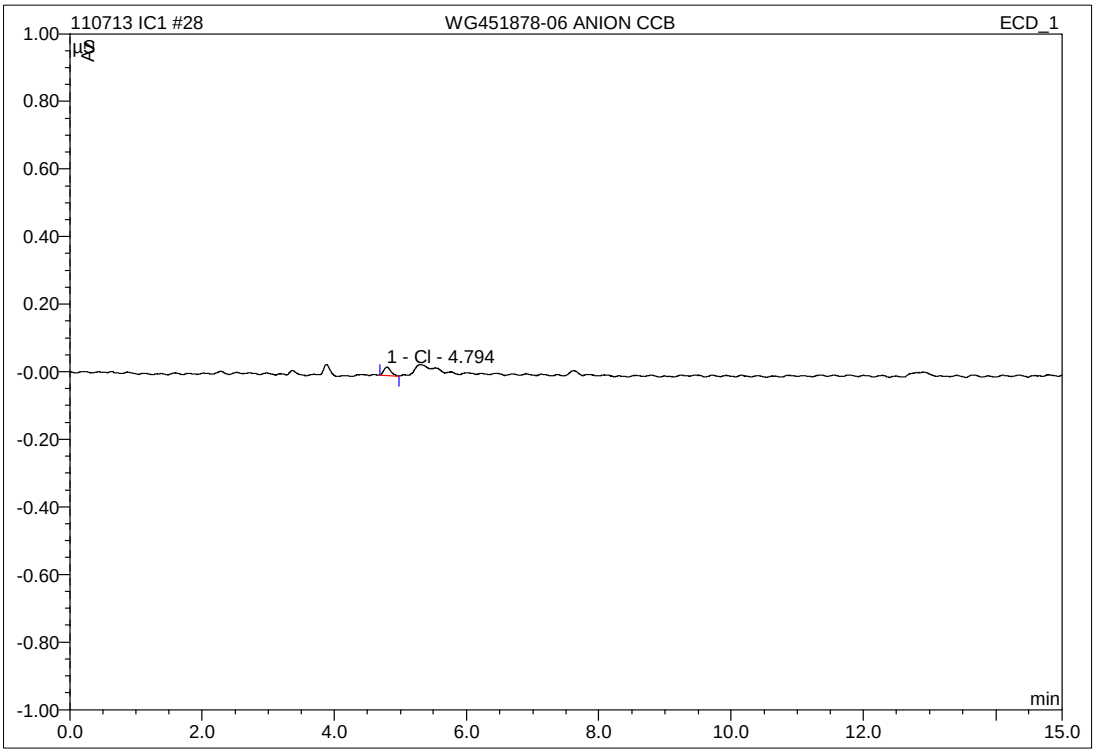
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

28 WG451878-06 ANION CCB

1,1 JBK

Sample Name:	**WG451878-06 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 19:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.79	Cl	0.026	0.003	100.00	0.037	BMB
Total:			0.026	0.003	100.00	0.037	

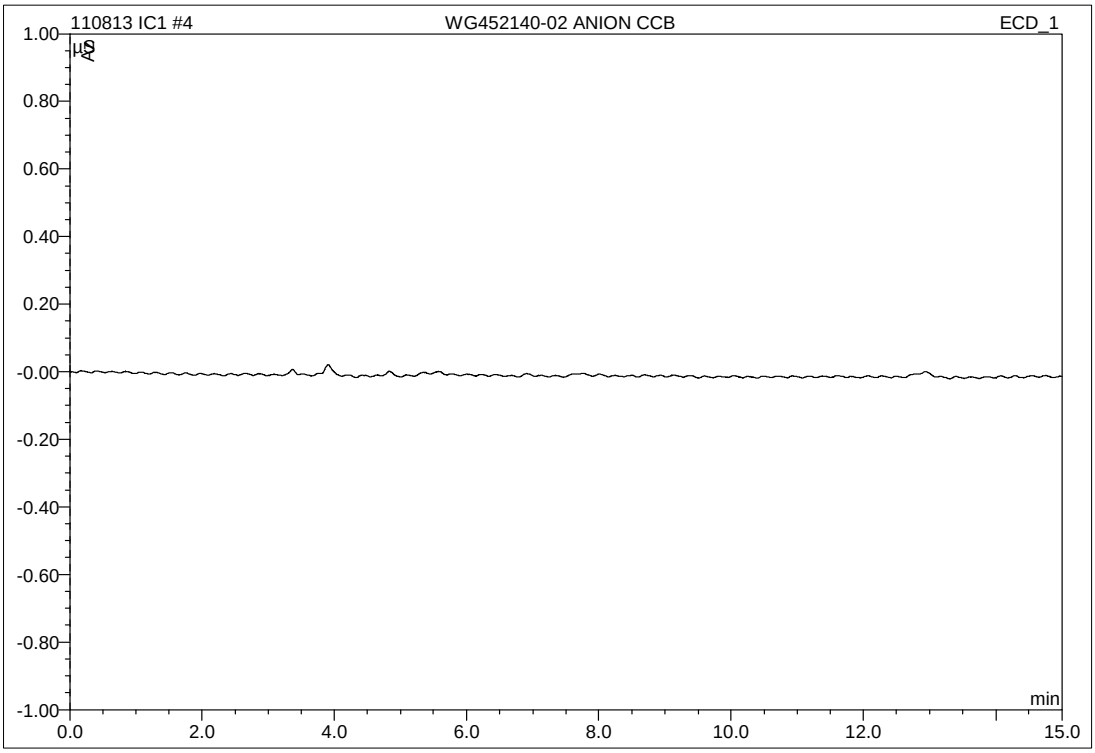
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

4 WG452140-02 ANION CCB

1,1 JBK

Sample Name:	**WG452140-02 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 10:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

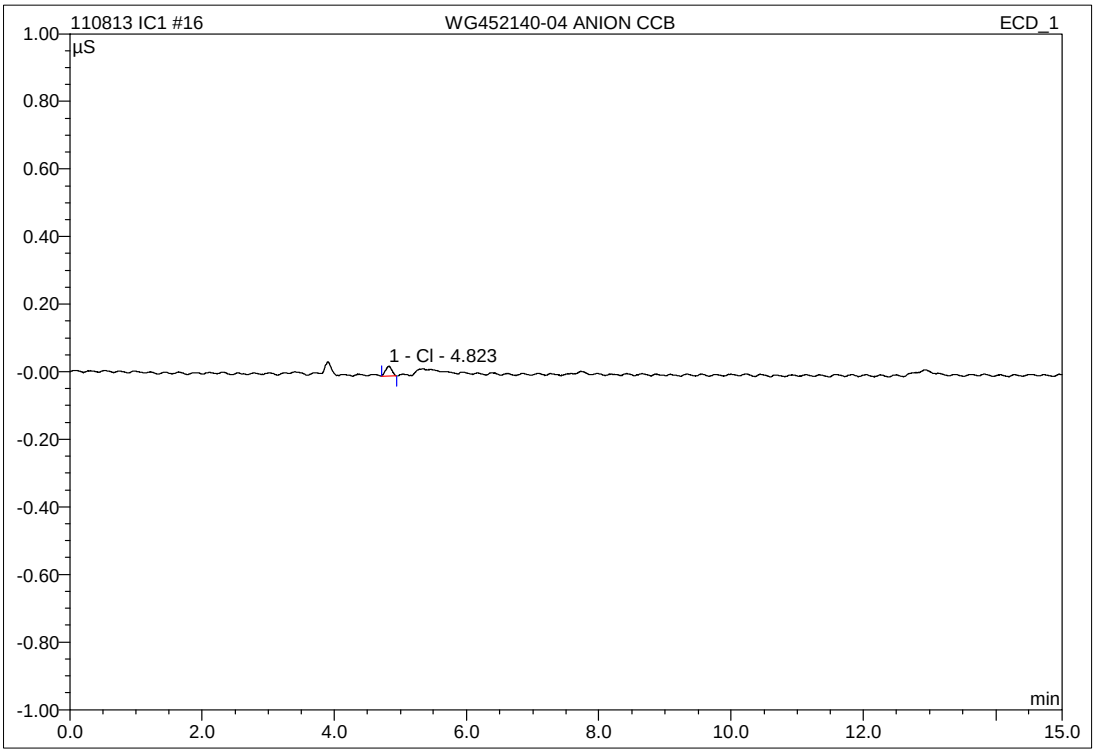


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

16 WG452140-04 ANION CCB

1,1 JBK

Sample Name:	**WG452140-04 ANION CCB**	*Injection Volume:*	**20.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 13:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.82	Cl	0.029	0.003	100.00	0.038	BMB
Total:			0.029	0.003	100.00	0.038	

RETENTION TIME WINDOWS

Lab Name: MICROBAC Laboratories, Inc.

Instrument ID: IC1

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	6/5/2013	6/5/2013	6/6/2013
File #	WG432976-05	WG432976-07	WG433275-01
Time	16:16	18:25	16:50

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.40	3.41	0.017
Cl	4.87	4.87	4.88	0.017
NO2-N	5.67	5.66	5.67	0.017
Br	7.01	6.99	7.02	0.046
NO3-N	7.76	7.74	7.77	0.046
SO4	13.35	13.35	13.35	0.000

Instrument ID: IC2

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	6/6/2013	6/6/2013	6/7/2013
File #	WG433163-01	WG433163-05	WG433448-01
Time	12:58	18:54	12:23

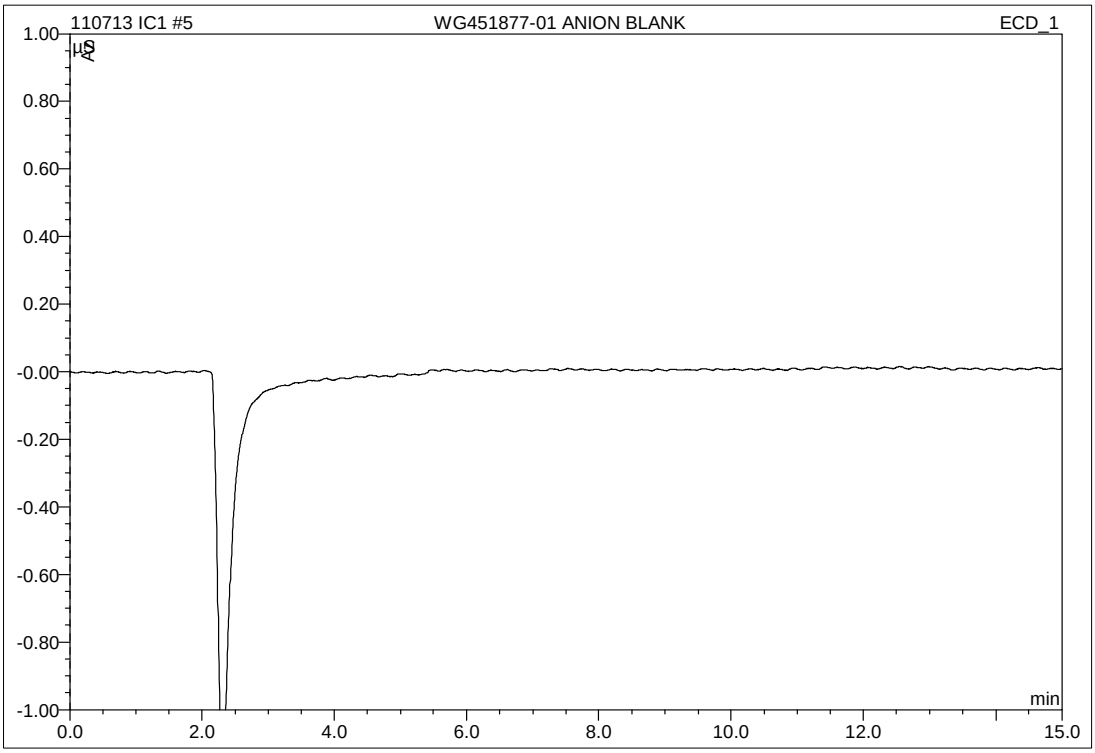
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.31	3.30	3.31	0.017
Cl	4.90	4.89	4.92	0.046
NO2-N	5.79	5.78	5.83	0.079
Br	7.34	7.31	7.43	0.187
NO3-N	8.21	8.18	8.32	0.221
SO4	13.74	13.74	13.67	0.121

2.2.1.5 Raw QC Data

5 WG451877-01 ANION BLANK

1,1 JBK

Sample Name:	**WG451877-01 ANION BLANK**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 12:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

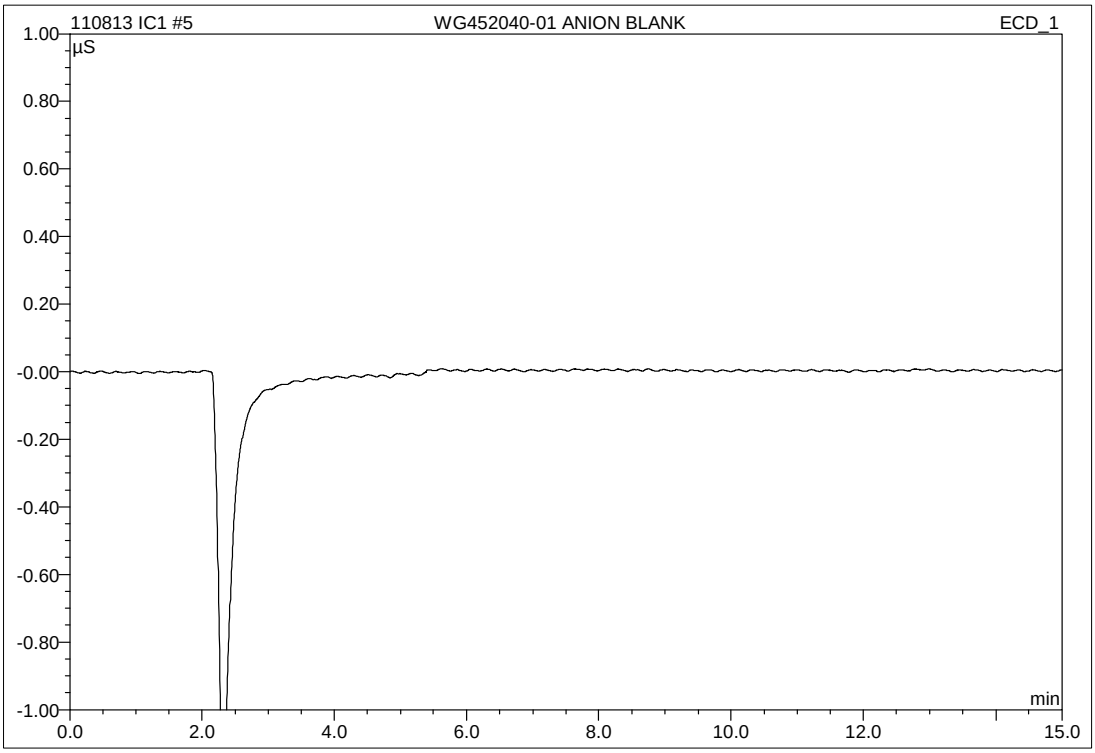
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

5 WG452040-01 ANION BLANK

1,1 JBK

Sample Name:	**WG452040-01 ANION BLANK**	*Injection Volume:*	**20.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 10:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

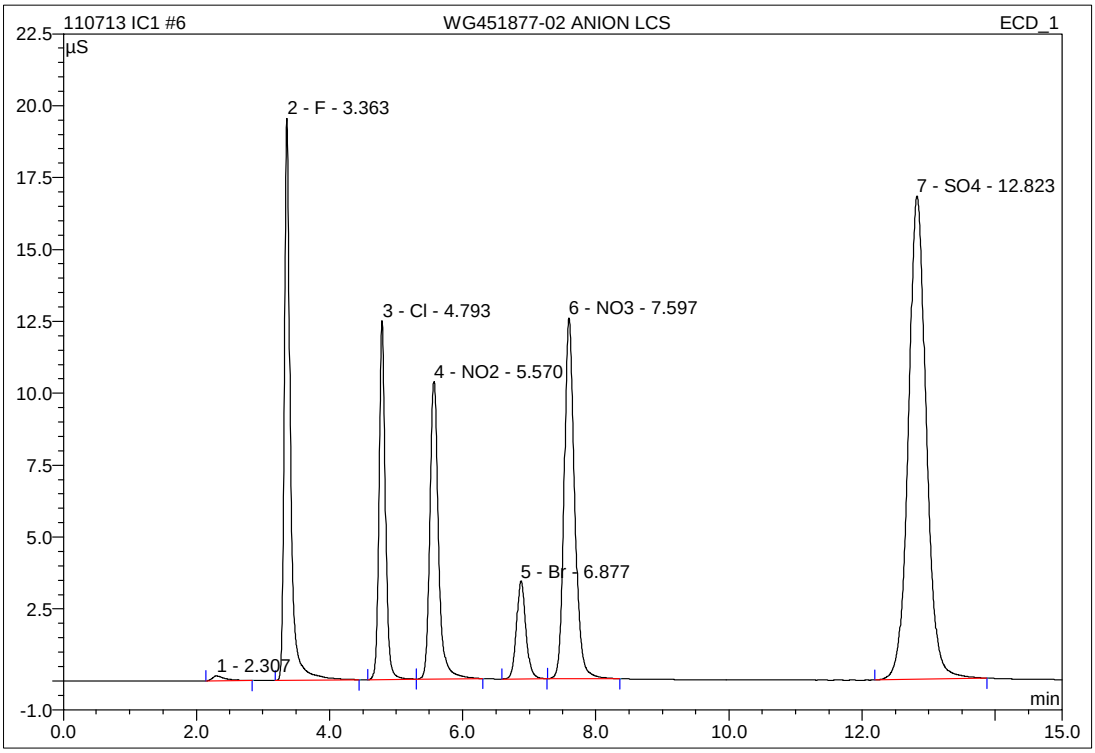
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

6 WG451877-02 ANION LCS

1,1 JBK

Sample Name:	**WG451877-02 ANION LCS**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/7/2013 12:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.31	n.a.	0.169	0.038	0.29	n.a.	BMB
2	3.36	F	19.541	2.072	15.79	7.955	BMB
3	4.79	Cl	12.480	1.374	10.47	7.665	BMB
4	5.57	NO2	10.345	1.530	11.66	4.711	BMB
5	6.88	Br	3.407	0.557	4.25	7.774	BMB
6	7.60	NO3	12.551	2.301	17.53	5.218	BMB
7	12.82	SO4	16.806	5.251	40.01	38.813	BMB
Total:			75.299	13.124	100.00	72.135	

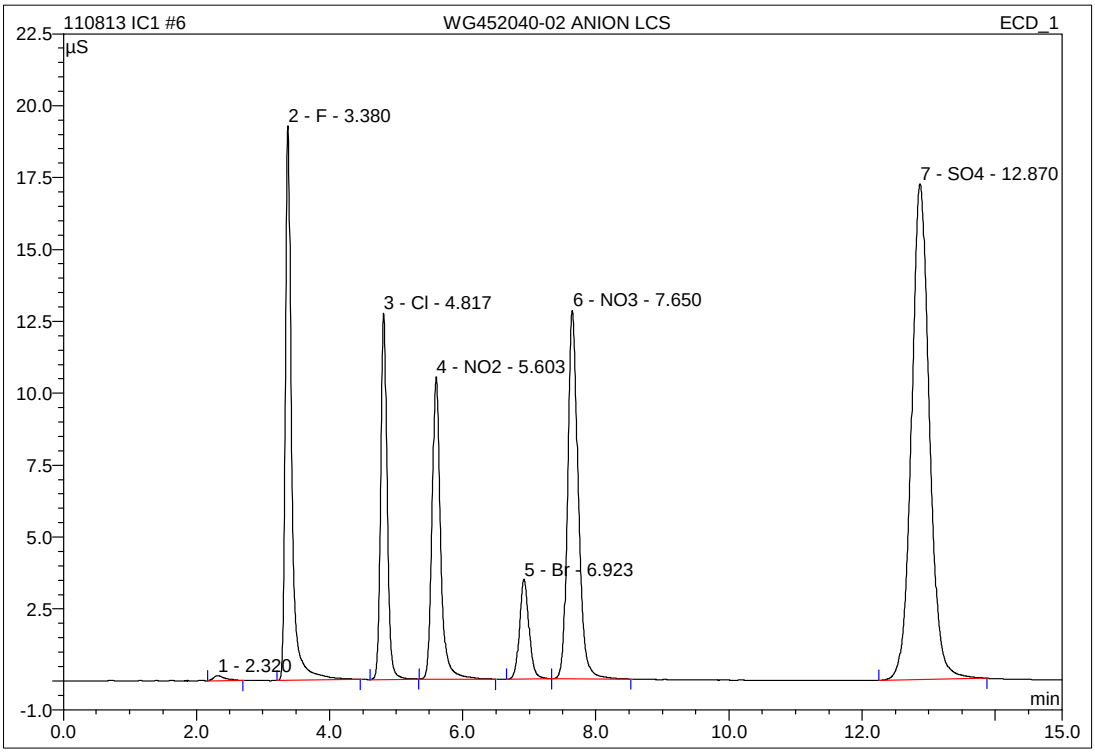
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

6 WG452040-02 ANION LCS

1,1 JBK

Sample Name:	**WG452040-02 ANION LCS**	*Injection Volume:*	**20.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/8/2013 10:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.32	n.a.	0.169	0.034	0.25	n.a.	BMB
2	3.38	F	19.287	2.093	15.58	8.036	BMB
3	4.82	Cl	12.729	1.409	10.49	7.861	BMB
4	5.60	NO2	10.500	1.566	11.66	4.821	BMB
5	6.92	Br	3.470	0.575	4.28	8.015	BMB
6	7.65	NO3	12.809	2.373	17.67	5.380	BMB
7	12.87	SO4	17.234	5.382	40.07	39.775	BMB
Total:			76.198	13.433	100.00	73.889	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

2.2.2 PH Data

2.2.2.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: Tammy Morris

METHOD

Analysis SW846 9040C,9045D/EPA 150.1/SM4500-H B (pH)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74309
Approved By: Deanna Hesson

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13101868-01
Client ID: MPL 13-1013-1
Matrix: Water
Workgroup #: WG451074
Collect Date: 10/30/2013 09:45
Sample Tag:

PrePrep Method: N/A
Prep Method: 9040C
Analytical Method: 9040C
Analyst: TMM
Dilution: 1
Units: UNITS

Instrument: ORION-4STAR
Prep Date: N/A
Cal Date:
Run Date: 11/01/2013 07:55
File ID: OS13110415415901

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.74		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #: L13101868-02
Client ID: MPL 13-1013-2
Matrix: Water
Workgroup #: WG451074
Collect Date: 10/30/2013 09:45
Sample Tag:

PrePrep Method: N/A
Prep Method: 9040C
Analytical Method: 9040C
Analyst: TMM
Dilution: 1
Units: UNITS

Instrument: ORION-4STAR
Prep Date: N/A
Cal Date:
Run Date: 11/01/2013 07:56
File ID: OS13110415420201

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.81		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #: L13101868-03
Client ID: MPL 1-1013-1
Matrix: Water
Workgroup #: WG451074
Collect Date: 10/30/2013 13:00
Sample Tag:

PrePrep Method: N/A
Prep Method: 9040C
Analytical Method: 9040C
Analyst: TMM
Dilution: 1
Units: UNITS

Instrument: ORION-4STAR
Prep Date: N/A
Cal Date:
Run Date: 11/01/2013 07:57
File ID: OS13110415420601

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	8.95		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #: L13101868-04
Client ID: MPL 18-1013-1
Matrix: Water
Workgroup #: WG451074
Collect Date: 10/30/2013 14:20
Sample Tag:

PrePrep Method: N/A
Prep Method: 9040C
Analytical Method: 9040C
Analyst: TMM
Dilution: 1
Units: UNITS

Instrument: ORION-4STAR
Prep Date: N/A
Cal Date:
Run Date: 11/01/2013 07:59
File ID: OS13110415420901

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.88		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	ORION-4STAR
Client ID:	MPL 6-1013-1	**Prep Method:**	9040C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9040C	**Cal Date:**	
Workgroup #:	WG451074	**Analyst:**	TMM	**Run Date:**	11/01/2013 08:00
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	OS13110415421201
Sample Tag:		**Units:**	UNITS		

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.95		0.000	0.000
Temperature At Determination (C)				0.000	0.000

2.2.2.2 QC Summary Data

Example pH Calculations
(Direct Readout Parameter)

Readout from instrument = result in S.U.

where:

Readout = direct readout from the instrument

Microbac Laboratories Inc.

Data Checklist

Date: 01-NOV-2013
Analyst: EPT
Analyst: TMM
Method: PH
Instrument: ORION 4-STAR
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451074

Calibration/Linearity	11/1/13
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	
LCS/LCS Dup	
MS/MSD	
Duplicate	X
Upload Results	X
Client Forms	
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	
Primary Reviewer	EPT
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
04-NOV-2013

Ethan Tido

Secondary Reviewer:
05-NOV-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-05-2013 14:13:16

2.2.2.3 Raw Data

pH
(pH2)

B,C) SW846 9045D
A) SM 4500-H(+)-B
A) EPA 150.1
A) SW846 9040C
SOP K1501, Rev 13

Instrument
- [x] Orion 4-Star
- [ ] Orion 710A #1
- [ ] Orion 710A #2

Sample	Calibration Buffers	Time of Calibration	A Water Misc. Liquid	B 50% Slurry of Solid	C 50% Water Org. Liq. Mix	Time Analyzed	Temp (°C)
LCS 6: Std 59686	7,4,12	0745	6.01			0753	18.1
10-1868-01			7.74			0755	9.6
-02			7.81			0756	12.8
-03			8.95			0757	9.8
-04			7.88			0759	10.0
-05			7.95	EPT 11/1/13		0800	12.0
10-1871-01			5.28	~~7.51~~		1459	16.2
-02			9.72			1502	14.9
-03			6.82			1503	15.9
-04			8.53			1505	16.9
-05			5.97			1506	17.4
-06			11.61			1508	17.8
-07			8.18			1509	18.2
-08			12.07			1510	18.4
-09			11.91			1511	18.6
-10			12.20			1513	18.5
-11			6.59			1514	18.1
-12			12.11			1515	17.8
-13			6.38			1516	17.6
-14			11.93			1517	17.3
10-1883-01				6.84		1546	18.8
DUP: 10-1868-05			7.95			0801	15.1
LCS 9: Std 59687			8.98			0803	17.2

recalibrated @1450

Analyst: Ethan Todd Tammy Marino Date: to 11/1/13 0745

DCN#98569

Microbac

10-1871 = 1600

TCLP Extraction Daily Log

Date : 10/31/13

#	Microbac Sample #	Due Date	Me	SV	Pest	Herb	Voa	PAH	pH-L			Comments
1	10-1847-1	11/11					✓					ZHE BLNK L
2	2	↓					✓					↓ 8
3	FBLK						✓					
4	10-1871-1	11/5	✓						✓			
5	3		✓						✓			
6	5		✓						✓			F2
7	7		✓						✓			
8	9		✓						✓			
9	11		✓						✓			F2
10	13	↓	☆						✓			F2
11	FBLK 1		✓									
12	FBLK 2		✓									
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

Agitated	Work Group	Run ID
Me	451040	
SV		
Pest		
Herb		
Voa ✓	450984	
PAH		
pH-L	451039	

Filtered	Work Group	Run ID
Me		
SV		
Pest		
Herb		
Voa		
pH-L		
Me (org)		
SV (org)		
Voa (org)		

√ = Perform analysis
☆ = Perform analysis and spike sample

Comments:

Internal Use Only

Generated: 11/14/2013 09:38

L13101868 / Revision: 0 / 1423 total pages

Microbac

Date : 10/31/13 @1600

SPLP Extraction Daily Log

#	Microbac Sample #	Due Date	Me	SV	Pest	Herb	Voa	PAH	pH-L			Comments
1	10-1871-2	11/5	✓						✓			WEST
2	4		✓						✓			
3	6		✓						✓			
4	8		✓						✓			
5	10		✓						✓			
6	12		✓						✓			
7	14		✓						✓			
8	SPLP Blnk		✓									
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

√ = Perform analysis
☆ = Perform analysis and spike sample

Comments:

Agitated	Work Group	Run ID
Me	451038	
SV		
Pest		
Herb		
Voa		
PAH		
pH-L	451037	

Filtered	Work Group	Run ID
Me		
SV		
Pest		
Herb		
Voa		
pH-L		
Me (org)		
SV (org)		
Voa (org)		

Internal Use Only

Generated: 11/14/2013 09:38
L13101868 / Revision: 0 / 1423 total pages

2.2.3 Alkalinity Data

2.2.3.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 310.2 (Alkalinity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74307
Approved By: Deanna Hesson

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:13
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.027
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:13
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.027
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	82.8		20.0	10.0

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:13
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.027
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	82.8		20.0	10.0

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.028
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.028
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	91.0		20.0	10.0

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 13-1013-2	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	S2131101002.028
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	91.0		20.0	10.0

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 1-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	S2131101002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	91.1		20.0	10.0

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 1-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	S2131101002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 1-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:14
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	S2131101002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	91.1		20.0	10.0

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 18-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:15
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	S2131101002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 18-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:15
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	S2131101002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	111		20.0	10.0

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 18-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:15
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	S2131101002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	111		20.0	10.0

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 6-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:16
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	S2131101002.031
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	101		20.0	10.0

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 6-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:16
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	S2131101002.031
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM2
Client ID:	MPL 6-1013-1	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/01/2013 13:02
Workgroup #:	WG451115	**Analyst:**	BAF	**Run Date:**	11/01/2013 13:16
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	S2131101002.031
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	101		20.0	10.0

2.2.3.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 01-NOV-2013
Analyst: BAF
Analyst: NA
Method: ALK
Instrument: SC2
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451115

Calibration/Linearity	11-1-2013
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	BAF
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
01-NOV-2013

Brice Fenton

Secondary Reviewer:
09-NOV-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-09-2013 11:09:14

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 310.2 AAB#: WG451115

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/01/2013	2.1	14		11/01/13	2.1	14	
MPL 13-1013-2	02	10/30/13					11/01/2013	2.1	14		11/01/13	2.1	14	
MPL 1-1013-1	03	10/30/13					11/01/2013	2	14		11/01/13	2	14	
MPL 18-1013-1	04	10/30/13					11/01/2013	2	14		11/01/13	2	14	
MPL 6-1013-1	05	10/30/13					11/01/2013	1.9	14		11/01/13	1.9	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3192163
Report generated 11/08/2013 14:30

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: S2131101002.012
Prep Date: 11/01/13 13:05
Analyzed Date: 11/01/13 13:05
Analyst: BAF

Work Group: WG451115
Blank Sample ID: WG451115-01
Instrument ID: SMARTCHEM2
Method: 310.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451115-02	S2131101002.013	11/01/13 13:05	01
LCS2	WG451115-03	S2131101002.014	11/01/13 13:06	01
MPL 13-1013-1	L13101868-01	S2131101002.027	11/01/13 13:13	01
MPL 13-1013-1	L13101868-01	S2131101002.027	11/01/13 13:13	01
MPL 13-1013-1	L13101868-01	S2131101002.027	11/01/13 13:13	01
MPL 13-1013-2	L13101868-02	S2131101002.028	11/01/13 13:14	01
MPL 13-1013-2	L13101868-02	S2131101002.028	11/01/13 13:14	01
MPL 13-1013-2	L13101868-02	S2131101002.028	11/01/13 13:14	01
MPL 1-1013-1	L13101868-03	S2131101002.029	11/01/13 13:14	01
MPL 1-1013-1	L13101868-03	S2131101002.029	11/01/13 13:14	01
MPL 1-1013-1	L13101868-03	S2131101002.029	11/01/13 13:14	01
MPL 18-1013-1	L13101868-04	S2131101002.030	11/01/13 13:15	01
MPL 18-1013-1	L13101868-04	S2131101002.030	11/01/13 13:15	01
MPL 18-1013-1	L13101868-04	S2131101002.030	11/01/13 13:15	01
MPL 6-1013-1	L13101868-05	S2131101002.031	11/01/13 13:16	01
MPL 6-1013-1	L13101868-05	S2131101002.031	11/01/13 13:16	01
MPL 6-1013-1	L13101868-05	S2131101002.031	11/01/13 13:16	01
DUP	WG451115-05	S2131101002.035	11/01/13 13:18	01

Report Name: BLANK_SUMMARY
PDF File ID: 3192164
Report generated 11/08/2013 14:30

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/01/13 13:05 Sample ID: WG451115-01
Instrument ID: SMARTCHEM2 Run Date: 11/01/13 13:05 Prep Method: 310.2
File ID: S2131101002.012 Analyst: BAF Method: 310.2
Workgroup (AAB#): WG451115 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-01-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Alkalinity, Total (as CaCO3)	10.0	20.0	10.0	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3192165
08-NOV-2013 14:30

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: BAF Prep Method: 310.2
Instrument ID: SMARTCHEM2 Matrix: Water Method: 310.2
Workgroup (AAB#): WG451115 Units: mg/L
QC Key: DOD4 Lot #: STD60619

Sample ID: WG451115-02 LCS File ID: S2131101002.013 Run Date: 11/01/2013 13:05
Sample ID: WG451115-03 LCS2 File ID: S2131101002.014 Run Date: 11/01/2013 13:06

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	208	104	200	206	103	0.749	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3192166
Report generated: 11/08/2013 14:30

2.2.3.3 Raw Data

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

WORKGROUP: WG451115

Daily Check

- [x] Lamp On
- [x] Probe Rinse Full
- [x] DI Water > ½ Full
- [x] Wash Solution > ½ Full
- [ ] NO3 Reagent bottle connected / purged
- [ ] NO3 pH adj to pH 5-9

Syringe filter lot # _____

- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

1) **Workgroup** _____
Plan # 20131101002
2) **Workgroup** _____
Plan # _____
3) **Workgroup** _____
Plan # _____

Instrument: SC1 [ ] SC2 [x]

	Analyte	1	2	3
	ALK	Dilution		
SC Prepared Curve				
Position				
1-1	ICV 250			
1-2	BLK			
1-3	LCS 200			
1-4	LCSDUP			
1-5	10-1810-01		1/2	
1-6	03			
1-7	10-1819-01			
1-8	02			
1-9	03			
1-10	05			
1-11	06			
1-12	09			
1-13	10			
1-14	10-1866-01			
1-15	10-1868-01			+BC
1-16	02			↓
1-17	03			↓
1-18	04			↓
1-19	05			↓
1-20	10-1885-39	1/100		color
1-21	DUP 1866-01			
1-22				
2-1				
2-2				
2-3				

Position	Analyte	1	2	3
2-4				
2-5				
2-6				
2-7				
2-8				
2-9				
2-10				
2-11				
2-12				
2-13				
2-14				
2-15				
2-16				
2-17				
2-18				
2-19				
2-20				
2-21				
2-22				
2-23				
2-24				
2-25				
2-26				
3-1				
3-2				

NOTES:
* Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
*MS(10% sample): NO3, TKN, NH3, PHOS

DCN#98576

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG451115

Position	Analyte	1	2	3
3-3				
3-4				
3-5				
3-6				
3-7				
3-8				
3-9				
3-10				
3-11				
3-12				
3-13				
3-14				
3-15				

Position	Analyte	1	2	3
3-16				
3-17				
3-18				
3-19				
3-20				
3-21				
3-22				
3-23				
3-24				
3-25				
3-26				
3-27				
3-28				

	Chloride	EPA 325.2/SM 4500-CI E-2000
	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
✓	Alkalinity	EPA 310.2
	Sulfate	EPA 375.4/SM 426C (15th)/ SM4500-504 E-1997

	Ammonia	EPA 350.1/SM 4500-NH3 B-1997
	TKN	EPA 351.2
	Phos	EPA 365.4

Analyte	ALK		Reagents
SOP & Revision	K3102 Rev.15		RGT27389
Curve Stock (SC made)	Std59625		RGT28501
NO2 STD			RGT28531
ICV	Std60526		
CCV	Std60881		
LCS	Std60619		
MS	QNS Dilution		

Comments: _____

Analyst: Brice Jenson Date: 11/1/13

DCN#98576

MICROBAC (OVD)

SMARTCHEM200 INST2 (VER3.1.14)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK -Unit [mg/L] - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.0	0.5609	0.00		12:56:40 PM
DIL-1	RBL	0.0	0.5559	0.00		12:56:58 PM
DIL-1	RBL	0.0	0.5568	0.00		12:57:52 PM
DIL-1	Std-1	0.0	0.0023	0.00	INV	12:58:10 PM
SR5-1	Std-2	10.0	-0.0077	0.00		12:59:04 PM
SR5-2	Std-3	20.0	-0.0141	0.00		12:59:22 PM
SR5-3	Std-4	50.0	-0.0453	0.00		1:00:16 PM
SR5-4	Std-5	100.0	-0.1032	0.00		1:00:34 PM
SR5-5	Std-6	200.0	-0.2348	0.00		1:01:28 PM
SR5-6	Std-7	250.0	-0.3035	0.00		1:01:46 PM
SR5-7	Std-8	300.0	-0.3592	0.00		1:02:40 PM
ST-3	1CCV (150 mg/L)	154.3	-0.1736	102.84		1:02:58 PM
ST-2	2CCB (0 mg/L)	6.9	-0.0013	0.00		1:03:52 PM
1	ICV	253.0	-0.3007	0.00		1:04:10 PM
2	WG451115-01 BLK	9.2	-0.0038	0.00		1:05:04 PM
3	WG451115-02 LCS	207.8	-0.2411	0.00		1:05:22 PM
4	WG451115-03 LCSDUP	206.2	-0.2391	0.00		1:06:17 PM
5	L13101810-01 (2)	210.4	-0.2445	0.00		1:06:34 PM
6	L13101810-03	245.2	-0.2902	0.00		1:07:29 PM
7	L13101819-01	13.6	-0.0088	0.00		1:07:47 PM
8	L13101819-02	35.4	-0.0332	0.00		1:08:41 PM
9	L13101819-03	180.9	-0.2068	0.00		1:08:59 PM
10	L13101819-05	76.5	-0.0805	0.00		1:09:53 PM
ST-3	1CCV (150 mg/L)	158.8	-0.1792	105.86		1:10:11 PM
ST-2	2CCB (0 mg/L)	16.5	-0.0120	0.00		1:11:05 PM
11	L13101819-06	49.5	-0.0493	0.00		1:11:23 PM
12	L13101819-09	31.3	-0.0286	0.00		1:12:17 PM
13	L13101819-10	97.9	-0.1056	0.00		1:12:35 PM
14	L13101866-01	44.8	-0.0440	0.00		1:13:29 PM
15	L13101868-01	82.8	-0.0877	0.00		1:13:47 PM
16	L13101868-02	91.0	-0.0974	0.00		1:14:41 PM
17	L13101868-03	91.1	-0.0974	0.00		1:14:59 PM

Report Date :11/01/2013 **Run Date :11/1/2013** **Operator : WESTCO** **Plan # :20131101002**

Plan Description : ALK-A2-BAF/11/1/2013

MICROBAC (OVD)
SMARTCHEM200 INST2 (VER3.1.14)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK -Unit [mg/L] - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
18	L13101868-04	110.7	-0.1207	0.00		1:15:53 PM
19	L13101868-05	101.1	-0.1093	0.00		1:16:11 PM
20	L13101885-39 (100)	130.3	-0.1443	0.00		1:17:05 PM
ST-3	1CCV (150 mg/L)	162.7	-0.1840	108.44		1:17:23 PM
ST-2	2CCB (0 mg/L)	19.9	-0.0157	0.00		1:18:17 PM
21	WG451115-05 DUP	28.6	-0.0256	0.00		1:18:35 PM
22	ID 22	20.5	-0.0164	0.00		1:19:29 PM
23	ID 23	211.4	-0.2458	0.00		1:19:47 PM
ST-3	1CCV (150 mg/L)	169.8	-0.1929	113.20		1:20:41 PM
ST-2	2CCB (0 mg/L)	24.8	-0.0213	0.00		1:20:59 PM
5-[1/2]	L13101810-01	261.9	-0.1451	0.00		1:28:40 PM
ST-3	1CCV (150 mg/L)	168.6	-0.1914	112.40		1:28:40 PM
ST-2	2CCB (0 mg/L)	26.8	-0.0235	0.00		1:29:34 PM

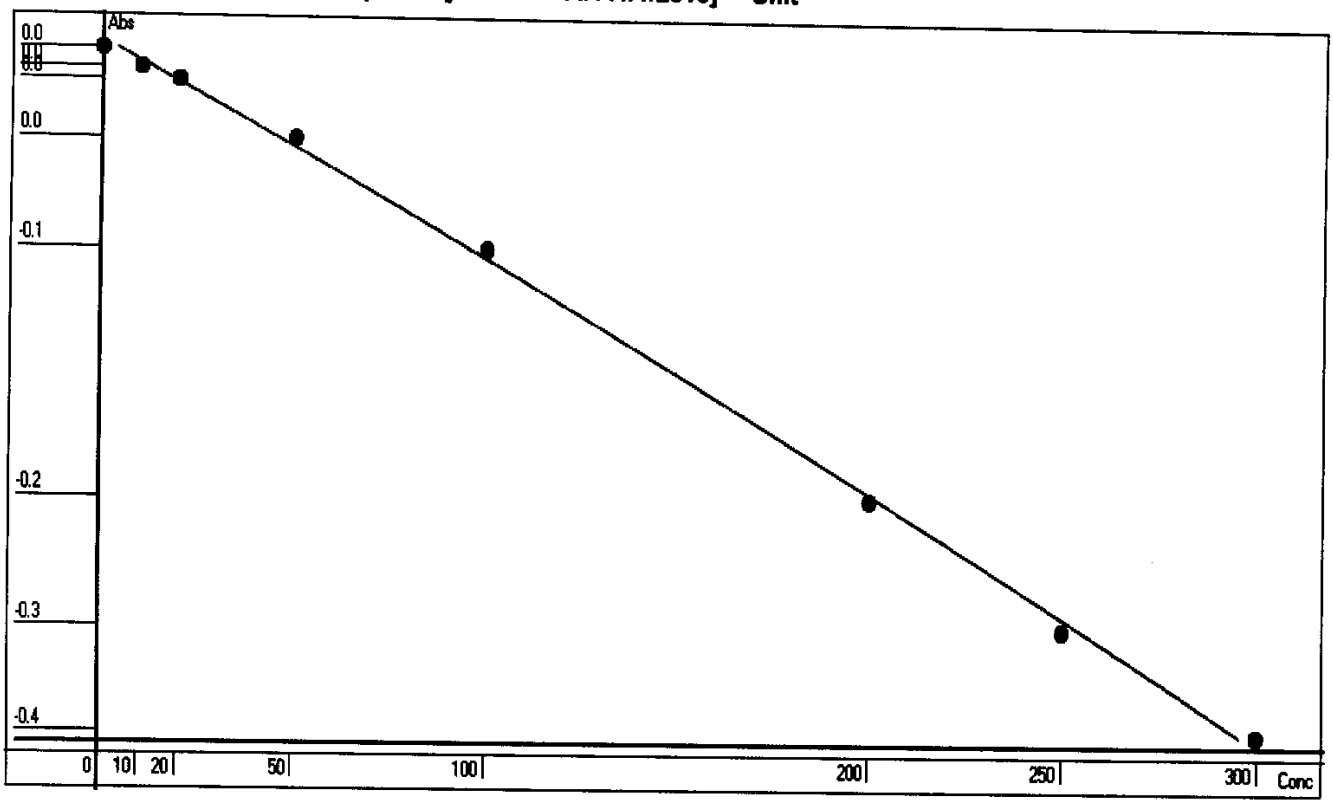
Report Date :11/01/2013 **Run Date :11/1/2013** **Operator : WESTCO** **Plan # :20131101002**

Plan Description : ALK-A2-BAF/11/1/2013

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20131101002 Description : [ALK-A2-BAF/11/1/2013] Unit



Point	OD	Conc	Recalc Conc	% Error
1	0.0023	0	3.6422	364.22
2	-0.0077	10	12.6441	26.44
3	-0.0141	20	18.3776	-8.11
4	-0.0452	50	45.9320	-8.14
5	-0.1032	100	95.9588	-4.04
6	-0.2348	200	202.8981	1.45
7	-0.3034	250	255.0268	2.01
8	-0.3591	300	295.5299	-1.49

Conc= -263.3081*Abso^2 -901.6066*Abso +5.7173 R^2=0.9989

RBL
0.5563
0

Report Date 11/1/2013 Run Date 11/1/2013

2.2.4 Cyanide Data

2.2.4.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: Dorothy Payne

METHOD

Analysis SW846 9014/9010C/SM4500-CN-C,E-20th (Cyanide)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Cyanide-Ammenable is the difference between the total cyanide and the treated cyanide. The LCS is analyzed to show that all of the cyanide is ammenable (the treated portion is ND). The LCS forms cannot calculate cyanide ammenable. The LCS is acceptable.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG451865-02	Cyanide	2013-11-08 15:30:04	8.00	90	110	Recovery

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74313

Approved By: Deanna Hesson

Deanna Hesson

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 11:30
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311061215-07
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.150		0.0100	0.00500

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311081530-05
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.148		0.0100	0.00500

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311061610-06
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0165		0.0100	0.00500

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-2	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 11:30
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311061215-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.166		0.0100	0.00500

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-2	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311081530-06
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.165		0.0100	0.00500

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-2	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1311061610-07
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0124		0.0100	0.00500

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 1-1013-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 11:30
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	1V.1311061215-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.257		0.0100	0.00500

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 1-1013-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	1V.1311081530-07
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.257		0.0100	0.00500

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 1-1013-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	1V.1311061610-08
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0183		0.0100	0.00500

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 18-1013-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	1V.1311061215-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 18-1013-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	1V.1311081530-08
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 18-1013-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	1V.1311061610-09
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 6-1013-1	**Prep Method:**	9014-9010C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	9014-9010C	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451297	**Analyst:**	DCM	**Run Date:**	11/06/2013 12:15
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	1V.1311061215-11
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 6-1013-1	**Prep Method:**	SM4500-CN-C,G-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-C,G-1999	**Cal Date:**	11/08/2013 09:20
Workgroup #:	WG451865	**Analyst:**	DCM	**Run Date:**	11/08/2013 15:30
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	1V.1311081530-09
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 6-1013-1	**Prep Method:**	SM4500-CN-I	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-CN-I	**Cal Date:**	11/06/2013 10:20
Workgroup #:	WG451301	**Analyst:**	DCM	**Run Date:**	11/06/2013 16:10
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	1V.1311061610-10
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5		U	0.0100	0.00500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

2.2.4.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 06-NOV-2013
Analyst: DCM
Analyst: NA
Method: CN
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451297

Calibration/Linearity	11/06/2013
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
07-NOV-2013

Secondary Reviewer:
09-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-09-2013 11:15:36

Microbac Laboratories Inc.

Data Checklist

Date: 06-NOV-2013
Analyst: DCM
Analyst: NA
Method: CN
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451301

Calibration/Linearity	11/06/2013
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
07-NOV-2013

Secondary Reviewer:
11-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-11-2013 14:57:47

Microbac Laboratories Inc.

Data Checklist

Date: 08-NOV-2013
Analyst: DCM
Analyst: NA
Method: CN-A
Instrument: UV-120-1V
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451865

Calibration/Linearity	11/08/2013
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
11-NOV-2013

Secondary Reviewer:
12-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-12-2013 11:39:43

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 9014-9010C

AAB#: WG451297

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/06/2013	7.1	14		11/06/13	7.1	14	
MPL 13-1013-2	02	10/30/13					11/06/2013	7.1	14		11/06/13	7.1	14	
MPL 1-1013-1	03	10/30/13					11/06/2013	7	14		11/06/13	7	14	
MPL 18-1013-1	04	10/30/13					11/06/2013	6.9	14		11/06/13	6.9	14	
MPL 6-1013-1	05	10/30/13					11/06/2013	6.9	14		11/06/13	6.9	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3189841
Report generated 11/07/2013 15:33

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-CN-C,G-19 AAB#: WG451865

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/08/2013	9.2	14		11/08/13	9.2	14	
MPL 13-1013-2	02	10/30/13					11/08/2013	9.2	14		11/08/13	9.2	14	
MPL 1-1013-1	03	10/30/13					11/08/2013	9.1	14		11/08/13	9.1	14	
MPL 18-1013-1	04	10/30/13					11/08/2013	9	14		11/08/13	9	14	
MPL 6-1013-1	05	10/30/13					11/08/2013	9	14		11/08/13	9	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3197331
Report generated 11/12/2013 11:34

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-CN-I

AAB#: WG451301

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/06/2013	7.3	14		11/06/13	7.3	14	
MPL 13-1013-2	02	10/30/13					11/06/2013	7.3	14		11/06/13	7.3	14	
MPL 1-1013-1	03	10/30/13					11/06/2013	7.1	14		11/06/13	7.1	14	
MPL 18-1013-1	04	10/30/13					11/06/2013	7.1	14		11/06/13	7.1	14	
MPL 6-1013-1	05	10/30/13					11/06/2013	7	14		11/06/13	7	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3195754
Report generated 11/11/2013 14:39

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: 1V.1311061215-02
Prep Date: 11/06/13 12:15
Analyzed Date: 11/06/13 12:15
Analyst: DCM

Work Group: WG451297
Blank Sample ID: WG451297-01
Instrument ID: UV-120-1V
Method: 9014-9010C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451297-02	1V.1311061215-03	11/06/13 12:15	
LCS	WG451297-03	1V.1311061215-04	11/06/13 12:15	
MPL 13-1013-1	L13101868-01	1V.1311061215-07	11/06/13 12:15	
MPL 13-1013-2	L13101868-02	1V.1311061215-08	11/06/13 12:15	
MPL 1-1013-1	L13101868-03	1V.1311061215-09	11/06/13 12:15	
MPL 18-1013-1	L13101868-04	1V.1311061215-10	11/06/13 12:15	
MPL 6-1013-1	L13101868-05	1V.1311061215-11	11/06/13 12:15	
DUP	WG451297-05	1V.1311061215-19	11/06/13 12:15	

Report Name: BLANK_SUMMARY
PDF File ID: 3189842
Report generated 11/07/2013 15:33

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: 1V.1311081530-03
Prep Date: 11/08/13 15:30
Analyzed Date: 11/08/13 15:30
Analyst: DCM

Work Group: WG451865
Blank Sample ID: WG451865-01
Instrument ID: UV-120-1V
Method: SM4500-CN-C,G-19

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451865-02	1V.1311081530-04	11/08/13 15:30	
MPL 13-1013-1	L13101868-01	1V.1311081530-05	11/08/13 15:30	DL02
MPL 13-1013-2	L13101868-02	1V.1311081530-06	11/08/13 15:30	DL02
MPL 1-1013-1	L13101868-03	1V.1311081530-07	11/08/13 15:30	DL02
MPL 18-1013-1	L13101868-04	1V.1311081530-08	11/08/13 15:30	DL02
MPL 6-1013-1	L13101868-05	1V.1311081530-09	11/08/13 15:30	DL02
DUP	WG451865-07	1V.1311081530-20	11/08/13 15:30	DL02

Report Name: BLANK_SUMMARY
PDF File ID: 3197332
Report generated 11/12/2013 11:34

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: 1V.1311061610-03
Prep Date: 11/06/13 16:10
Analyzed Date: 11/06/13 16:10
Analyst: DCM

Work Group: WG451301
Blank Sample ID: WG451301-01
Instrument ID: UV-120-1V
Method: SM4500-CN-I

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451301-02	1V.1311061610-04	11/06/13 16:10	
LCS	WG451301-03	1V.1311061610-05	11/06/13 16:10	
MPL 13-1013-1	L13101868-01	1V.1311061610-06	11/06/13 16:10	DL01
MPL 13-1013-2	L13101868-02	1V.1311061610-07	11/06/13 16:10	DL01
MPL 1-1013-1	L13101868-03	1V.1311061610-08	11/06/13 16:10	DL01
MPL 18-1013-1	L13101868-04	1V.1311061610-09	11/06/13 16:10	DL01
MPL 6-1013-1	L13101868-05	1V.1311061610-10	11/06/13 16:10	DL01
DUP	WG451301-05	1V.1311061610-15	11/06/13 16:10	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 3195755
Report generated 11/11/2013 14:39

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/06/13 12:15 Sample ID: WG451297-01
Instrument ID: UV-120-1V Run Date: 11/06/13 12:15 Prep Method: 9014-9010C
File ID: 1V.1311061215-02 Analyst: DCM Method: 9014-9010C
Workgroup (AAB#): WG451297 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 06-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Cyanide	0.00500	0.0100	0.00500	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3189843
07-NOV-2013 15:33

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/08/13 15:30 Sample ID: WG451865-01
Instrument ID: UV-120-1V Run Date: 11/08/13 15:30 Prep Method: SM4500-CN-C,G-1
File ID: 1V.1311081530-03 Analyst: DCM Method: SM4500-CN-C,G-1
Workgroup (AAB#): WG451865 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 08-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Cyanide, Amenable to Chlor.	0.00500	0.0100	0.00500	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3197333
12-NOV-2013 11:34

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/06/13 16:10 Sample ID: WG451301-01
Instrument ID: UV-120-1V Run Date: 11/06/13 16:10 Prep Method: SM4500-CN-I
File ID: 1V.1311061610-03 Analyst: DCM Method: SM4500-CN-I
Workgroup (AAB#): WG451301 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120-06-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Cyanide, Weak/Dissociable	0.00500	0.0100	0.00500	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3195756
11-NOV-2013 14:39

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/06/2013 Sample ID: WG451297-02
Instrument ID: UV-120-1V Run Time: 12:15 Prep Method: 9014-9010C
File ID: 1V.1311061215-03 Analyst: DCM Method: 9014-9010C
Workgroup (AAB#): WG451297 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD60204 Cal ID: UV-120-06-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide	0.200	0.190	95.0	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 3189844
Report generated: 11/07/2013 15:33

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/06/2013 Sample ID: WG451297-03
Instrument ID: UV-120-1V Run Time: 12:15 Prep Method: 9014-9010C
File ID: 1V.1311061215-04 Analyst: DCM Method: 9014-9010C
Workgroup (AAB#): WG451297 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD60204 Cal ID: UV-120-06-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide	0.0400	0.0433	108	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 3189844
Report generated: 11/07/2013 15:33

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/08/2013 Sample ID: WG451865-02
Instrument ID: UV-120-1V Run Time: 15:30 Prep Method: SM4500-CN-C,G-1
File ID: 1V.1311081530-04 Analyst: DCM Method: SM4500-CN-C,G-1
Workgroup (AAB#): WG451865 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD60204 Cal ID: UV-120-08-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide, Amenable to Chlor.	0.0400	0.00300	7.50	90 - 110	*

LCS - Modified 03/06/2008
PDF File ID: 3197334
Report generated: 11/12/2013 11:34

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/06/2013 Sample ID: WG451301-02
Instrument ID: UV-120-1V Run Time: 16:10 Prep Method: SM4500-CN-I
File ID: 1V.1311061610-04 Analyst: DCM Method: SM4500-CN-I
Workgroup (AAB#): WG451301 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD60204 Cal ID: UV-120-06-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide, Weak/Dissociable	0.200	0.201	101	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 3195757
Report generated: 11/11/2013 14:39

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/06/2013 Sample ID: WG451301-03
Instrument ID: UV-120-1V Run Time: 16:10 Prep Method: SM4500-CN-I
File ID: 1V.1311061610-05 Analyst: DCM Method: SM4500-CN-I
Workgroup (AAB#): WG451301 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD60204 Cal ID: UV-120-06-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide, Weak/Dissociable	0.0400	0.0427	107	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 3195757
Report generated: 11/11/2013 14:39

2.2.4.3 Raw Data

WG451978

Curves

Parameter: CN-LOW

Spectrophotometer: UV-120-1V

Calibration (Curve) standard stock: Std 60203

Concentration: 1016 mg/L

Recipe for preparation of curve standards found in:
SOP: 15354 Revision: 14 Page: 15

Second Source Stock: Std 60204 (concentration: 1000 mg/L

Daily Preparation: 5(1000)/250 = 20
4(20)/100 = 2

concentration = 1/5/50 = 0.04

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
Std 5 0.0508	50	5cm	578	0.368
Std 6 0.04064				0.303
Std 7 0.03048				0.230
Std 8 0.02032				0.156
Std 9 0.01016				0.075
Std 10 0.00508				0.036
Std 11 0.00				0.000
2nd Source 0.04				0.303

Analyst: David Morehale
Dwetty Pryor

Date/Time: 11/8/13 0920

DCN#98720

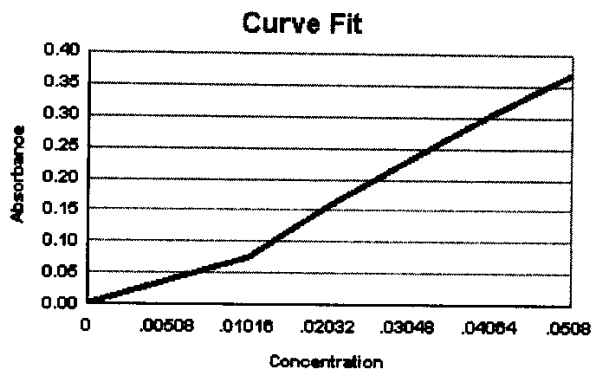
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG451978
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: DCM
Initial Calibration Date: 11/08/2013

Analyte: CYANIDE
Number of Points: 7
Slope: 7.33990
Y-Intercept: 0.00173038
Coef. Of Correlation (R^2): 0.999029
Coef. Of Correlation (R): 0.999514

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00	0.00	0.00	0.00173038
0.00508	0.0360	0.0000258	0.000183	0.0390171
0.0102	0.0750	0.000103	0.000762	0.0763038
0.0203	0.156	0.000413	0.00317	0.150877
0.0305	0.230	0.000929	0.00701	0.225451
0.0406	0.303	0.00165	0.0123	0.300024
0.0508	0.368	0.00258	0.0187	0.374597



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 11/08/2013 09:55

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG451978
File ID: 1V.1311080920-08
CCV ID: WG451978-08
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/08/2013
Run Time: 09:20
Analyst: DCM
Cal ID: UV-120 - 08-NOV-13 09:20:07

Analyte	Expected	Found	RF	%D	Q
Cyanide	.04	0.0410	7.58	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 11/08/2013 09:55

[redacted]

WORKGROUP: WG451865

Cyanide
(cyanide3)

- [ ] Total method 9010B/9014
  SM4500 CN C,E
  EPA 335.2
- [x] CN – Ameanable (same as total methods)
- [ ] WD method SM4500 CN I

SOP: K3354 Rev 14
Spec: UV-120-IV
Instrument: Easy-Dist
Matrix: Liquid (mg/L) Soil (mg/kg)

Curve ID: WG 451978 / WG 451985 11/8/13

CCV: Std 60203

True Value: 1016 mg/L

Daily Dilution: 5(1000)/250 = 20
10(20)/100 = 2
10(2)/100 = 0.2

LCS: Std 60204

True Value: 1000 mg/L

Daily Dilution: 5(1000)/250 = 20
10(20)/100 = 2
5(2)/50 = 0.2
1(2)/50 = 0.04

Spike: Std 60204

True Value: 1000 mg/L

Daily Dilution: 1(2)/50 = 0.04

Distillation Reagents

RGT 28477
RGT 28264
RGT 28561
RGT COA 17124

Colorimetric Reagents

RGT 28599
RGT 28593
RGT 28575

DCN#98692

WORKGROUP: WG451865

Cyanide
(cyanide3)

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): 0.2032 ppm	50	✓	No		1	0.311
CCV(low): 0.02032 ppm	50	✓	No		5	0.159
Blank	50	✓	No		5	0.000
LCS: ppm						
LCS: 0.04 ppm	50	✓	No		5	0.003
10-1868-01	50	✓	No		5	0.003
02	50	✓	No		5	0.005
03	50	✓	No		5	0.008
04	50	✓	No		5	0.006
05	50	✓	No		5	0.005
11-051-01	50	✓	No		5	0.004
02	50	✓	No		5	0.010
03	50	✓	No		5	0.008
04	50	✓	No		5	0.003
11-146-01	50	✓	No		5	0.002
MS 02	50	✓	No		5	0.003
MSD 03	50	✓	No		5	0.005
04	50	✓	No		5	0.000
05	50	✓	No		5	0.006
06	50	✓	No		5	0.002
distilled CCV 0.2032	50	✓	No		1	0.290
distilled CCV 0.02032	50	✓	No		5	0.145
Duplicate: 11-146-05	50	✓	No		5	0.005
MS: (ppm)						
MSD: (ppm)						
CCV high: (0.2032 ppm)	50	✓	No		1	0.313
CCV low: (0.02032 ppm)	50	✓	No		5	0.161

Analyst: David Merckle
Christy Payne

Date/Time (on) 11/7/13 1345
(off) 1515
(color) 11/8/13 1530

DCN#98692

Cyanide, Amenable to Chlorination (mg/L)
CN (Total) - CN (Treated) = CN-A

SAMPLE	11/6/2013 CN (Total)	11/8/2013 CN (Treated)	CN-A
WG451865-01	0	0	0
WG451865-02	0.18993	0.00017298	0.189757
L13101868-01	0.14984	0.0017298	0.14811
L13101868-02	0.16588	0.00044546	0.165435
L13101868-03	0.25741	0.00085418	0.256556
L13101868-04	0.0025151	0.0005817	0.001933
L13101868-05	0.0045521	0.00044546	0.004107
L13110051-01	0.081622	0.00030922	0.081313
L13110051-02	0.0010213	0.0011267	-0.000105
L13110051-03	0.060317	0.0085418	0.051775
L13110051-04	0.32422	0.00017298	0.324047
L13110146-01	0.37232	0.000036734	0.372283
L13110146-02	0.38635	0.00017298	0.386177
L13110146-03	0.39036	0.00044546	0.389915
L13110146-04	0.4064	0	0.4064
L13110146-05	0.39303	0.0005817	0.392448
L13110146-06	0.20463	0.000036734	0.204593
WG451865-05	0.37232	0.00044546	0.371875

Cyanide, Amenable to Chlorination (CN-A) is the difference between the total cyanide and the treated cyanide. The LCS is analyzed to verify that all of the cyanide in the spike solution is amenable (the treated portion is ND)

Microbac Laboratories Inc.
SAMPLE REPORT

Treated

Workgroup: WG451865
Analyte: CYANIDE

Analyst: DCM
Date: 11/08/2013

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG451865-01	50	50	0	7.340	0.001730	-0.00023575	-0.00023575	1	mg/L
WG451865-02	50	50	0.00300	7.340	0.001730	0.00017298	0.00017298	1	mg/L
L13101868-01	50	50	0.00300	7.340	0.001730	0.00017298	ND	1	mg/L
L13101868-02	50	50	0.00500	7.340	0.001730	0.00044546	ND	1	mg/L
L13101868-03	50	50	0.00800	7.340	0.001730	0.00085418	ND	1	mg/L
L13101868-04	50	50	0.00600	7.340	0.001730	0.00058170	ND	1	mg/L
L13101868-05	50	50	0.00500	7.340	0.001730	0.00044546	ND	1	mg/L
L13110051-01	50	50	0.00400	7.340	0.001730	0.00030922	ND	1	mg/L
L13110051-02	50	50	0.0100	7.340	0.001730	0.0011267	ND	1	mg/L
L13110051-03	50	50	0.00800	7.340	0.001730	0.00085418	ND	1	mg/L
L13110051-04	50	50	0.00300	7.340	0.001730	0.00017298	ND	1	mg/L
L13110146-01	50	50	0.00200	7.340	0.001730	0.000036734	ND	1	mg/L
WG451865-03	50	50	0.00200	7.340	0.001730	0.000036734	0.000036734	1	mg/L
L13110146-02	50	50	0.00300	7.340	0.001730	0.00017298	ND	1	mg/L
WG451865-04	50	50	0.00300	7.340	0.001730	0.00017298	0.00017298	1	mg/L
L13110146-03	50	50	0.00500	7.340	0.001730	0.00044546	ND	1	mg/L
WG451865-05	50	50	0.00500	7.340	0.001730	0.00044546	0.00044546	1	mg/L
L13110146-04	50	50	0	7.340	0.001730	-0.00023575	ND	1	mg/L
L13110146-05	50	50	0.00600	7.340	0.001730	0.00058170	ND	1	mg/L
WG451865-06	50	50	0.00600	7.340	0.001730	0.00058170	0.00058170	1	mg/L
L13110146-06	50	50	0.00200	7.340	0.001730	0.000036734	ND	1	mg/L
WG451865-07	50	50	0.00500	7.340	0.001730	0.00044546	0.00044546	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 11/11/2013 10:02

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG452115
File ID: 1V.1311081530-01
CCV ID: WG452115-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/08/2013
Run Time: 15:30
Analyst: DCM
Cal ID: UV-120 - 08-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.211	1.53	3.9	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/08/2013 17:28

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG452115
File ID: 1V.1311081530-02
CCV ID: WG452115-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/08/2013
Run Time: 15:30
Analyst: DCM
Cal ID: UV-120 - 08-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0214	7.82	5.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/08/2013 17:28

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG452115
File ID: 1V.1311081530-21
CCV ID: WG452115-03
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/08/2013
Run Time: 15:30
Analyst: DCM
Cal ID: UV-120 - 08-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.212	1.54	4.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/08/2013 17:28

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG452115
File ID: 1V.1311081530-22
CCV ID: WG452115-04
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/08/2013
Run Time: 15:30
Analyst: DCM
Cal ID: UV-120 - 08-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0217	7.92	6.9	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/08/2013 17:28

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG452115
File ID: 1V.1311081530-23
CCV ID: WG452115-05
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 11/08/2013
Run Time: 15:30
Analyst: DCM
Cal ID: UV-120 - 08-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.197	1.43	3.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 11/11/2013 10:43

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG452115
File ID: 1V.1311081530-24
CCV ID: WG452115-06
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 11/08/2013
Run Time: 15:30
Analyst: DCM
Cal ID: UV-120 - 08-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0195	7.14	3.9	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 11/11/2013 10:43

WORKGROUP: WG451301

Cyanide
(cyanide3)

☐ Total method 9010B/9014
SM4500 CN C,E
EPA 335.2

SOP: K3354 Rev 15
Spec: UV-120-IV
Instrument: Easy-Dist
Matrix: Liquid (mg/L) Soil (mg/kg)

☐ CN – Ameanable (same as total methods)

☑ WD method SM4500 CN I

Curve ID: _____

CCV: Std 60203

True Value: 1016 mg/L

Daily Dilution: 5(1000)/250 = 20
10(20)/100 = 2
10(2)/100 = 0.2

LCS: Std 60204

True Value: 1000 mg/L

Daily Dilution: 5(1000)/250 = 20
10(20)/100 = 2
5(2)/50 = 0.2
1(2)/50 = 0.04

Spike: Std 60204

True Value: 1000 mg/L

Daily Dilution: 1(2)/50 = 0.04

Distillation Reagents

RGT 28119
RGT 28115
RGT 28290
RGT 28447
RGT 28481

Colorimetric Reagents

RGT 28575
RGT 28453
RGT 28563

DCN#98605

WORKGROUP: WG451301

Cyanide

(cyanide3)

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): 0.2032 ppm	50	✓	No		1	0.320
CCV(low): 0.02032 ppm	50	✓	No		5	0.159
Blank	50	✓	No		5	0.003
LCS: 0.2 ppm	50	✓	No		1	0.295
LCS: 0.04 ppm	50	✓	No		5	0.317
10-1868-01	50	✓	No		5	0.124
-02	50	✓	No		5	0.094
-03	50	✓	No		5	0.137
-04	50	✓	No		5	0.008
-05	50	✓	No		5	0.014
10-051-01	50	✓	No		1	0.087
-02	50	✓	No		5	0.010
-03	50	✓	No		5	0.053
-04	50	✓	No		5	~~0.037~~ 0.201
distilled ccv 0.2032	50	✓	No		1	0.327
distilled ccv 0.02032	50	✓	No		5	0.155
Duplicate: 11-051-03					5	0.037
MS: (11-051-04 ppm)					5	0.184
MSD: (ppm)						
CCV high: (0.2032 ppm)					1	0.319
CCV low: (0.02032 ppm)					5	0.160

dcm 11/6/13

Analyst: David Merkle
Chantey Payne

Date/Time (on) 11/5/13 1005
(off) 1135
(color) 1610

Page 2 of 2

DCN#98605

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG451301 **Analyst:** DCM
Analyte: CYANIDE **Date:** 11/06/2013

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG451301-01	50	50	0.00300	7.364	0.002480	0.000070681	0.000070681	1	mg/L
WG451301-02	50	50	0.295	1.497	-0.006280	0.20129	0.20129	1	mg/L
WG451301-03	50	50	0.317	7.364	0.002480	0.042712	0.042712	1	mg/L
L13101868-01	50	50	0.124	7.364	0.002480	0.016503	0.016503	1	mg/L
L13101868-02	50	50	0.0940	7.364	0.002480	0.012429	0.012429	1	mg/L
L13101868-03	50	50	0.137	7.364	0.002480	0.018268	0.018268	1	mg/L
L13101868-04	50	50	0.00800	7.364	0.002480	0.00074968	ND	1	mg/L
L13101868-05	50	50	0.0140	7.364	0.002480	0.0015645	ND	1	mg/L
L13110051-01	50	50	0.0870	1.497	-0.006280	0.062321	0.062321	1	mg/L
L13110051-02	50	50	0.0100	7.364	0.002480	0.0010213	ND	1	mg/L
L13110051-03	50	50	0.0530	7.364	0.002480	0.0068607	0.0068607 F	1	mg/L
WG451301-04	50	50	0.0530	7.364	0.002480	0.0068607	0.0068607	1	mg/L
WG451301-06	50	50	0.201	7.364	0.002480	0.026959	0.026959	1	mg/L
L13110051-04	50	50	0.201	7.364	0.002480	0.026959	0.026959	1	mg/L
WG451301-05	50	50	0.0370	7.364	0.002480	0.0046879	0.0046879	1	mg/L
WG451301-07	50	50	0.184	7.364	0.002480	0.024651	0.024651	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 11/07/2013 15:03

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451922
File ID: 1V.1311061610-01
CCV ID: WG451922-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 16:10
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.218	1.57	7.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/07/2013 14:59

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451922
File ID: 1V.1311061610-02
CCV ID: WG451922-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 16:10
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0213	7.82	4.9	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/07/2013 14:59

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451922
File ID: 1V.1311061610-17
CCV ID: WG451922-03
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 16:10
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.217	1.57	6.9	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/07/2013 14:59

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451922
File ID: 1V.1311061610-18
CCV ID: WG451922-04
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 16:10
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0214	7.87	5.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/07/2013 14:59

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG451922
File ID: 1V.1311061610-19
CCV ID: WG451922-05
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 16:10
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.223	1.61	9.9	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 11/07/2013 15:11

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG451922
File ID: 1V.1311061610-20
CCV ID: WG451922-06
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 16:10
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0207	7.63	2.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 11/07/2013 15:11

[redacted]

WORKGROUP: WG451297

Cyanide
(cyanide3)

☑ Total method 9010B/9014
SM4500 CN C,E
EPA 335.2

☐ CN – Ameanable (same as total methods)

☐ WD method SM4500 CN I

SOP: K3354 Rev 15
Spec: UV-120-IV
Instrument: Easy-Dist
Matrix: Liquid (mg/L) Soil (mg/kg)

Curve ID: WG451665 11/6/13
WG 451661

CCV: std 60203

Daily Dilution: 5(1000)/250 = 20
10(20)/100 = 2
10(2)/100 = 0.2

True Value: 1016 mg/L

LCS: std 60204

Daily Dilution: 5(1000)/250 = 20
10(20)/100 = 2
5(2)/50 = 0.2
1(2)/50 = 0.04

True Value: 1000 mg/L

Spike: std 60204

Daily Dilution: 1(2)/50 = 0.04

True Value: 1000 mg/L

Distillation Reagents

RGT 28477
RGT 28264
CoA 17124
RGT 28481

Colorimetric Reagents

RGT 28453
RGT 28443
RGT 28563

DCN#98604

WORKGROUP: WG451297

Cyanide
(cyanide3)

Sample	Volume mL/grams	pH > 12	Sulfide Presense	Dilution	Cell Size (cm)	Absorbance λ = 578 nm
CCV(high): 0.2032 ppm	50	✓	No		1	0.308
CCV(low): 0.02032 ppm	50	✓	No		5	0.148
Blank	50	✓	No		5	0.001
LCS: 0.2 ppm	50	✓	No		1	0.278
LCS: 0.04 ppm	50	✓	No		5	0.321
* 10-072-02	50	✓	No		5	0.016
10-085-01	50	✓	No		5	0.030
10-1868-01	50	✓	No		1	0.218
-02	50	✓	No		1	0.242
-03	50	✓	No		1	0.379
-04	50	✓	No		5	0.021
-05	50	✓	No		5	0.036
14-051-01	50	✓	No	1/2	5	~~0.010~~ 0.303
-02	50	✓	No		5	0.010
-03	50	✓	No		1	0.084
-04	50	✓	No		1	0.479
10-406-01	50	✓	No		1	0.084
-02	50	✓	No		1	0.101
-03	50	✓	No		5	0.148
distilled ccv 0.2032	50	✓	No		1	0.327
distilled ccv 0.02032	50	✓	No		5	0.155
Duplicate: 10-085-01	50	✓			5	0.190
MS: (↓ ppm)	50	✓			5	0.218
MSD: (ppm)						
CCV high: (0.2032 ppm)					1	0.311
CCV low: (0.02032 ppm)					5	0.149

Analyst: David Merchle / Timothy Fauser

Date/Time (on) 11/4/13 0950
(off) 1120
(color) 1215

* Out of hold

Page 2 of 2

DCN#98604

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG451297 **Analyst:** DCM
Analyte: CYANIDE **Date:** 11/06/2013

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG451297-01	50	50	0.00100	7.364	0.002480	-0.00020092	-0.00020092	1	mg/L
WG451297-02	50	50	0.278	1.497	-0.006280	0.18993	0.18993	1	mg/L
WG451297-03	50	50	0.321	7.364	0.002480	0.043255	0.043255	1	mg/L
L13110072-02	50	50	0.0160	7.364	0.002480	0.0018361	ND	1	mg/L
L13110085-01	50	50	0.0300	7.364	0.002480	0.0037373	ND	1	mg/L
WG451297-04	50	50	0.0300	7.364	0.002480	0.0037373	0.0037373	1	mg/L
L13101868-01	50	50	0.218	1.497	-0.006280	0.14984	0.14984	1	mg/L
L13101868-02	50	50	0.242	1.497	-0.006280	0.16588	0.16588	1	mg/L
L13101868-03	50	50	0.379	1.497	-0.006280	0.25741	0.25741	1	mg/L
L13101868-04	50	50	0.0210	7.364	0.002480	0.0025151	ND	1	mg/L
L13101868-05	50	50	0.0360	7.364	0.002480	0.0045521	ND	1	mg/L
L13110051-01	50	50	0.303	7.364	0.002480	0.040811	0.081622	2	mg/L
L13110051-02	50	50	0.0100	7.364	0.002480	0.0010213	ND	1	mg/L
L13110051-03	50	50	0.0840	1.497	-0.006280	0.060317	0.060317	1	mg/L
L13110051-04	50	50	0.479	1.497	-0.006280	0.32422	0.32422	1	mg/L
L13100406-01	50	50	0.0840	1.497	-0.006280	0.060317	0.060317	1	mg/L
L13100406-02	50	50	0.101	1.497	-0.006280	0.071675	0.071675	1	mg/L
L13100406-03	50	50	0.148	7.364	0.002480	0.019762	0.019762	1	mg/L
WG451297-05	50	50	0.190	7.364	0.002480	0.025465	0.025465	1	mg/L
WG451297-06	50	50	0.218	7.364	0.002480	0.029268	0.029268	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 11/06/2013 17:05

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451761
File ID: 1V.1311061215-01
CCV ID: WG451761-01
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 12:15
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.210	1.52	3.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/06/2013 16:58

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451761
File ID: 1V.1311061215-21
CCV ID: WG451761-02
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 12:15
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0198	7.28	2.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/06/2013 16:58

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451761
File ID: 1V.1311061215-24
CCV ID: WG451761-05
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 12:15
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.212	1.53	4.4	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/06/2013 16:58

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451761
File ID: 1V.1311061215-25
CCV ID: WG451761-06
Units: mg/L
Analyte: CYANIDE

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 12:15
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0199	7.33	2.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/06/2013 16:58

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG451761
File ID: 1V.1311061215-22
CCV ID: WG451761-03
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 12:15
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.203	0.223	1.61	9.9	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 11/06/2013 17:07

[redacted]

Microbac Laboratories Inc.
DISTILLED STANDARD REPORT

Workgroup #: WG451761
File ID: 1V.1311061215-23
CCV ID: WG451761-04
Units: mg/L

Instrument ID: UV-120-1V
Run Date: 11/06/2013
Run Time: 12:15
Analyst: DCM
Cal ID: UV-120 - 06-NOV-13

Analyte	Expected	Found	RF	%D	Q
Cyanide	.0203	0.0207	7.63	2.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WG_CCV_LCS - Modified 03/06/2008
Report generated 11/06/2013 17:07

[redacted]

2.2.5 Conductivity Data

2.2.5.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 120.1/SM2510 B (Conductivity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74308
Approved By: Deanna Hesson

2.2.5.2 QC Summary Data

(Readout)/(dilution) = mg/L

where:

Readout = direct readout from the instrument
dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 31-OCT-2013
Analyst: BAF
Analyst: NA
Method: P,A,C
Instrument: TIAMO
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451008 WG451014 WG451012 WG451006

Calibration/Linearity	10-31-2013
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	BAF
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
01-NOV-2013

Brice Fenton

Secondary Reviewer:
07-NOV-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-07-2013 15:40:05

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 120.1 AAB#: WG451008

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					10/31/2013	1.3	28		10/31/13	1.3	28	
MPL 13-1013-2	02	10/30/13					10/31/2013	1.3	28		10/31/13	1.3	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3188880
Report generated 11/07/2013 11:19

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 120.1 AAB#: WG451012

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 1-1013-1	03	10/30/13					10/31/2013	1.2	28		10/31/13	1.2	28	
MPL 18-1013-1	04	10/30/13					10/31/2013	1.1	28		10/31/13	1.1	28	
MPL 6-1013-1	05	10/30/13					10/31/2013	1.1	28		10/31/13	1.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3188880
Report generated 11/07/2013 11:19

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: TI.103113.1507CO
Prep Date: 10/31/13 15:07
Analyzed Date: 10/31/13 15:07
Analyst: DIH

Work Group: WG451008
Blank Sample ID: WG451008-01
Instrument ID: TIAMO1
Method: 120.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451008-02	TI.103113.1509CO	10/31/13 15:09	01
MPL 13-1013-1	L13101868-01	TI.103113.1645CO	10/31/13 16:45	01
MPL 13-1013-2	L13101868-02	TI.103113.1647CO	10/31/13 16:47	01
DUP	WG451008-05	TI.103113.1649CO	10/31/13 16:49	01
LCS2	WG451008-03	TI.103113.1651CO	10/31/13 16:51	01

Report Name: BLANK_SUMMARY
PDF File ID: 3188881
Report generated 11/07/2013 11:19

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: TI.103113.1653CO
Prep Date: 10/31/13 16:53
Analyzed Date: 10/31/13 16:53
Analyst: DIH

Work Group: WG451012
Blank Sample ID: WG451012-01
Instrument ID: TIAMO1
Method: 120.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451012-02	TI.103113.1655CO	10/31/13 16:55	01
MPL 1-1013-1	L13101868-03	TI.103113.1657CO	10/31/13 16:57	01
MPL 18-1013-1	L13101868-04	TI.103113.1659CO	10/31/13 16:59	01
MPL 6-1013-1	L13101868-05	TI.103113.1701CO	10/31/13 17:01	01
DUP	WG451012-05	TI.103113.1702CO	10/31/13 17:02	01
LCS2	WG451012-03	TI.103113.1847CO	10/31/13 18:47	01

Report Name: BLANK_SUMMARY
PDF File ID: 3188881
Report generated 11/07/2013 11:19

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 10/31/13 15:07 Sample ID: WG451008-01
Instrument ID: TIAMO1 Run Date: 10/31/13 15:07 Prep Method: 120.1
File ID: TI.103113.1507CO Analyst: DIH Method: 120.1
Workgroup (AAB#): WG451008 Matrix: Water Units: umhos/cm
Contract #: Cal ID: TIAMO1 -

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Conductivity	10.0	50.0	16.3	1	J

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3188882
07-NOV-2013 11:19

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 10/31/13 16:53 Sample ID: WG451012-01
Instrument ID: TIAMO1 Run Date: 10/31/13 16:53 Prep Method: 120.1
File ID: TI.103113.1653CO Analyst: DIH Method: 120.1
Workgroup (AAB#): WG451012 Matrix: Water Units: umhos/cm
Contract #: Cal ID: TIAMO1 -

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Conductivity	10.0	50.0	10.0	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3188882
07-NOV-2013 11:19

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: DIH Prep Method: 120.1
Instrument ID: TIAMO1 Matrix: Water Method: 120.1
Workgroup (AAB#): WG451008 Units: umhos/cm
QC Key: DOD4 Lot #: STD58700

Sample ID: WG451008-02 LCS File ID: TI.103113.1509CO Run Date: 10/31/2013 15:09
Sample ID: WG451008-03 LCS2 File ID: TI.103113.1651CO Run Date: 10/31/2013 16:51

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Conductivity	1410	1360	96.2	1410	1290	91.7	4.79	90 - 110	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3188883
Report generated: 11/07/2013 11:19

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: DIH Prep Method: 120.1
Instrument ID: TIAMO1 Matrix: Water Method: 120.1
Workgroup (AAB#): WG451012 Units: umhos/cm
QC Key: DOD4 Lot #: STD58700

Sample ID: WG451012-02 LCS File ID: TI.103113.1655CO Run Date: 10/31/2013 16:55
Sample ID: WG451012-03 LCS2 File ID: TI.103113.1847CO Run Date: 10/31/2013 18:47

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Conductivity	1410	1300	92.1	1410	1300	92.4	0.307	90 - 110	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3188883
Report generated: 11/07/2013 11:19

2.2.5.3 Raw Data

Metrohm Tiamo (tiamo1)

Instrument: Tiamo

pH:

EPA 150.1 / SM 4500-H(+)-B / SW846 9040C

WG: 451010
451014

LCS 6: Std 59686 Calibration: 10/31/13

LCS 9: Std 59687

NOTE: • An LCS is analyzed every 20 samples

• Alternate levels

Cond:

EPA 120.1 / SM 2510B

LCS: Std 58700 Daily Dil: 20/200 (0.1M) = 1412 umhos/cm WG: 451008
451012

Cell Constant: 0.733

NOTE: • LCS/LCSDUP required each work group

• End run with LCS

ALK:

EPA 310.1 / SM 2320B

LCS: Std 60183 Daily Dil: 10/250 (2500) = 100 mg/L WG: 451006

Titrant T: T-12860803 N: 0.01976N H_2SO_4

NOTE: • LCS/LCSDUP required each work group

Analyst: Bruce Fenton Date: 10/31/13 File: 10312013PAC

DCN#98559

Metrohm Tiamo (tiamo1)

	Sample ID	Dilution	pH	Cond	ALK	Acid		Sample ID	Dilution	pH	Cond	ALK	Acid
1	pH 6		✓				50	10-1859-03		✓			
2	Blk			✓			51	04		✓			
3	LCS 1412			✓			52	10-1861-01		✓			
4	Blk				✓		53	02		✓			
5	LCS 100				✓		54	03		✓			
6	LCSDUP				✓		55	04		✓			
7	10-1865-01		✓	✓	✓		56	10-1862-01		✓			
8	02		✓	✓	✓		57	02		✓			
9	DUP ↓				✓		58	03		✓			
10	10-1850-01		✓	✓			59	DUP ↓		✓			
11	10-1853-01		✓	✓			60	LCSDUP			✓		
12	02		✓	✓			61	PH 6		✓			
13	10-1855-01		✓	✓			62	Blk			✓		
14	02		✓	✓			63						
15	10-1858-01		✓	✓			64						
16	02		✓	✓			65						
17	03		✓	✓			66						
18	10-1819-01			✓			67						
19	02			✓			68						
20	03			✓			69						
21	05			✓			70						
22	06			✓			71						
23	09			✓			72						
24	10			✓			73						
25	10-1866-01			✓			74						
26	10-1868-01			✓			75						
27	02			✓			76						
28	DUP ↓			✓			77						
29	LCSDUP			✓			78						
30	~~10-18~~ Blk			✓			79						
31	LCS			✓			80						
32	10-1868-03			✓			81						
33	04			✓			82						
34	05			✓			83						
35	DUP ↓			✓			84						
36	10-1872-01		✓				85						
37	02		✓				86						
38	03		✓				87						
39	10-1856-01		✓				88						
40	02		✓				89						
41	03		✓				90						
42	04		✓				91						
43	05		✓				92						
44	10-1857-01		✓				93						
45	02		✓				94						
46	DUP ↓		✓				95						
47	pH 9		✓				96						
48	10-1859-01		✓				97						
49	02		✓				98						

Analyst: Brice Jenton Date: 10/31/13

DCN#98559

Sample ID: PH 6 — 2013-10-31 15:02:18 UTC-4

sample pH	6.054	pH
Res25	20.86	°C

Sample ID: WG451008-01 — 2013-10-31 15:07:40 UTC-4

sample Conduntivity	16.300	µS/cm

Sample ID: WG451008-02 — 2013-10-31 15:09:33 UTC-4

sample Conduntivity	1358.300	µS/cm

Sample ID: WG451006-01 — 2013-10-31 15:11:32 UTC-4

Alkal mg/L CaCO3	5.40	mg/L

Sample ID: WG451006-02 — 2013-10-31 15:15:59 UTC-4

Alkal mg/L CaCO3	97.40	mg/L

Sample ID: WG451006-03 — 2013-10-31 15:21:25 UTC-4

Alkal mg/L CaCO3	99.19	mg/L

Sample ID: L13101865-01 — 2013-10-31 15:26:53 UTC-4

Alkal mg/L CaCO3	8.40	mg/L
sample Conduntivity	456.600	µS/cm
sample pH	6.697	pH

Sample ID: L13101865-02 — 2013-10-31 15:32:57 UTC-4

Alkal mg/L CaCO3	26.80	mg/L
sample Conduntivity	1178.600	µS/cm
sample pH	7.272	pH

Sample ID: WG451006-05 — 2013-10-31 15:39:22 UTC-4

Alkal mg/L CaCO3	26.78	mg/L

Sample ID: L13101850-01 — 2013-10-31 15:44:40 UTC-4

sample Conduntivity	1417.000	µS/cm
sample pH	7.370	pH

Sample ID: L13101853-01 — 2013-10-31 15:50:05 UTC-4

sample Conduntivity	1146.800	µS/cm
sample pH	7.316	pH

Sample ID: L13101853-02 — 2013-10-31 15:55:37 UTC-4

sample Conduntivity	1143.200	µS/cm
sample pH	7.328	pH

Sample ID: L13101855-01 — 2013-10-31 16:01:10 UTC-4

sample Conduntivity	1016.700	µS/cm
sample pH	7.490	pH

Sample ID: L13101855-02 — 2013-10-31 16:06:44 UTC-4

sample Conduntivity	984.700	µS/cm

sample pH . . . . . 7.383 pH

Sample ID: L13101858-01 2013-10-31 16:12:19 UTC-4

sample Conduntivity . . . . . 1295.300 µS/cm
sample pH . . . . . 7.275 pH

Sample ID: L13101858-02 2013-10-31 16:17:53 UTC-4

sample Conduntivity . . . . . 1581.500 µS/cm
sample pH . . . . . 7.775 pH

Sample ID: L13101858-03 2013-10-31 16:23:26 UTC-4

sample Conduntivity . . . . . 470.200 µS/cm
sample pH . . . . . 7.321 pH

Sample ID: L13101819-01 2013-10-31 16:28:59 UTC-4

sample Conduntivity . . . . . 57.800 µS/cm

Sample ID: L13101819-02 2013-10-31 16:31:06 UTC-4

sample Conduntivity . . . . . 100.900 µS/cm

Sample ID: L13101819-03 2013-10-31 16:33:13 UTC-4

sample Conduntivity . . . . . 352.300 µS/cm

Sample ID: L13101819-05 2013-10-31 16:35:18 UTC-4

sample Conduntivity . . . . . 185.500 µS/cm

Sample ID: L13101819-06 2013-10-31 16:37:23 UTC-4

sample Conduntivity . . . . . 141.900 µS/cm

Sample ID: L13101819-09 2013-10-31 16:39:26 UTC-4

sample Conduntivity . . . . . 62.900 µS/cm

Sample ID: L13101819-10 2013-10-31 16:41:29 UTC-4

sample Conduntivity . . . . . 232.900 µS/cm

Sample ID: L13101866-01 2013-10-31 16:43:30 UTC-4

sample Conduntivity . . . . . 53.300 µS/cm

Sample ID: L13101868-01 2013-10-31 16:45:31 UTC-4

sample Conduntivity . . . . . 388.500 µS/cm

Sample ID: L13101868-02 2013-10-31 16:47:30 UTC-4

sample Conduntivity . . . . . 388.800 µS/cm

Sample ID: WG451008-05 2013-10-31 16:49:29 UTC-4

sample Conduntivity . . . . . 389.000 µS/cm

Sample ID: WG451008-03 2013-10-31 16:51:26 UTC-4

sample Conduntivity . . . . . 1294.700 µS/cm

Sample ID: WG451012-01 2013-10-31 16:53:22 UTC-4

sample Conduntivity . . . . . 2.700 µS/cm

Sample ID: WG451012-02 2013-10-31 16:55:18 UTC-4

sample Conduntivity . . . . . 1300.100 µS/cm

Sample ID: L13101868-03 2013-10-31 16:57:13 UTC-4

sample Conduntivity . . . . . 410.400 µS/cm

Sample ID: L13101868-04 2013-10-31 16:59:08 UTC-4

sample Conduntivity . . . . . 309.600 µS/cm

Sample ID: L13101868-05 2013-10-31 17:01:03 UTC-4

sample Conduntivity . . . . . 325.700 µS/cm

Sample ID: WG451012-05 2013-10-31 17:02:59 UTC-4

sample Conduntivity . . . . . 325.100 µS/cm

Sample ID: L13101872-01 2013-10-31 17:04:54 UTC-4

sample pH . . . . . 7.368 pH
Res25 . . . . . 20.72 °C

Sample ID: L13101872-02 2013-10-31 17:09:10 UTC-4

sample pH . . . . . 7.432 pH
Res25 . . . . . 20.52 °C

Sample ID: L13101872-03 2013-10-31 17:13:20 UTC-4

sample pH . . . . . 7.250 pH
Res25 . . . . . 20.49 °C

Sample ID: L13101856-01 2013-10-31 17:17:31 UTC-4

sample pH . . . . . 7.661 pH
Res25 . . . . . 20.52 °C

Sample ID: L13101856-02 2013-10-31 17:21:44 UTC-4

sample pH . . . . . 8.013 pH
Res25 . . . . . 20.55 °C

Sample ID: L13101856-03 2013-10-31 17:25:58 UTC-4

sample pH . . . . . 7.448 pH
Res25 . . . . . 20.62 °C

Sample ID: L13101856-04 2013-10-31 17:30:13 UTC-4

sample pH . . . . . 7.530 pH
Res25 . . . . . 20.55 °C

Sample ID: L13101856-05 2013-10-31 17:34:29 UTC-4

sample pH . . . . . 6.907 pH
Res25 . . . . . 20.42 °C

Sample ID: L13101857-01 2013-10-31 17:38:47 UTC-4

sample pH . . . . . 7.538 pH
Res25 . . . . . 20.45 °C

Sample ID: L13101857-02 2013-10-31 17:43:06 UTC-4
sample pH . . . . . 7.417 pH
Res25 . . . . . 20.51 °C

Sample ID: WG451010-02 2013-10-31 17:47:26 UTC-4
sample pH . . . . . 7.400 pH
Res25 . . . . . 20.57 °C

Sample ID: PH 9 2013-10-31 17:51:48 UTC-4
sample pH . . . . . 8.981 pH
Res25 . . . . . 20.69 °C

Sample ID: L13101859-01 2013-10-31 17:56:10 UTC-4
sample pH . . . . . 8.399 pH
Res25 . . . . . 20.60 °C

Sample ID: L13101859-02 2013-10-31 18:00:34 UTC-4
sample pH . . . . . 7.561 pH
Res25 . . . . . 20.42 °C

Sample ID: L13101859-03 2013-10-31 18:04:57 UTC-4
sample pH . . . . . 6.989 pH
Res25 . . . . . 20.34 °C

Sample ID: L13101859-04 2013-10-31 18:09:20 UTC-4
sample pH . . . . . 7.488 pH
Res25 . . . . . 20.28 °C

Sample ID: L13101861-01 2013-10-31 18:13:41 UTC-4
sample pH . . . . . 7.348 pH
Res25 . . . . . 20.26 °C

Sample ID: L13101861-02 2013-10-31 18:18:01 UTC-4
sample pH . . . . . 7.105 pH
Res25 . . . . . 20.30 °C

Sample ID: L13101861-03 2013-10-31 18:22:20 UTC-4
sample pH . . . . . 7.286 pH
Res25 . . . . . 20.34 °C

Sample ID: L13101861-04 2013-10-31 18:26:38 UTC-4
sample pH . . . . . 7.482 pH
Res25 . . . . . 20.41 °C

Sample ID: L13101862-01 2013-10-31 18:30:54 UTC-4
sample pH . . . . . 7.720 pH

Res25 . . . . . 20.49 °C

Sample ID: L13101862-02 2013-10-31 18:35:10 UTC-4

sample pH . . . . . 7.574 pH

Res25 . . . . . 20.54 °C

Sample ID: L13101862-03 2013-10-31 18:39:24 UTC-4

sample pH . . . . . 7.467 pH

Res25 . . . . . 20.61 °C

Sample ID: WG451014-02 2013-10-31 18:43:37 UTC-4

sample pH . . . . . 7.454 pH

Res25 . . . . . 20.60 °C

Sample ID: WG451012-03 2013-10-31 18:47:51 UTC-4

sample Conduntivity . . . . . 1304.100 µS/cm

Sample ID: PH 6 2013-10-31 18:49:41 UTC-4

sample pH . . . . . 6.010 pH

Res25 . . . . . 20.64 °C

2.2.6 Ammonia Data

2.2.6.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 350.1/SM4500-NH3 B(NH3)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74310
Approved By: Deanna Hesson

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 13-1013-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:41
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	SC131105002.027
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 13-1013-2	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:43
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	SC131105002.028
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 1-1013-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:43
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	SC131105002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 18-1013-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:45
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	SC131105002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 6-1013-1	**Prep Method:**	350.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	350.1	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451431	**Analyst:**	BAF	**Run Date:**	11/05/2013 10:45
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	SC131105002.031
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

2.2.6.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 05-NOV-2013
Analyst: BAF
Analyst: NA
Method: NH3
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451431 WG451434 WG451438

Calibration/Linearity	11-5-2013
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	BAF
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
05-NOV-2013

Brice Fenton

Secondary Reviewer:
09-NOV-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-09-2013 11:09:09

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 350.1 AAB#: WG451431

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/05/2013	6	28		11/05/13	6	28	
MPL 13-1013-2	02	10/30/13					11/05/2013	6	28		11/05/13	6	28	
MPL 1-1013-1	03	10/30/13					11/05/2013	5.9	28		11/05/13	5.9	28	
MPL 18-1013-1	04	10/30/13					11/05/2013	5.9	28		11/05/13	5.9	28	
MPL 6-1013-1	05	10/30/13					11/05/2013	5.8	28		11/05/13	5.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3192229
Report generated 11/08/2013 14:42

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: SC131105002.011
Prep Date: 11/05/13 10:27
Analyzed Date: 11/05/13 10:27
Analyst: BAF

Work Group: WG451431
Blank Sample ID: WG451431-01
Instrument ID: SMARTCHEM
Method: 350.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451431-02	SC131105002.012	11/05/13 10:28	01
MPL 13-1013-1	L13101868-01	SC131105002.027	11/05/13 10:41	01
MPL 13-1013-2	L13101868-02	SC131105002.028	11/05/13 10:43	01
MPL 1-1013-1	L13101868-03	SC131105002.029	11/05/13 10:43	01
MPL 18-1013-1	L13101868-04	SC131105002.030	11/05/13 10:45	01
MPL 6-1013-1	L13101868-05	SC131105002.031	11/05/13 10:45	01
DUP	WG451431-05	SC131105002.079	11/05/13 11:42	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 3192230
Report generated 11/08/2013 14:42

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/05/13 10:27 Sample ID: WG451431-01
Instrument ID: SMARTCHEM Run Date: 11/05/13 10:27 Prep Method: 350.1
File ID: SC131105002.011 Analyst: BAF Method: 350.1
Workgroup (AAB#): WG451431 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-05-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Nitrogen, Ammonia	0.0500	0.100	-0.0610	1	*

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3192231
08-NOV-2013 14:42

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Run Date: 11/05/2013 Sample ID: WG451431-02
Instrument ID: SMARTCHEM Run Time: 10:28 Prep Method: 350.1
File ID: SC131105002.012 Analyst: BAF Method: 350.1
Workgroup (AAB#): WG451431 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD59167 Cal ID: SMARTC-05-NOV-13

Analytes	Expected	Found	% Rec	LCS Limits	Q
Nitrogen, Ammonia	2.00	1.84	91.9	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 3192232
Report generated: 11/08/2013 14:42

2.2.6.3 Raw Data

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

WORKGROUP: WG451431

451434
451438

Daily Check

- [x] Lamp On
- [x] Probe Rinse Full
- [x] DI Water > ½ Full
- [x] Wash Solution > ½ Full
- [ ] NO3 Reagent bottle connected / purged
- [ ] NO3 pH adj to pH 5-9

Syringe filter lot # _____

- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

1) **Workgroup** _____
Plan # 20131105002
2) **Workgroup** _____
Plan # _____
3) **Workgroup** _____
Plan # _____

Instrument: SC1 [x] SC2 [ ]

Analyte	NH3	1	2	3
		Dilution		
SC Prepared Curve				
Position				
1-1	ICV 1.5			
1-2	Blk			
1-3	LCS 2 11/5/13			
1-4	11-042-02			
1-5	11-063-03			
1-6	11-082-01			
1-7	11-083-01	1/50 ×	1/10	
1-8	02	1/50 ×	1/10	
1-9	03	1/50 ×	1/4 Auto 1/2	
1-10	04	1/50 ×	1/10	
1-11	05			
1-12	06	1/50 ×	1/10	
1-13	10-1852-01			
1-14	02			
1-15	03			
1-16	10-1868-01			
1-17	02			
1-18	03			
1-19	04			
1-20	05			
1-21	10-1885-01			
1-22	03	Auto 1/2		
2-1	09			
2-2	DUP 1885-03	Auto 1/2		
2-3	MS ↓	" 1/2		

Analyte		1	2	3
Position				
2-4	MS 1885-09			
2-5	Blk			
2-6	LCS			
2-7	10-1873-01			
2-8	02			
2-9	03			
2-10	04			
2-11	10-051-01			
2-12	02			
2-13	03			
2-14	04			
2-15	10-1885-05			
2-16	07			
2-17	DUP 051-03			
2-18	MS 051-04			
2-19	Blk			
2-20	LCS			
2-21	LCSDUP			
2-22	11-049-35			
2-23	37			
2-24	DUP ↓			
2-25	MS ↓			
2-26	11-049-39			
3-1				
3-2				

NOTES:
* Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
*MS(10% sample): NO3, TKN, NH3, PHOS

DCN#98624

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG451431

Position	Analyte	1	2	3
3-3				
3-4				
3-5				
3-6				
3-7				
3-8				
3-9				
3-10				
3-11				
3-12				
3-13				
3-14				
3-15				

Position	Analyte	1	2	3
3-16				
3-17				
3-18				
3-19				
3-20				
3-21				
3-22				
3-23				
3-24				
3-25				
3-26				
3-27				
3-28				

	Chloride	EPA 325.2/SM 4500-CI E-2000
	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
	Alkalinity	EPA 310.2
	Sulfate	EPA 375.4/SM 426C (15th)/ SM4500-504 E-1997

✓	Ammonia	EPA 350.1/SM 4500-NH3 B-1997
	TKN	EPA 351.2
	Phos	EPA 365.4

Analyte	NH3	NH3AA2	Reagents
SOP & Revision	K3501 Rev.19 →		RGT28451
Curve Stock (SC made)	Std 61115 →		RGT28433
NO2 STD			RGT28431
ICV	Std 60981 →		
CCV	Std 61114 →		
LCS		Std 60982	
MS	See disk. log Dilution	Std 59167 0.1(100)/10 = 1	

Comments: _____

Analyst: Brie Fenton Date: 11/5/13

DCN#98624

AMMONIA DISTILLATION LOG

SOP K3501 Revision # 18

10(100)/100 = 10.0

LCS: Std 59167 SPIKE: Std 59167 WATER (mg/L)

DAILY DIL. 10(10)/50 = 2.0 DAILY DIL. 5(10)/50 = 1.0 SOIL (mg/Kg)

☒ easy-dist method ☐ macro method RGT 28276

X = no √ = yes RGT 28475

SAMPLE	VOLUME DISTILLED (mL)	CHLORINE PRESENT?	pH ADJUSTED 9.5 ± 0.2	COMMENTS
BLANK	50	X	✓	
LCS( )	50	X	✓	
11-0044-02	50	X	✓	
11-0063-03	50	X	✓	
11-0082-01	50	X	✓	Outfall G-05
11-0083-01	1	X	✓	#1 Cooker Cond.
-02	1	X	✓	Waste Heat Cond.
-03	1	X	✓	#2 Cooker Cond.
-04	1	X	✓	Feather Cond.
-05	50	X	✓	Final Effluent Grab
-06	1	X	✓	DAF 1
10-1852-01	50	X	✓	
-02	50	X	✓	
-03	50	X	✓	
10-1868-01	50	X	✓	
-02	50	X	✓	
-03	50	X	✓	
-04	50	X	✓	
-05	50	X	✓	
1885-01	50	X	✓	
-03	50	X	✓	
-09	50	X	✓	
DUP 10-1885-03	50	X	✓	
MS 10-1885-03	50	X	✓	
MS 10-1885-09	50	X	✓	

Analyst: Ethan Todd Date/Time: 11/4/13 1030

*MS required on 10% of samples (EPA 350.1)
*MS/MS required on each set of 20 samples (SM4500)

AMMONIA DISTILLATION LOG

SOP K3501 Revision # 18

10(100)/100 = 10.0

LCS: Std 59167 SPIKE: Std 59167

WATER (mg/L)

DAILY DIL. 10(10)/50 = 2.0 DAILY DIL. 5(10)/50 = 1.0

SOIL (mg/Kg)

☒ easy-dist method ☐ macro method

RGT 28276
RGT 28475

SAMPLE	VOLUME DISTILLED (mL)	CHLORINE PRESENT?	pH ADJUSTED 9.5 ± 0.2	COMMENTS
BLANK	50	X	✓	
LCS(· ·)	50	X	✓	
10-1873-01	50	X	✓	
-02	50	X	✓	
-03	50	X	✓	
-04	50	X	✓	
11-0051-01	50	X	✓	
-02	50	X	✓	
-03	50	X	✓	
-04	50	X	✓	
10-1885-05	50	X	✓	
-07	50	X	✓	
DUP 11-0051-03		X	✓	
MS 11-0051-04		X	✓	

Analyst: Ethan Todd Date/Time: 10/4/13 1500

*MS required on 10% of samples (EPA 350.1)
*MS/MS required on each set of 20 samples (SM4500)

MICROBAC (OVD)

SMARTCHEM200 INST1 (VER3.1.14)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 -Unit [mg/L] - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.000	0.0808	0.00		10:16:11 AM
DIL-1	RBL	0.000	0.0807	0.00		10:16:29 AM
DIL-1	RBL	0.000	0.0796	0.00		10:18:00 AM
DIL-1	Std-1	0.000	-0.0002	0.00	INV	10:18:18 AM
SR5-1	Std-2	0.030	0.0057	0.00		10:19:48 AM
SR5-2	Std-3	0.094	0.0253	0.00		10:20:06 AM
SR5-3	Std-4	0.600	0.1726	0.00		10:21:36 AM
SR5-4	Std-5	1.050	0.3063	0.00		10:21:54 AM
SR5-5	Std-6	2.100	0.6073	0.00		10:23:24 AM
ST-1	Std-7	3.000	0.8666	0.00		10:23:42 AM
ST-3	1CCV (1.5 mg/L)	1.613	0.4662	107.55		10:25:12 AM
ST-2	2CCB (0 mg/L)	-0.109	-0.0326	0.00	INV,><,LL	10:25:30 AM
1	ICV	1.415	0.4089	0.00		10:27:00 AM
2	WG451431-01 BLK	-0.061	-0.0187	0.00	INV,><,LL	10:27:18 AM
3	WG451431-02 LCS	1.839	0.5315	0.00		10:28:48 AM
4	L13110047-02	4.271	1.2358	0.00	><,LH	10:29:06 AM
5	L13110063-03	0.251	0.0717	0.00		10:30:36 AM
6	L13110082-01	-0.065	-0.0198	0.00	INV,><,LL	10:30:54 AM
7	L13110083-01 (500)	2.822	0.8161	0.00		10:32:24 AM
8	L13110083-02 (500)	2.567	0.7425	0.00		10:32:42 AM
9	L13110083-03 (200)	6.746	1.9524	0.00	EPL,><,LH	10:34:13 AM
10	L13110083-04 (500)	1.386	0.4003	0.00		10:34:30 AM
ST-3	1CCV (1.5 mg/L)	1.618	0.4675	107.85		10:36:00 AM
ST-2	2CCB (0 mg/L)	-0.103	-0.0309	0.00	INV,><,LL	10:36:18 AM
11	L13110083-05	0.057	0.0154	0.00		10:37:48 AM
12	L13110083-06 (500)	1.231	0.3556	0.00		10:38:06 AM
13	L13101852-01	-0.034	-0.0108	0.00	INV,><,LL	10:39:36 AM
14	L13101852-02	0.025	0.0062	0.00		10:39:54 AM
15	L13101852-03	-0.031	-0.0100	0.00	INV,><,LL	10:41:24 AM
16	L13101868-01	0.040	0.0105	0.00		10:41:42 AM
17	L13101868-02	0.013	0.0028	0.00		10:43:13 AM
18	L13101868-03	-0.006	-0.0027	0.00	INV,><,LL	10:43:30 AM

Report Date :11/05/2013 **Run Date :11/5/2013** **Operator : WESTCO** **Plan # :20131105002**

Plan Description : NH3-A1-BAF/11/5/2013

MICROBAC (OVD)

SMARTCHEM200 INST1 (VER3.1.14)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 -Unit [mg/L] - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
19	L13101868-04	-0.061	-0.0187	0.00	INV,><,LL	10:45:01 AM
20	L13101868-05	-0.011	-0.0041	0.00	INV,><,LL	10:45:18 AM
ST-3	1CCV (1.5 mg/L)	1.630	0.4710	108.66		10:46:49 AM
ST-2	2CCB (0 mg/L)	-0.108	-0.0322	0.00	INV,><,LL	10:47:06 AM
21	L13101885-01	-0.039	-0.0124	0.00	INV,><,LL	10:48:37 AM
22	L13101885-03	X7.523	2.1775	0.00	><,LH	10:48:55 AM
23	L13101885-09	0.069	0.0190	0.00		10:50:25 AM
24	WG451431-05 DUP	X8.066	2.3346	0.00	EPL,><,LH	10:50:43 AM
25	WG451431-06 MS	X7.952	2.3016	0.00	EPL,><,LH	10:52:13 AM
26	WG451431-07 MS	0.935	0.2699	0.00		10:52:31 AM
27	WG451434-01 BLK	-0.074	-0.0225	0.00	INV,><,LL	10:54:01 AM
28	WG451434-02 LCS	1.969	0.5692	0.00		10:54:19 AM
29	L13101873-01	0.012	0.0024	0.00		10:55:49 AM
30	L13101873-02	-0.051	-0.0158	0.00	INV,><,LL	10:56:07 AM
ST-3	1CCV (1.5 mg/L)	1.631	0.4714	108.75		10:57:37 AM
ST-2	2CCB (0 mg/L)	-0.099	-0.0296	0.00	INV,><,LL	10:57:55 AM
31	L13101873-03	-0.061	-0.0188	0.00	INV,><,LL	10:59:25 AM
32	L13101873-04	0.003	-0.0002	0.00	INV,><	10:59:43 AM
33	L13110051-01	-0.088	-0.0264	0.00	INV,><,LL	11:01:13 AM
34	L13110051-02	-0.055	-0.0170	0.00	INV,><,LL	11:01:31 AM
35	L13110051-03	-0.074	-0.0226	0.00	INV,><,LL	11:03:01 AM
36	L13110051-04	-0.040	-0.0125	0.00	INV,><,LL	11:03:19 AM
37	L13101885-05	-0.069	-0.0210	0.00	INV,><,LL	11:04:49 AM
38	L13101885-07	0.826	0.2381	0.00		11:05:07 AM
39	WG451434-05 DUP	-0.088	-0.0264	0.00	INV,><,LL	11:06:37 AM
40	WG451434-06 MS	0.931	0.2685	0.00		11:06:55 AM
ST-3	1CCV (1.5 mg/L)	1.636	0.4729	109.09		11:08:25 AM
ST-2	2CCB (0 mg/L)	-0.095	-0.0285	0.00	INV,><,LL	11:08:43 AM
41	WG451438-01 BLK	-0.118	-0.0351	0.00	INV,><,LL	11:10:13 AM
42	WG451438-02 LCS	2.056	0.5943	0.00		11:10:31 AM
43	WG451438-03 LCSDUP	1.992	0.5760	0.00		11:12:01 AM
44	L13110049-35	-0.117	-0.0350	0.00	INV,><,LL	11:12:19 AM

Report Date :11/05/2013 **Run Date :11/5/2013** **Operator : WESTCO** **Plan # :20131105002**

Plan Description : NH3-A1-BAF/11/5/2013

MICROBAC (OVD)

SMARTCHEM200 INST1 (VER3.1.14)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNH3 -Unit [mg/L] - EPA 350.1/SM4500-NH3 AMMONIA

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
45	L13110049-37	-0.131	-0.0389	0.00	INV,><,LL	11:13:50 AM
46	WG451438-05 DUP	-0.089	-0.0267	0.00	INV,><,LL	11:14:07 AM
47	WG451438-06 MS	0.896	0.2586	0.00		11:15:37 AM
48	L13110049-39	0.113	0.0319	0.00		11:15:55 AM
49	ID 49	-0.119	-0.0354	0.00	INV,><,LL	11:17:26 AM
50	ID 50	-0.136	-0.0403	0.00	INV,><,LL	11:17:43 AM
ST-3	1CCV (1.5 mg/L)	1.624	0.4693	108.26		11:19:13 AM
ST-2	2CCB (0 mg/L)	-0.088	-0.0264	0.00	INV,><,LL	11:19:31 AM
51	ID 51	1.977	0.5715	0.00		11:21:02 AM
52	ID 52	1.999	0.5778	0.00		11:21:19 AM
53	ID 53	2.006	0.5799	0.00		11:22:49 AM
54	ID 54	2.006	0.5799	0.00		11:23:08 AM
ST-3	1CCV (1.5 mg/L)	1.652	0.4775	110.15		11:24:38 AM
ST-2	2CCB (0 mg/L)	-0.099	-0.0298	0.00	INV,><,LL	11:24:56 AM
4-[1/2]	L13110042-02	3.788	0.5475	0.00	LH	11:37:06 AM
9-[1/2]	L13110083-03 (200)(2)	3.292	0.4757	0.00	LH	11:38:54 AM
22-[1/2]	L13101885-03 (2)	3.593	0.5193	0.00	LH	11:40:42 AM
24-[1/2]	WG451431-05 DUP (2)	3.907	0.5647	0.00	LH	11:42:30 AM
25-[1/2]	WG451431-06 MS (2)	3.865	0.5587	0.00	LH	11:44:18 AM
ST-3	1CCV (1.5 mg/L)	1.653	0.4776	110.17		11:44:18 AM
ST-2	2CCB (0 mg/L)	-0.095	-0.0284	0.00	INV,><,LL	11:45:48 AM

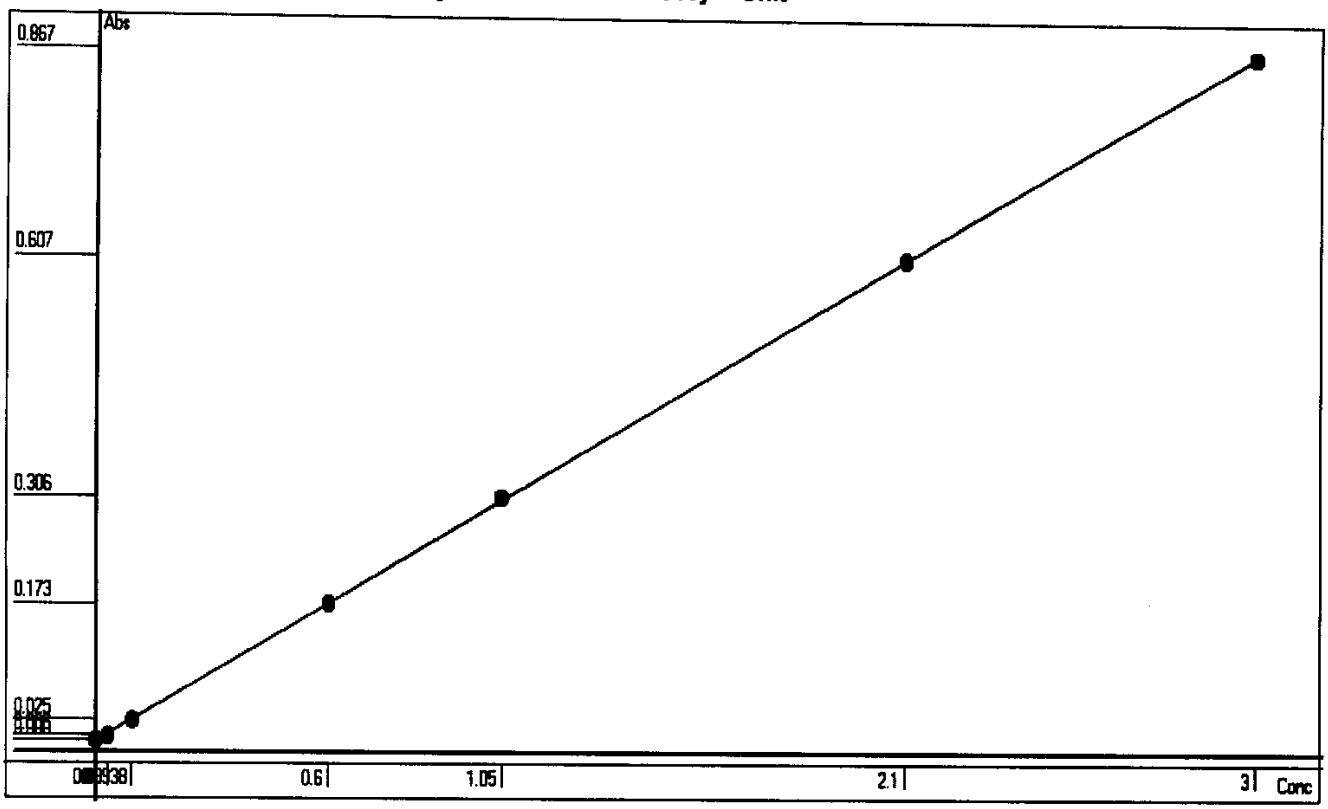
Report Date :11/05/2013 **Run Date :11/5/2013** **Operator : WESTCO** **Plan # :20131105002**

Plan Description : NH3-A1-BAF/11/5/2013

Calibrant Report - WNH3 -

Calib Lot #:010104 Exp Date:6/17/2020 User:Westco Scientific

Plan # : 20131105002 Description : [NH3-A1-BAF/11/5/2013] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0002	0	0.0028	0.28
2	0.0057	0.03	0.0232	-22.67
3	0.0253	0.0938	0.0909	-3.09
4	0.1725	0.6	0.5992	-0.13
5	0.3063	1.05	1.0613	1.08
6	0.6072	2.1	2.1004	0.02
7	0.8666	3	2.9962	-0.13

Conc= +3.4534*Abso +0.0035 R^2=1.0000

RBL
0.0808
0

Report Date 11/5/2013 Run Date 11/5/2013

2.2.7 Nitrate Data

2.2.7.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 353.2/SM4500-NO3 F (Nitrate)

HOLDING TIMES

Sample Analysis: The instrument used for the analysis of nitrate only analyzes for nitrate-nitrite (NO3NO2) which is the amount of total nitrate (NO3) and nitrite (NO2) combined. The NO3 concentration is determined by analyzing for NO3NO2 and NO2 and calculating NO3 by the difference. An unpreserved bottle only has a 48 hour hold time for NO3 and NO2 separately. However if the bottle is preserved with sulfuric acid, the hold time for NO3NO2 is 28 days. The NO2 was analyzed within 48 hours. The NO3NO2 was analyzed from a preserved container within 28 days..

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74311
Approved By: Deanna Hesson

Dannadsson

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13101868-01
Client ID: MPL 13-1013-1
Matrix: Water
Workgroup #: WG451544
Collect Date: 10/30/2013 09:45
Sample Tag:

PrePrep Method: N/A
Prep Method: 353.2
Analytical Method: 353.2
Analyst: BAF
Dilution: 4
Units: mg/L

Instrument: SMARTCHEM
Prep Date: N/A
Cal Date: 11/05/2013 10:23
Run Date: 11/06/2013 09:30
File ID: SC13110811351601

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		4.82		0.200	0.100

Sample #: L13101868-02
Client ID: MPL 13-1013-2
Matrix: Water
Workgroup #: WG451544
Collect Date: 10/30/2013 09:45
Sample Tag:

PrePrep Method: N/A
Prep Method: 353.2
Analytical Method: 353.2
Analyst: BAF
Dilution: 4
Units: mg/L

Instrument: SMARTCHEM
Prep Date: N/A
Cal Date: 11/05/2013 10:23
Run Date: 11/06/2013 09:30
File ID: SC13110811352501

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		4.61		0.200	0.100

Sample #: L13101868-03
Client ID: MPL 1-1013-1
Matrix: Water
Workgroup #: WG451544
Collect Date: 10/30/2013 13:00
Sample Tag:

PrePrep Method: N/A
Prep Method: 353.2
Analytical Method: 353.2
Analyst: BAF
Dilution: 4
Units: mg/L

Instrument: SMARTCHEM
Prep Date: N/A
Cal Date: 11/05/2013 10:23
Run Date: 11/06/2013 09:30
File ID: SC13110811353401

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		5.84		0.200	0.100

Sample #: L13101868-04
Client ID: MPL 18-1013-1
Matrix: Water
Workgroup #: WG451544
Collect Date: 10/30/2013 14:20
Sample Tag:

PrePrep Method: N/A
Prep Method: 353.2
Analytical Method: 353.2
Analyst: BAF
Dilution: 4
Units: mg/L

Instrument: SMARTCHEM
Prep Date: N/A
Cal Date: 11/05/2013 10:23
Run Date: 11/06/2013 09:30
File ID: SC13110811354601

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		2.00		0.200	0.100

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	MPL 6-1013-1	**Prep Method:**	353.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	353.2	**Cal Date:**	11/05/2013 10:23
Workgroup #:	WG451544	**Analyst:**	BAF	**Run Date:**	11/06/2013 09:30
Collect Date:	10/30/2013 15:35	**Dilution:**	4	**File ID:**	SC13110811355501
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		2.47		0.200	0.100

2.2.7.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 06-NOV-2013
Analyst: BAF
Analyst: NA
Method: NO3
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451545 WG451544

Calibration/Linearity	11-6-2013
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	BAF
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
06-NOV-2013

Brice Fenton

Secondary Reviewer:
09-NOV-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-09-2013 11:09:06

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 353.2 AAB#: WG451544

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/06/2013	7	28		11/06/13	7	28	
MPL 13-1013-2	02	10/30/13					11/06/2013	7	28		11/06/13	7	28	
MPL 1-1013-1	03	10/30/13					11/06/2013	6.9	28		11/06/13	6.9	28	
MPL 18-1013-1	04	10/30/13					11/06/2013	6.8	28		11/06/13	6.8	28	
MPL 6-1013-1	05	10/30/13					11/06/2013	6.7	28		11/06/13	6.7	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3192573
Report generated 11/08/2013 15:26

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: SC13110811313501
Prep Date: 11/06/13 09:30
Analyzed Date: 11/06/13 09:30
Analyst: BAF

Work Group: WG451544
Blank Sample ID: WG451544-01
Instrument ID: SMARTCHEM
Method: 353.2

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
MPL 6-1013-1	L13101868-05	SC13110811355501	11/06/13 09:30	
DUP	WG451544-05	SC13110811315601	11/06/13 09:30	
MPL 13-1013-1	L13101868-01	SC13110811351601	11/06/13 09:30	
MPL 18-1013-1	L13101868-04	SC13110811354601	11/06/13 09:30	
LCS2	WG451544-03	SC13110811314501	11/06/13 09:30	
MPL 1-1013-1	L13101868-03	SC13110811353401	11/06/13 09:30	
MPL 13-1013-2	L13101868-02	SC13110811352501	11/06/13 09:30	
LCS	WG451544-02	SC13110811314001	11/06/13 09:30	

Report Name: BLANK_SUMMARY
PDF File ID: 3192574
Report generated 11/08/2013 15:26

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/06/13 09:30 Sample ID: WG451544-01
Instrument ID: SMARTCHEM Run Date: 11/06/13 09:30 Prep Method: 353.2
File ID: SC13110811313501 Analyst: BAF Method: 353.2
Workgroup (AAB#): WG451544 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-05-NOV-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Nitrate-Nitrite (as N)	0.0250	0.0500	0.0250	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3192575
08-NOV-2013 15:26

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: BAF Prep Method: 353.2
Instrument ID: SMARTCHEM Matrix: Water Method: 353.2
Workgroup (AAB#): WG451544 Units: mg/L
QC Key: DOD4 Lot #: STD61085

Sample ID: WG451544-02 LCS File ID: SC13110811314001 Run Date: 11/06/2013 09:30
Sample ID: WG451544-03 LCS2 File ID: SC13110811314501 Run Date: 11/06/2013 09:30

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Nitrate-Nitrite (as N)	1.00	0.969	96.9	1.00	0.954	95.4	1.56	90 - 110	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3192576
Report generated: 11/08/2013 15:26

2.2.7.3 Raw Data

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

WORKGROUP: WG451544

451545

Daily Check

- [x] Lamp On
- [x] Probe Rinse Full
- [x] DI Water > ½ Full
- [x] Wash Solution > ½ Full
- [x] NO3 Reagent bottle connected / purged
- [x] NO3 pH adj to pH 5-9

Syringe filter lot # 169000

- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

1) **Workgroup** _____
Plan # 20131105003
2) **Workgroup** _____
Plan # _____
3) **Workgroup** _____
Plan # _____

Instrument: SC1 [x] SC2 [ ]

Analyte		1	2	3
NO3		Dilution		
SC Prepared Curve				
Position				
1-1	ICV 1.5			
1-2	Blk			
1-3	LCS 1			
1-4	LCSDUP			
1-5	NO2 1			
1-6	10-1835-01	1/4		
1-7	02	1/10		
1-8	03			
1-9	10-1842-02			
1-10	04			
1-11	06			
1-12	DUP 06			
1-13	MS 08			
1-14	MSD 10			
1-15	12			
1-16	14			
1-17	16			
1-18	11-0043-07	1/10		
1-19	10-1844-21	~~1/10~~ 11/6/13		~~color~~ 11/6/13
1-20	10-1852-01	1/5		color
1-21	02	1/5		↓
1-22	03	1/5		↓
2-1	10-1868-01			
2-2	02			
2-3	03			

Position	Analyte	1	2	3
2-4	10-1868-04			
2-5	05			
2-6	10-1877-05			
2-7	MS ↓			
2-8	Blk			
2-9	LCS			
2-10	LCSDUP			
2-11	10-1877-07			
2-12	10			
2-13	11			
2-14	13			
2-15	14			
2-16	11-051-01			
2-17	02			
2-18	03			
2-19	04			
2-20	10-1885-39	1/10		color
2-21	11-146-01			
2-22	DUP 01			
2-23	MS 02			
2-24	MSD 03			
2-25	04			
2-26	05			
3-1	06			
3-2	MS ↓			

NOTES:
* Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
*MS(10% sample): NO3, TKN, NH3, PHOS

DCN#98636

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG451544

Position	Analyte	1	2	3
3-3	11-203-08	1/50		
3-4	09	1/50		
3-5	11-238-01			
3-6	02			
3-7	03	1/20		
3-8				
3-9				
3-10				
3-11				
3-12				
3-13				
3-14				
3-15				

Position	Analyte	1	2	3
3-16				
3-17				
3-18				
3-19				
3-20				
3-21				
3-22				
3-23				
3-24				
3-25				
3-26				
3-27				
3-28				

	Chloride	EPA 325.2/SM 4500-CI E-2000
✓	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
	Alkalinity	EPA 310.2
	Sulfate	EPA 375.4/SM 426C (15th)/ SM4500-504 E-1997

	Ammonia	EPA 350.1/SM 4500-NH3 B-1997
	TKN	EPA 351.2
	Phos	EPA 365.4

Analyte	NO3		Reagents
SOP & Revision	K3532 Rev.19		RGT28286
Curve Stock (SC made)	Std60617		RGT28425
NO2 STD	Std61035		
ICV	Std61036		
CCV	Std60957		
LCS	Std61085		
MS	Std58660 Dilution 0.1(25)/5=0.5		

Comments: _____

Analyst: Brice Jenson

Date: ~~11/5/13~~ 11/6/13 11/6/13

DCN#98636

MICROBAC (OVD)
SMARTCHEM200 INST1 (VER3.1.14)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNO3 -Unit [mg/L] - EPA 353.2 Nitrate-Nitrite

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.000	0.0489	0.00		9:11:37 AM
DIL-1	RBL	0.000	0.0432	0.00		9:12:49 AM
DIL-1	RBL	0.000	0.0423	0.00		9:14:01 AM
DIL-1	RBL	0.000	0.0387	0.00		9:15:13 AM
DIL-1	Std-1	0.000	-0.0063	0.00	INV	9:16:25 AM
SR5-1	Std-2	0.040	0.0038	0.00		9:17:37 AM
SR5-2	Std-3	0.100	0.0217	0.00		9:18:49 AM
SR5-3	Std-4	0.500	0.1448	0.00		9:20:01 AM
SR5-4	Std-5	1.000	0.3075	0.00		9:21:13 AM
ST-1	Std-6	2.000	0.6200	0.00		9:22:25 AM
ST-3	1CCV (1 mg/L)	1.026	0.3138	102.61		9:23:37 AM
ST-2	2CCB (0 mg/L)	-0.005	-0.0105	0.00	INV,><,LL	9:24:49 AM
1	ICV	1.464	0.4515	0.00		9:26:01 AM
2	WG451544-01 BLK	-0.006	-0.0108	0.00	INV,><,LL	9:27:13 AM
3	WG451544-02 LCS	0.969	0.2958	0.00		9:28:25 AM
4	WG451544-03 LCSDUP	0.954	0.2911	0.00		9:29:37 AM
5	NO2	0.913	0.2782	0.00		9:30:50 AM
6	L13101835-01 (4)	X2.697	0.8393	0.00 0	><,LH	9:32:02 AM
7	L13101835-02 (10)	1.115	0.3416	0.00 0		9:33:14 AM
8	L13101835-03	X2.176	0.6754	0.00	><,LH	9:34:26 AM
9	L13101842-02	0.519	0.1542	0.00 0.005		9:35:38 AM
10	L13101842-04	0.191	0.0511	0.00 0		9:36:50 AM
ST-3	1CCV (1 mg/L)	1.004	0.3068	100.38		9:38:02 AM
ST-2	2CCB (0 mg/L)	-0.012	-0.0127	0.00	INV,><,LL	9:39:14 AM
11	L13101842-06	0.287	0.0813	0.00 0		9:40:26 AM
12	WG451544-05 DUP	0.287	0.0813	0.00		9:41:38 AM
13	L13101842-08 MS	0.757	0.2292	0.00		9:42:50 AM
14	L13101842-10 MSD	0.528	0.1573	0.00		9:44:02 AM
15	L13101842-12	0.216	0.0590	0.00 0		9:45:14 AM
16	L13101842-14	0.203	0.0549	0.00 0		9:46:26 AM
17	L13101842-16	0.199	0.0538	0.00 0		9:47:38 AM
18	L13110043-02 (10)	0.714	0.2155	0.00 0.166		9:48:50 AM

Report Date :11/06/2013 **Run Date :11/6/2013** **Operator : WESTCO** **Plan # :20131105003**

Plan Description : NO3-A1-BAF/11/5/2013

MICROBAC (OVD)

SMARTCHEM200 INST1 (VER3.1.14)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNO3 -Unit [mg/L] - EPA 353.2 Nitrate-Nitrite

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
19	L13101844-21	0.303	0.0865	0.00		9:50:02 AM
20	L13101852-01 (5)	0.272	0.0767	0.00		9:51:14 AM
ST-3	1CCV (1 mg/L)	0.994	0.3036	99.36		9:52:26 AM
ST-2	2CCB (0 mg/L)	-0.013	-0.0129	0.00	INV,><,LL	9:53:38 AM
21	L13101852-02 (5)	0.203	0.0550	0.00		9:54:50 AM
22	L13101852-03 (5)	0.243	0.0676	0.00		9:56:02 AM
23	L13101868-01	4.748	1.4842	0.00	EPL,><,LH	9:57:14 AM
24	L13101868-02	4.411	1.3781	0.00	EPL,><,LH	9:58:26 AM
25	L13101868-03	5.909	1.8493	0.00	><,LH	9:59:38 AM
26	L13101868-04	2.026	0.6281	0.00	><,LH	10:00:50 AM
27	L13101868-05	2.609	0.8115	0.00	><,LH	10:02:02 AM
28	L13101877-05	0.416	0.1219	0.00		10:03:14 AM
29	WG451544-09 MS	0.912	0.2780	0.00		10:04:26 AM
30	WG451545-01 BLK	-0.019	-0.0150	0.00	INV,><,LL	10:05:38 AM
ST-3	1CCV (1 mg/L)	1.018	0.3112	101.78		10:06:50 AM
ST-2	2CCB (0 mg/L)	-0.023	-0.0162	0.00	INV,><,LL	10:08:02 AM
31	WG451545-02 LCS	0.975	0.2977	0.00		10:09:14 AM
32	WG451545-03 LCSDUP	0.962	0.2936	0.00		10:10:26 AM
33	L13101877-07	0.193	0.0518	0.00		10:11:38 AM
34	L13101877-10	0.191	0.0513	0.00		10:12:50 AM
35	L13101877-11	0.041	0.0038	0.00		10:14:02 AM
36	L13101877-13	0.333	0.0959	0.00		10:15:14 AM
37	L13101877-14	0.360	0.1044	0.00		10:16:27 AM
38	L13110051-01	8.532	2.6740	0.00	EPL,><,LH	10:17:39 AM
39	L13110051-02	2.449	0.7612	0.00	><,LH	10:18:51 AM
40	L13110051-03	5.405	1.6906	0.00	EPL,><,LH	10:20:03 AM
ST-3	1CCV (1 mg/L)	1.000	0.3056	100.00		10:21:15 AM
ST-2	2CCB (0 mg/L)	-0.017	-0.0144	0.00	INV,><,LL	10:22:27 AM
41	L13110051-04	5.849	1.8304	0.00	><,LH	10:23:39 AM
42	L13101885-39 (10)	0.239	0.0663	0.00		10:24:51 AM
43	L13110146-01	8.448	2.6476	0.00	EPL,><,LH	10:26:03 AM
44	WG451545-05 DUP	8.764	2.7471	0.00	EPL,><,LH	10:27:15 AM

Report Date :11/06/2013 **Run Date :11/6/2013** **Operator : WESTCO** **Plan # :20131105003**

Plan Description : NO3-A1-BAF/11/5/2013

MICROBAC (OVD)

SMARTCHEM200 INST1 (VER3.1.14)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNO3 -Unit [mg/L] - EPA 353.2 Nitrate-Nitrite

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
45	L13110146-02 MS	X8.769	2.7486	0.00	EPL,><,LH	10:28:27 AM
46	L13110146-03 MSD	X9.360	2.9345	0.00	><,LH	10:29:39 AM
47	L13110146-04	X7.961	2.4944	0.00	><,LH	10:30:51 AM
48	L13110146-05	X7.978	2.4999	0.00	><,LH	10:32:03 AM
49	L13110146-06	X7.269	2.2769	0.00	EPL,><,LH	10:33:15 AM
50	WG451545-09 MS	X7.396	2.3168	0.00	><,LH	10:34:27 AM
ST-3	1CCV (1 mg/L)	1.027	0.3142	102.73		10:35:39 AM
ST-2	2CCB (0 mg/L)	-0.011	-0.0124	0.00	INV,><,LL	10:36:51 AM
51	L13110203-08 (50)	X0.041	0.0040	0.00		10:38:03 AM
52	L13110203-09 (50)	0.970	0.2963	0.00 O		10:39:15 AM
53	ID 53 11-238-01	1.419	0.4373	0.00		10:40:27 AM
54	ID 54 02	1.090	0.3338	0.00		10:41:39 AM
55	ID 55 03 (20)	X4.599	1.4374	0.00	><,LH	10:42:51 AM
ST-3	1CCV (1 mg/L)	1.007	0.3079	100.73		10:44:03 AM
ST-2	2CCB (0 mg/L)	-0.014	-0.0133	0.00	INV,><,LL	10:45:15 AM
56	ID 56	0.996	0.3043	0.00		10:46:27 AM
57	ID 57	1.023	0.3127	0.00		10:47:39 AM
ST-3	1CCV (1 mg/L)	1.024	0.3131	102.39		10:48:51 AM
ST-2	2CCB (0 mg/L)	-0.013	-0.0129	0.00	INV,><,LL	10:50:03 AM
6-[1/4]	L13101835-01 (4)	2.610	0.1963	0.00 0	LH	10:59:14 AM
8-[1/4]	L13101835-03	2.270	0.1696	0.00 0.128	LH	11:01:20 AM
23-[1/4]	L13101868-01	4.822	0.3702	0.00	LH	11:03:26 AM
24-[1/4]	L13101868-02	4.608	0.3534	0.00	LH	11:05:32 AM
25-[1/4]	L13101868-03	5.837	0.4500	0.00	LH	11:07:37 AM
26-[1/4]	L13101868-04	2.005	0.1488	0.00	LH	11:09:44 AM
27-[1/4]	L13101868-05	2.470	0.1853	0.00	LH	11:11:50 AM
38-[1/4]	L13110051-01	X9.040	0.7018	0.00	><,LH	11:13:56 AM
ST-3	1CCV (1 mg/L)	0.992	0.3030	99.17		11:14:49 AM
ST-2	2CCB (0 mg/L)	-0.015	-0.0136	0.00	INV,><,LL	11:16:02 AM
39-[1/4]	L13110051-02	2.453	0.1840	0.00	LH	11:18:26 AM
40-[1/4]	L13110051-03	5.506	0.4240	0.00	LH	11:20:32 AM
41-[1/4]	L13110051-04	5.558	0.4281	0.00	LH	11:22:38 AM

Report Date :11/06/2013 **Run Date :11/6/2013** **Operator : WESTCO** **Plan # :20131105003**

Plan Description : NO3-A1-BAF/11/5/2013

MICROBAC (OVD)

SMARTCHEM200 INST1 (VER3.1.14)

NH3, TKN, NO3NO2 (MG/L N)

ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WNO3 -Unit [mg/L] - EPA 353.2 Nitrate-Nitrite

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
43-[1/4]	L13110146-01	X8.459	0.6561	0.00	><,LH	11:24:44 AM
44-[1/4]	WG451545-05 DUP	X9.151	0.7105	0.00	><,LH	11:26:50 AM
45-[1/4]	L13110146-02 MS	X9.130	0.7089	0.00	><,LH	11:28:56 AM
46-[1/4]	L13110146-03 MSD	X9.373	0.7280	0.00	><,LH	11:31:02 AM
47-[1/4]	L13110146-04	7.861	0.6091	0.00	LH	11:33:08 AM
48-[1/4]	L13110146-05	X8.410	0.6523	0.00	><,LH	11:35:14 AM
49-[1/4]	L13110146-06	6.874	0.5315	0.00	LH	11:37:20 AM
ST-3	1CCV (1 mg/L)	0.981	0.2997	98.12		11:38:15 AM
ST-2	2CCB (0 mg/L)	-0.017	-0.0143	0.00	INV,><,LL	11:39:26 AM
50-[1/4]	WG451545-09 MS	7.330	0.5674	0.00	LH	11:41:50 AM
55-[1/4]	ID 55 11-238-03 (20)	4.500	0.3449	0.00	LH	11:43:56 AM
ST-3	1CCV (1 mg/L)	0.997	0.3047	99.71		11:44:50 AM
ST-2	2CCB (0 mg/L)	-0.014	-0.0133	0.00	INV,><,LL	11:46:02 AM
38-[1/8]	L13110051-01	9.181	0.3520	0.00	LH	11:55:13 AM
43-[1/8]	L13110146-01	9.063	0.3474	0.00	LH	11:57:18 AM
44-[1/8]	WG451545-05 DUP	9.117	0.3495	0.00	LH	11:59:24 AM
45-[1/8]	L13110146-02 MS	9.582	0.3678	0.00	LH	12:01:30 PM
46-[1/8]	L13110146-03 MSD	9.702	0.3725	0.00	LH	12:03:36 PM
48-[1/8]	L13110146-05	8.463	0.3238	0.00	LH	12:05:42 PM
ST-3	1CCV (1 mg/L)	1.004	0.3067	100.35		12:06:36 PM
ST-2	2CCB (0 mg/L)	-0.015	-0.0135	0.00	INV,><,LL	12:07:48 PM

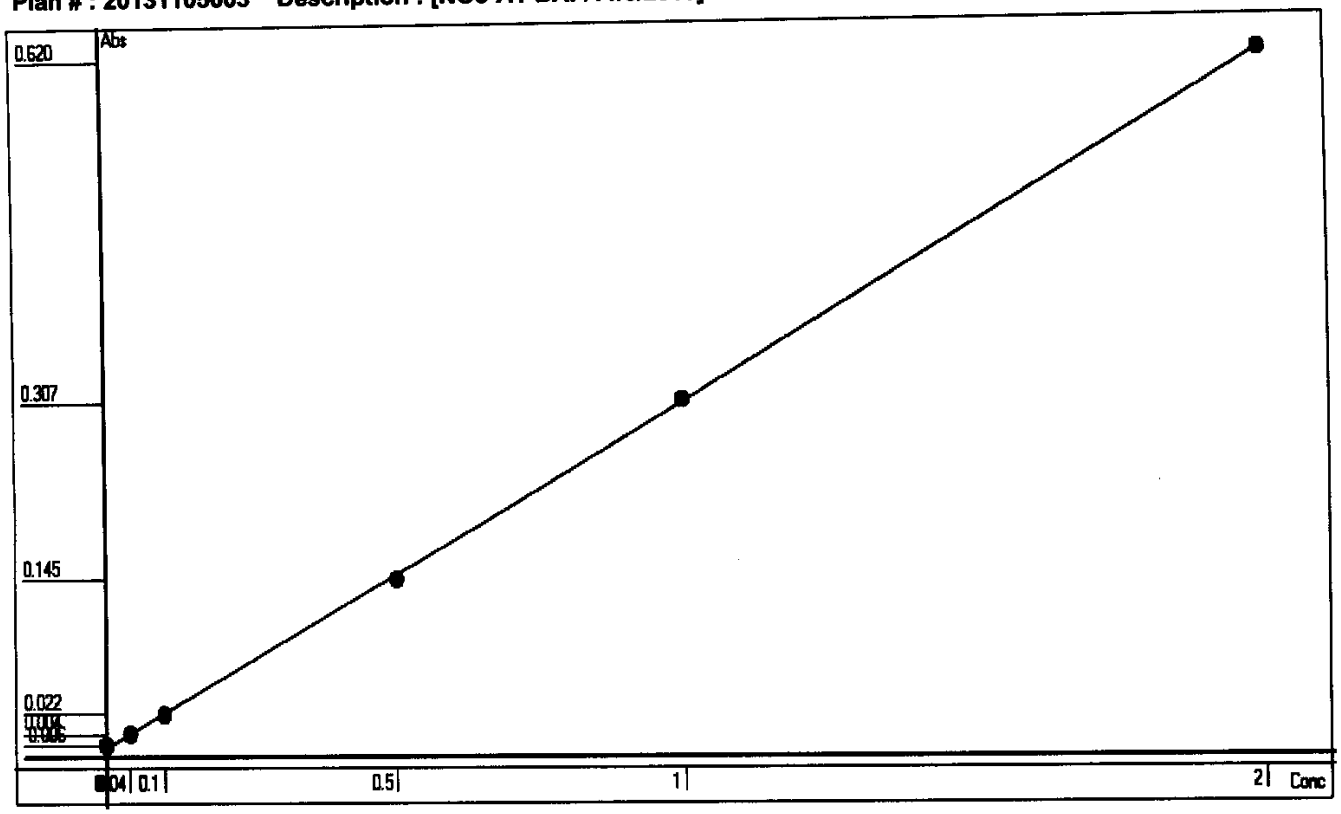
Report Date :11/06/2013 **Run Date :11/6/2013** **Operator : WESTCO** **Plan # :20131105003**

Plan Description : NO3-A1-BAF/11/5/2013

Calibrant Report - WNO3 -

Calib Lot #:010104 Exp Date:6/17/2020 User:MICROBAC

Plan # : 20131105003 Description : [NO3-A1-BAF/11/5/2013] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0063	0	0.0083	0.83
2	0.0037	0.04	0.0401	0.25
3	0.0216	0.1	0.0970	-3.00
4	0.1447	0.5	0.4885	-2.30
5	0.3074	1	1.0059	0.59
6	0.6199	2	1.9997	-0.02

Conc= +3.1802*Abso +0.0283 R^2=0.9999

RBL
0.0428
0

Report Date 11/6/2013 Run Date 11/6/2013

2.2.8 Orthophosphate Data

2.2.8.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: Dorothy Payne

METHOD

Analysis EPA 365.2/SM4500-P E (Orthophosphate)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74312
Approved By: Deanna Hesson

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1310310830-13
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2	0.146		0.0500	0.0250

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 13-1013-2	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	1V.1310310830-14
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 1-1013-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	1V.1310310830-15
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 18-1013-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	1V.1310310830-16
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	UV-120-1V
Client ID:	MPL 6-1013-1	**Prep Method:**	SM4500-P-E-1999	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-P-E-1999	**Cal Date:**	10/30/2013 09:00
Workgroup #:	WG450894	**Analyst:**	DLP	**Run Date:**	10/31/2013 08:30
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	1V.1310310830-17
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

2.2.8.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

A, B, C = constants from the ICAL quadratic regression

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-P-E-1999 AAB#: WG450894

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					10/31/2013	.9	2		10/31/13	.9	2	
MPL 13-1013-2	02	10/30/13					10/31/2013	.9	2		10/31/13	.9	2	
MPL 1-1013-1	03	10/30/13					10/31/2013	.8	2		10/31/13	.8	2	
MPL 18-1013-1	04	10/30/13					10/31/2013	.8	2		10/31/13	.8	2	
MPL 6-1013-1	05	10/30/13					10/31/2013	.7	2		10/31/13	.7	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3201535
Report generated 11/13/2013 17:29

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: 1V.1310310830-02
Prep Date: 10/31/13 08:30
Analyzed Date: 10/31/13 08:30
Analyst: DLP

Work Group: WG450894
Blank Sample ID: WG450894-01
Instrument ID: UV-120-1V
Method: SM4500-P-E-1999

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG450894-02	1V.1310310830-03	10/31/13 08:30	
LCS2	WG450894-03	1V.1310310830-04	10/31/13 08:30	
MPL 13-1013-1	L13101868-01	1V.1310310830-13	10/31/13 08:30	
MPL 13-1013-2	L13101868-02	1V.1310310830-14	10/31/13 08:30	
MPL 1-1013-1	L13101868-03	1V.1310310830-15	10/31/13 08:30	
MPL 18-1013-1	L13101868-04	1V.1310310830-16	10/31/13 08:30	
MPL 6-1013-1	L13101868-05	1V.1310310830-17	10/31/13 08:30	
DUP	WG450894-05	1V.1310310830-19	10/31/13 08:30	

Report Name: BLANK_SUMMARY
PDF File ID: 3201536
Report generated 11/13/2013 17:29

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 10/31/13 08:30 Sample ID: WG450894-01
Instrument ID: UV-120-1V Run Date: 10/31/13 08:30 Prep Method: SM4500-P-E-1999
File ID: 1V.1310310830-02 Analyst: DLP Method: SM4500-P-E-1999
Workgroup (AAB#): WG450894 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-120 - 30-OCT-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Orthophosphate	0.0250	0.0500	0.0250	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3201537
13-NOV-2013 17:29

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: DLP Prep Method: SM4500-P-E-1999
Instrument ID: UV-120-1V Matrix: Water Method: SM4500-P-E-1999
Workgroup (AAB#): WG450894 Units: mg/L
QC Key: DOD4 Lot #: STD61078

Sample ID: WG450894-02 LCS File ID: 1V.1310310830-03 Run Date: 10/31/2013 08:30
Sample ID: WG450894-03 LCS2 File ID: 1V.1310310830-04 Run Date: 10/31/2013 08:30

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Orthophosphate	1.00	1.04	104	1.00	1.05	105	0.313	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3201538
Report generated: 11/13/2013 17:29

2.2.8.3 Raw Data

WG ~~450769~~ 450776 DLP 10-30-13

Curves

Parameter: PO4

Spectrophotometer: UV-120-1V

Calibration (Curve) standard stock: std ~~60962~~ 60315 PSW 10-30-13

Concentration: 1000 mg/L

Recipe for preparation of curve standards found in:

SOP: 36513 Revision: 14 Page: 9

Second Source Stock: std ~~60961~~ 60078 PSW 10-30-13 (concentration: 10mg/L)

Daily Preparation: 5(10)/50=

concentration = 1.0mg/L

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
1.0	50	1cm	880	0.612
0.7	↓	↓	↓	0.430
0.5				0.308
0.2				0.124
0.1				0.062
0.05				0.030
0.00				0.000
2nd source (1.0)	↓	↓	↓	0.640

Analyst: Peggy S. Webb

Date/Time: 10-30-13 @ 0900

DCN#98528

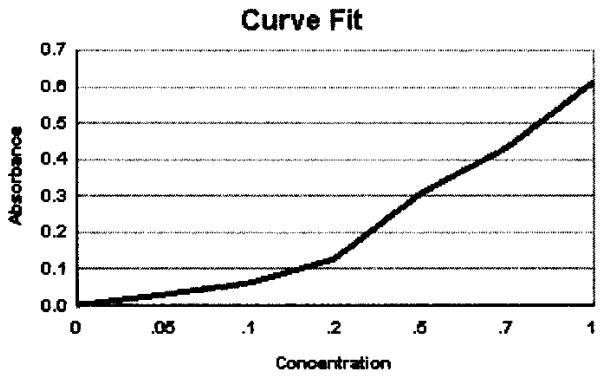
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG450776
Analytical Method: 300
Instrument ID: UV-120-1V

Analyst: DLP
Initial Calibration Date: 10/30/2013

Analyte: ORTHOPHOSPHATE
Number of Points: 7
Slope: 0.612605
Y-Intercept: 0.000550868
Coef. Of Correlation (R^2): 0.999983
Coef. Of Correlation (R): 0.999991

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00	0.00	0.00	0.000550868
0.0500	0.0300	0.00250	0.00150	0.0311811
0.100	0.0620	0.0100	0.00620	0.0618114
0.200	0.124	0.0400	0.0248	0.123072
0.500	0.308	0.250	0.154	0.306854
0.700	0.430	0.490	0.301	0.429375
1.00	0.612	1.00	0.612	0.613156



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 10/30/2013 11:00

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG450776
File ID: 1V.1310300900-08
CCV ID: WG450776-08
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 10/30/2013
Run Time: 09:00
Analyst: DLP
Cal ID: UV-120 - 30-OCT-13 09:00:07

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	1	1.04	0.640	4.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 10/30/2013 11:01

[redacted]

ORTHOPHOSPHATE

EPA 365.2/SM4500-P E
SOP K3653 Rev 14

Color Reagent Chemicals
RGT 28017
RGT 27551
RGT 27899
COA 16278

CCV: std 61077
Daily Dilution: 5(5)/50
Daily Dilution: = 0.5
Spectrophotometer: UV-120-1V

LCS: std 61078
Daily Dilution: 5(10)/50
Daily Dilution: = 1.0
Curve ID: 10-30-13

Spike: std 61078
Daily Dilution: 2(10)/50
Daily Dilution: = .40

SAMPLE	VOLUME	pH 7 ± 0.2	DILUTION	ABSORBANCE @ 880 nm
CCV: 0.5 mg/L	50			0.318
BLANK	50			0.001
LCS: 1.0 ppm	50			0.639
LCSDUP: 1.0 ppm	50			0.641
101819-01	50			~~0.0125~~ 0.008 PMO 10-31
101819-02	50			0.007
101819-03	50			0.005
101819-05	50			0.004
101819-06	50			0.006
101819-09	50			0.005
101819-10	50			0.005
10-31 PMO 101866-01	50			0.116
A 101868-01	50			0.090
B 101868-02	50			0.005
C 101868-03	50			0.007
D 101868-04	50			0.003
E 101868-05	50			0.005
CCV 0.5	50			0.299
	50			
	50			
	50			
DUP: 101819-01	50			0.007
MS: (.40) 101819-01	50			0.263
MSD: (____) ____	50			
CCV: (0.5) ____	50			0.319

ANALYST: Peggy S. Webb
Charlotte Pope

DATE / TIME: 10-31-31 @ 0830

DCN#98546

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG450894 **Analyst:** DLP
Analyte: ORTHOPHOSPHATE **Date:** 10/31/2013

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG450894-01	50	50	0.00100	0.6126	0.0005509	0.00073315	0.00073315	1	mg/L
WG450894-02	50	50	0.639	0.6126	0.0005509	1.0422	1.0422	1	mg/L
WG450894-03	50	50	0.641	0.6126	0.0005509	1.0455	1.0455	1	mg/L
L13101819-01	50	50	0.00800	0.6126	0.0005509	0.012160	ND	1	mg/L
WG450894-04	50	50	0.00800	0.6126	0.0005509	0.012160	0.012160	1	mg/L
L13101819-02	50	50	0.00700	0.6126	0.0005509	0.010527	ND	1	mg/L
L13101819-03	50	50	0.00500	0.6126	0.0005509	0.0072626	ND	1	mg/L
L13101819-05	50	50	0.00400	0.6126	0.0005509	0.0056303	ND	1	mg/L
L13101819-06	50	50	0.00600	0.6126	0.0005509	0.0088950	ND	1	mg/L
L13101819-09	50	50	0.00500	0.6126	0.0005509	0.0072626	ND	1	mg/L
L13101819-10	50	50	0.00500	0.6126	0.0005509	0.0072626	ND	1	mg/L
L13101866-01	50	50	0.116	0.6126	0.0005509	0.18846	0.18846	1	mg/L
L13101868-01	50	50	0.0900	0.6126	0.0005509	0.14601	0.14601	1	mg/L
L13101868-02	50	50	0.00500	0.6126	0.0005509	0.0072626	ND	1	mg/L
L13101868-03	50	50	0.00700	0.6126	0.0005509	0.010527	ND	1	mg/L
L13101868-04	50	50	0.00300	0.6126	0.0005509	0.0039979	ND	1	mg/L
L13101868-05	50	50	0.00500	0.6126	0.0005509	0.0072626	ND	1	mg/L
WG450894-05	50	50	0.00700	0.6126	0.0005509	0.010527	0.010527	1	mg/L
WG450894-06	50	50	0.263	0.6126	0.0005509	0.42841	0.42841	1	mg/L

[redacted]

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 11/01/2013 08:46

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451085
File ID: 1V.1310310830-01
CCV ID: WG451085-01
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 10/31/2013
Run Time: 08:30
Analyst: 001
Cal ID: UV-120 - 30-OCT-13

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.518	0.636	3.6	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/01/2013 08:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451085
File ID: 1V.1310310830-18
CCV ID: WG451085-02
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 10/31/2013
Run Time: 08:30
Analyst: 001
Cal ID: UV-120 - 30-OCT-13

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.487	0.598	2.6	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/01/2013 08:40

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG451085
File ID: 1V.1310310830-21
CCV ID: WG451085-03
Units: mg/L
Analyte: ORTHOPHOSPHATE

Instrument ID: UV-120-1V
Run Date: 10/31/2013
Run Time: 08:30
Analyst: 001
Cal ID: UV-120 - 30-OCT-13

Analyte	Expected	Found	RF	%D	Q
Orthophosphate	.5	0.520	0.638	4.0	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 11/01/2013 08:40

2.2.9 Total Dissolved Solids Data

2.2.9.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: April Greene

METHOD

Analysis EPA 160.1/SM2540 C(Total Dissolved Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Total Dissolved Solids. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG450990-03	Total Dissolved Solids	2013-11-01 07:28:03	10.0		10	RPD

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74315
Approved By: Deanna Hesson

Dannadsson

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13101868-01
Client ID: MPL 13-1013-1
Matrix: Water
Workgroup #: WG450990
Collect Date: 10/30/2013 09:45
Sample Tag:

PrePrep Method: N/A
Prep Method: 160.1/SM2540C
Analytical Method: SM2540-C-1997
Analyst: ADG
Dilution: 1
Units: mg/L

Instrument: OVEN
Prep Date: N/A
Cal Date:
Run Date: 11/01/2013 07:28
File ID: EN.1311010728-19

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		218		20.0	10.0

Sample #: L13101868-02
Client ID: MPL 13-1013-2
Matrix: Water
Workgroup #: WG450990
Collect Date: 10/30/2013 09:45
Sample Tag:

PrePrep Method: N/A
Prep Method: 160.1/SM2540C
Analytical Method: SM2540-C-1997
Analyst: ADG
Dilution: 1
Units: mg/L

Instrument: OVEN
Prep Date: N/A
Cal Date:
Run Date: 11/01/2013 07:28
File ID: EN.1311010728-20

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		228		20.0	10.0

Sample #: L13101868-03
Client ID: MPL 1-1013-1
Matrix: Water
Workgroup #: WG450990
Collect Date: 10/30/2013 13:00
Sample Tag:

PrePrep Method: N/A
Prep Method: 160.1/SM2540C
Analytical Method: SM2540-C-1997
Analyst: ADG
Dilution: 1
Units: mg/L

Instrument: OVEN
Prep Date: N/A
Cal Date:
Run Date: 11/01/2013 07:28
File ID: EN.1311010728-21

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		256		20.0	10.0

Sample #: L13101868-04
Client ID: MPL 18-1013-1
Matrix: Water
Workgroup #: WG450990
Collect Date: 10/30/2013 14:20
Sample Tag:

PrePrep Method: N/A
Prep Method: 160.1/SM2540C
Analytical Method: SM2540-C-1997
Analyst: ADG
Dilution: 1
Units: mg/L

Instrument: OVEN
Prep Date: N/A
Cal Date:
Run Date: 11/01/2013 07:28
File ID: EN.1311010728-22

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		180		20.0	10.0

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 6-1013-1	**Prep Method:**	160.1/SM2540C	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-C-1997	**Cal Date:**	
Workgroup #:	WG450990	**Analyst:**	ADG	**Run Date:**	11/01/2013 07:28
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	EN.1311010728-23
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		196		20.0	10.0

2.2.9.2 QC Summary Data

Example Total Dissolved Solids Calculations

$$[(WT2 - WT1) * 1000000]/volume = mg/L$$

where:

WT1 = weight (grams) of empty container.
WT2 = weight (grams) of dried sample and container.
1000000 = factor to get to mg/L.
volume = mL of sample used.

Microbac Laboratories Inc.

Data Checklist

Date: 01-NOV-2013
Analyst: ADG
Analyst: NA
Method: TDS
Instrument: OVEN
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG450990

Calibration/Linearity	11/01/13
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	ADG
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
06-NOV-2013

Secondary Reviewer:
08-NOV-2013

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-08-2013 14:12:06

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM2540-C-1997 AAB#: WG450990

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/01/2013	1.9	7		11/01/13	1.9	7	
MPL 13-1013-2	02	10/30/13					11/01/2013	1.9	7		11/01/13	1.9	7	
MPL 1-1013-1	03	10/30/13					11/01/2013	1.8	7		11/01/13	1.8	7	
MPL 18-1013-1	04	10/30/13					11/01/2013	1.7	7		11/01/13	1.7	7	
MPL 6-1013-1	05	10/30/13					11/01/2013	1.7	7		11/01/13	1.7	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3186131
Report generated 11/06/2013 10:26

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: EN.1311010728-01
Prep Date: 11/01/13 07:28
Analyzed Date: 11/01/13 07:28
Analyst: ADG

Work Group: WG450990
Blank Sample ID: WG450990-01
Instrument ID: OVEN
Method: SM2540-C-1997

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG450990-02	EN.1311010728-02	11/01/13 07:28	
LCS2	WG450990-03	EN.1311010728-03	11/01/13 07:28	
MPL 13-1013-1	L13101868-01	EN.1311010728-19	11/01/13 07:28	
MPL 13-1013-2	L13101868-02	EN.1311010728-20	11/01/13 07:28	
MPL 1-1013-1	L13101868-03	EN.1311010728-21	11/01/13 07:28	
MPL 18-1013-1	L13101868-04	EN.1311010728-22	11/01/13 07:28	
MPL 6-1013-1	L13101868-05	EN.1311010728-23	11/01/13 07:28	
DUP	WG450990-05	EN.1311010728-24	11/01/13 07:28	
DUP	WG450990-07	EN.1311010728-25	11/01/13 07:28	

Report Name: BLANK_SUMMARY
PDF File ID: 3186132
Report generated 11/06/2013 10:26

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/01/13 07:28 Sample ID: WG450990-01
Instrument ID: OVEN Run Date: 11/01/13 07:28 Prep Method: 160.1/SM2540C
File ID: EN.1311010728-01 Analyst: ADG Method: SM2540-C-1997
Workgroup (AAB#): WG450990 Matrix: Water Units: mg/L
Contract #: Cal ID: OVEN-

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Total Dissolved Solids	5.00	10.0	5.00	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3186133
06-NOV-2013 10:26

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: ADG Prep Method: 160.1/SM2540C
Instrument ID: OVEN Matrix: Water Method: SM2540-C-1997
Workgroup (AAB#): WG450990 Units: mg/L
QC Key: DOD4 Lot #: STD60796

Sample ID: WG450990-02 LCS File ID: EN.1311010728-02 Run Date: 11/01/2013 07:28
Sample ID: WG450990-03 LCS2 File ID: EN.1311010728-03 Run Date: 11/01/2013 07:28

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Dissolved Solids	500	524	105	500	474	94.8	10.0	80 - 120	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3186134
Report generated: 11/06/2013 10:26

2.2.9.3 Raw Data

WORKGROUP: WG450990

TOTAL DISSOLVED SOLIDS

(tds1)

Oven: TDS MICS1
☐ EPA 160.1 / SM2540C
LCS: Std 1005916
Daily Dilution: 5(5000)/50=500

Balance: AND GR-202 / Other
Matrix Spike:
Daily Dilution:
Filter Lot #: 45268836

		On Temp/Time:	105 / 0945	180 / 1602	180 / 0759	/
SAMPLE	#	VOLUME (mL)	INITIAL WEIGHT WT1 (g)	DRY WEIGHT WT2A (g)	DRY WEIGHT WT2B (g)	DRY WEIGHT WT2C (g)
BLANK	BLK K9	100				
LCS: mg/L	LCS1	50				
LCSDUP: mg/L	LCS2	50				
1018130 1	1	50				
-03	2	50				
05	3	50				
07	4	50				
09	5	50				
TDS 1018170 1	6 13	10				
-03	7 72	10				
10 1823-01	8	50				
10 1824-01	9	50				
10 1846-01	10	50				
10 1850-01	11	50				
10 1851-01	12	50				
10 1858-01	13	50				
02	14	50				
03	15	50				
10 1868-01	16	50				
02	17	50				
03	18	50				
04	19	50				
05	20	50				
DUP: 1817-03	Dup1 (3)	10				
DUP: 1858-01	Dup2	50				
		Off Temp/Time:	105 / 1602	180 / 0700	180 / 1114	/

ANALYST: April Greene

DATE/TIME: (on) 11-1-13 ~~10/31/13~~ @ 0728

DATE/TIME: (off) 11-1-13

DATE/TIME: (off)

DATE/TIME: (off)

* Duplicate required on 10% of samples

DCN#98558

Microbac Laboratories Inc.
GRAVIMETRIC REPORT

Workgroup (AAB#): WG450990
Analyst: ADG
Analyte: TOTAL DISSOLVED SOLIDS
Balance: BAL018
Instrument: OVEN

Method: 160.1/SM2540C
SOP: Revison
Spike Solution: STD60796
Daily Dilution:

SAMPLE NUMBER		INITIAL VOL	INITIAL WT	DRY WT A	DRY WT B	DRY WT C	Anal. Conc	Rep. Conc.	Units
WG450990-01	BLK	100	83.7498	83.7499	83.75		2.000	2.000	mg/L
WG450990-02	LCS	50	55.2828	55.3089	55.309		524.0	524.0	mg/L
WG450990-03	LCS2	50	56.7869	56.8104	56.8106		474.0	474.0	mg/L
L13101813-01	1	50	61.6698	61.6813	61.6817		238.0	238.0	mg/L
L13101813-03	2	50	53.1728	53.1969	53.1973		490.0	490.0	mg/L
L13101813-05	3	50	64.3849	64.4032	64.4036		374.0	374.0	mg/L
L13101813-07	4	50	69.4691	69.4841	69.4846		310.0	310.0	mg/L
L13101813-09	5	50	56.968	56.9774	56.9778		196.0	196.0	mg/L
L13101817-01	6	10	21.9638	22.0718	22.0722		10840	10840	mg/L
L13101817-03	7	10	20.5217	20.6267	20.6269		10520	10520	mg/L
WG450990-04	7	10	20.5217	20.6267	20.6269		10520	10520	mg/L
L13101823-01	8	50	57.0883	57.0973	57.0978		190.0	190.0	mg/L
L13101824-01	9	50	66.671	66.6825	66.683		240.0	240.0	mg/L
L13101846-01	10	50	61.7575	61.8084	61.8079		1008	1008	mg/L
L13101850-01	11	50	54.7692	54.8401	54.8403		1422	1422	mg/L
L13101851-01	12	50	57.3016	57.4789	57.4793		3554	3554	mg/L
L13101858-01	13	50	58.2201	58.2876	58.2881		1360	1360	mg/L
WG450990-06	13	50	58.2201	58.2876	58.2881		1360	1360	mg/L
L13101858-02	14	50	55.6242	55.7113	55.7116		1748	1748	mg/L
L13101858-03	15	50	54.1881	54.2021	54.2026		290.0	290.0	mg/L
L13101868-01	16	50	62.1458	62.1567	62.1567		218.0	218.0	mg/L
L13101868-02	17	50	56.1313	56.1423	56.1427		228.0	228.0	mg/L
L13101868-03	18	50	55.4741	55.4868	55.4869		256.0	256.0	mg/L
L13101868-04	19	50	60.502	60.5106	60.511		180.0	180.0	mg/L
L13101868-05	20	50	56.4184	56.4283	56.4282		196.0	196.0	mg/L
WG450990-05	DUP	10	45.6754	45.7897	45.7892		11380	11380	mg/L
WG450990-07	DUP2	50	60.8025	60.8702	60.8703		1356	1356	mg/L

Analyst: April Greene

*Duplicate required on 10% of samples

Date/Time (on) : 11/01/2013 07:28
Date/Time (off): 11/04/2013 07:51
Date/Time (off): 11/04/2013 12:11
Date/Time (off):

CONT_GRAV_REPORT - Modified 02/18/2011
PDF ID: 3178161
Report generated: 11/04/2013 12:24

Microbac

2.2.10 Total Organic Carbon Data

2.2.10.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis Water: EPA 415.1/SM5310C/SW846 9060 (Total Organic Carbon)
Soil: Lloyd-Khan Methodology

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74314
Approved By: Deanna Hesson

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13101868-01
Client ID: MPL 13-1013-1
Matrix: Water
Workgroup #: WG451144
Collect Date: 10/30/2013 09:45
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 415.1
Analytical Method: 415.1
Analyst: BAF
Dilution: 1
Units: mg/L

Instrument: TOC-VWP
Prep Date: N/A
Cal Date: 07/09/2013 14:51
Run Date: 11/01/2013 19:21
File ID: TC11012013.018

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.32		1.00	0.500

Sample #: L13101868-02
Client ID: MPL 13-1013-2
Matrix: Water
Workgroup #: WG451144
Collect Date: 10/30/2013 09:45
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 415.1
Analytical Method: 415.1
Analyst: BAF
Dilution: 1
Units: mg/L

Instrument: TOC-VWP
Prep Date: N/A
Cal Date: 07/09/2013 14:51
Run Date: 11/01/2013 19:33
File ID: TC11012013.019

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.18		1.00	0.500

Sample #: L13101868-03
Client ID: MPL 1-1013-1
Matrix: Water
Workgroup #: WG451144
Collect Date: 10/30/2013 13:00
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 415.1
Analytical Method: 415.1
Analyst: BAF
Dilution: 1
Units: mg/L

Instrument: TOC-VWP
Prep Date: N/A
Cal Date: 07/09/2013 14:51
Run Date: 11/01/2013 19:45
File ID: TC11012013.020

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.10		1.00	0.500

Sample #: L13101868-04
Client ID: MPL 18-1013-1
Matrix: Water
Workgroup #: WG451144
Collect Date: 10/30/2013 14:20
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 415.1
Analytical Method: 415.1
Analyst: BAF
Dilution: 1
Units: mg/L

Instrument: TOC-VWP
Prep Date: N/A
Cal Date: 07/09/2013 14:51
Run Date: 11/01/2013 19:58
File ID: TC11012013.021

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.41		1.00	0.500

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	MPL 6-1013-1	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	07/09/2013 14:51
Workgroup #:	WG451144	**Analyst:**	BAF	**Run Date:**	11/01/2013 20:10
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	TC11012013.022
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.27		1.00	0.500

2.2.10.2 QC Summary Data

Total Organic Carbon Example Calculations
(Direct Readout Parameter)

(Readout)/(dilution) = mg/L

where:

Readout = direct readout from the instrument
dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 01-NOV-2013
Analyst: BAF
Analyst: NA
Method: TOC
Instrument: TOC-VWP
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451144 WG451156 WG451158

Calibration/Linearity	7-9-2013
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	BAF
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
04-NOV-2013
Brice Fenton

Secondary Reviewer:
09-NOV-2013
Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-09-2013 11:12:23

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 AAB#: WG451144

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/01/2013	2.4	28		11/01/13	2.4	28	
MPL 13-1013-2	02	10/30/13					11/01/2013	2.4	28		11/01/13	2.4	28	
MPL 1-1013-1	03	10/30/13					11/01/2013	2.3	28		11/01/13	2.3	28	
MPL 18-1013-1	04	10/30/13					11/01/2013	2.2	28		11/01/13	2.2	28	
MPL 6-1013-1	05	10/30/13					11/01/2013	2.2	28		11/01/13	2.2	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3188789
Report generated 11/07/2013 11:09

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: TC11012013.003
Prep Date: 11/01/13 16:05
Analyzed Date: 11/01/13 16:05
Analyst: BAF

Work Group: WG451144
Blank Sample ID: WG451144-01
Instrument ID: TOC-VWP
Method: 415.1

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451144-02	TC11012013.004	11/01/13 16:17	01
LCS2	WG451144-03	TC11012013.005	11/01/13 16:29	01
MPL 13-1013-1	L13101868-01	TC11012013.018	11/01/13 19:21	01
MPL 13-1013-2	L13101868-02	TC11012013.019	11/01/13 19:33	01
MPL 1-1013-1	L13101868-03	TC11012013.020	11/01/13 19:45	01
MPL 18-1013-1	L13101868-04	TC11012013.021	11/01/13 19:58	01
MPL 6-1013-1	L13101868-05	TC11012013.022	11/01/13 20:10	01
DUP	WG451144-05	TC11012013.030	11/01/13 21:49	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 3188790
Report generated 11/07/2013 11:09

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/01/13 16:05 Sample ID: WG451144-01
Instrument ID: TOC-VWP Run Date: 11/01/13 16:05 Prep Method: 415.1
File ID: TC11012013.003 Analyst: BAF Method: 415.1
Workgroup (AAB#): WG451144 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-09-JUL-13

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	1.00	0.500	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3188791
07-NOV-2013 11:09

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: BAF Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG451144 Units: mg/L
QC Key: DOD4 Lot #: STD60155

Sample ID: WG451144-02 LCS File ID: TC11012013.004 Run Date: 11/01/2013 16:17
Sample ID: WG451144-03 LCS2 File ID: TC11012013.005 Run Date: 11/01/2013 16:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	24.6	98.6	25.0	24.9	99.6	1.01	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3188792
Report generated: 11/07/2013 11:09

2.2.10.3 Raw Data

WG437280

Total Organic Carbon

MAKE DAILY

CCV (TOC): _____ (5/200)(1000) = 25mg/L

LCS (TOC): _____ (5/200)(1000) = 25mg/L

CCV (TIC): _____ (5/200)(1000) = 25mg/L

see below

MS (TOC): _____

Calibration Curve Date: _____

Reagent: _____

☑ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ SOP: K 4151 Rev. 15

WG_____ Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full

☑ 3rd bottle full
☑ sufficient gas
☑ sufficient persulfate

☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution	Position	Sample ID	Dilution	Position	Sample ID	Dilution
1	TC Curve		26	TC Curve		51		
2	TIC curve		27	Std 58866		52		
3	TC ICV		28			53	see SOP	
4	TIC ICV		29	TIC Curve		54	for curve	
5			30	Std 58877		55	points	
6			31			56		
7			32			57		
8			33	TC ICV		58	7/9/13	
9			34	Std 57523		59	~~see~~ 5/200 (1000)	
10			35			60	= 25mg/L	
11			36	TIC ICV		61		
12			37	Std 58878		62		
13			38			63		
14			39			64		
15	all points		40	analyzed	its	65	duplicate	
16			41			66		
17			42			67		
18			43			68		
19			44			69		
20			45			70		
21			46			71		
22			47			72		
23			48			73		
24			49			74		
25			50			75		

Analyst: Brie Jenson Date/Time: 7/9/13/1400

DCN#96473

C:\TOC3201\Data\07-09-2013-BAF-TOC.t32

	Analy	Sample Name	Result	Status	Date / Time	Vial
1	TOC		TOC:2.208mg/L TC:26.74mg/L IC:24.53mg/L	Complete	7/9/2013 5:17:57 PM	1
2	TOC		TOC:23.65mg/L TC:23.65mg/L IC:0.00022mg/L	Complete	7/9/2013 5:29:56 PM	2
3	TOC		TOC:22.05mg/L TC:22.22mg/L IC:0.1735mg/L	Complete	7/9/2013 5:42:12 PM	3
4	TOC		!!Error!! TOC:24.67mg/L TC:24.54mg/L IC:-0.1326mg	Complete	7/9/2013 5:54:31 PM	4

7/11/2013 12:57:57 PM 1/1

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Cal. Curve

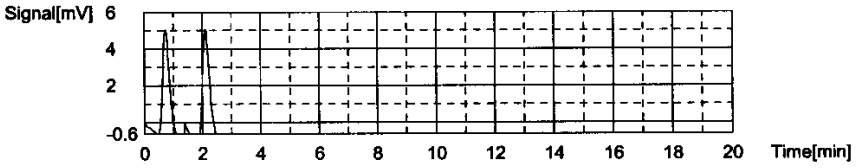
Sample Name: TCCURVE
Sample ID: Untitled
Cal. Curve: TCCURVE-07-09-2013.2013_07_09_13_54_59.cal
Status Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	9.370	500uL	1	*******		7/9/2013 2:00:04 PM
2	10.94	500uL	1	*******		7/9/2013 2:03:54 PM

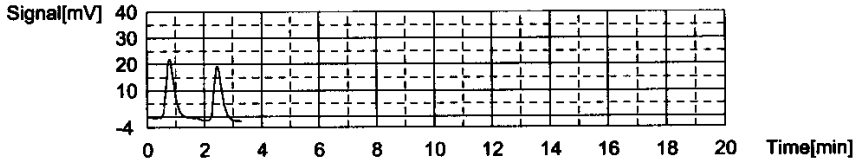
Acid Add. 0.000%
Mean Area 10.16



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	43.95	500uL	1	*******		7/9/2013 2:09:31 PM
2	40.43	500uL	1	*******		7/9/2013 2:13:23 PM

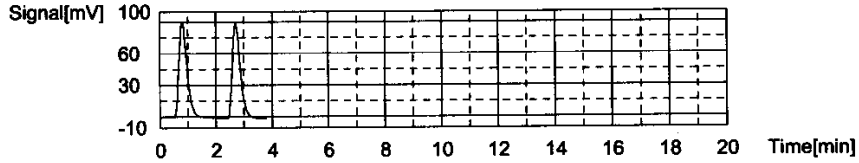
Acid Add. 0.000%
Mean Area 42.19



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	180.9	500uL	1	*******		7/9/2013 2:19:14 PM
2	179.0	500uL	1	*******		7/9/2013 2:23:23 PM

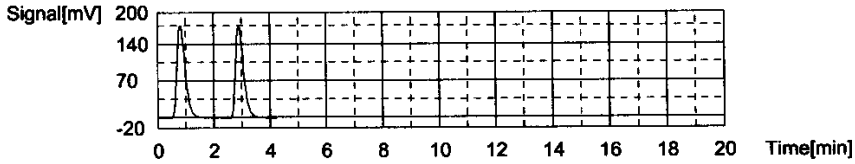
Acid Add. 0.000%
Mean Area 179.9



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	357.3	500uL	1	*******		7/9/2013 2:29:25 PM
2	358.1	500uL	1	*******		7/9/2013 2:33:50 PM

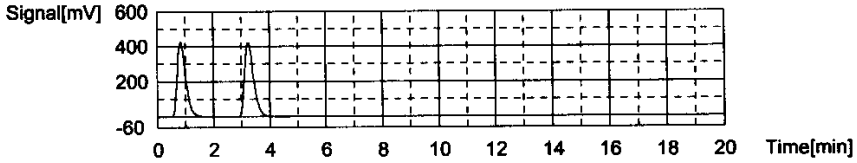
Acid Add. 0.000%
Mean Area 357.7



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	900.5	500uL	1	*******		7/9/2013 2:40:10 PM
2	968.7	500uL	1	*******		7/9/2013 2:44:47 PM

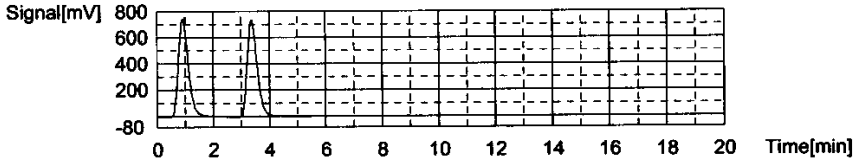
Acid Add. 0.000%
Mean Area 934.6



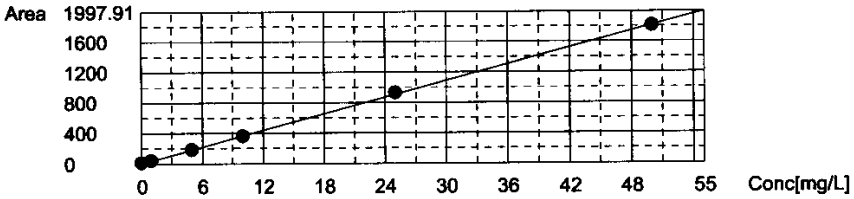
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1813	500uL	1	*******		7/9/2013 2:51:11 PM
2	1802	500uL	1	*******		7/9/2013 2:57:12 PM

Acid Add. 0.000%
Mean Area 1808



Slope: 36.20
Intercept 6.332
r^2 0.999673
Zero Shift No



Cal. Curve

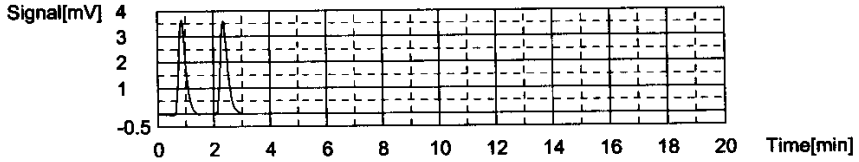
Sample Name: TICCURVE
Sample ID: Untitled
Cal. Curve: TICCURVE-07-09-2013.2013_07_09_14_57_12.cal
Status Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	6.571	500uL	1	*******		7/9/2013 3:02:59 PM
2	6.428	500uL	1	*******		7/9/2013 3:07:04 PM

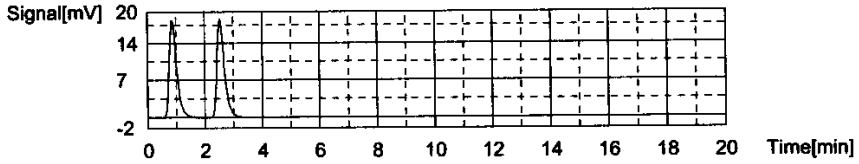
Acid Add. 10.00%
Mean Area 6.500



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	33.29	500uL	1	*******		7/9/2013 3:14:33 PM
2	33.59	500uL	1	*******		7/9/2013 3:18:50 PM

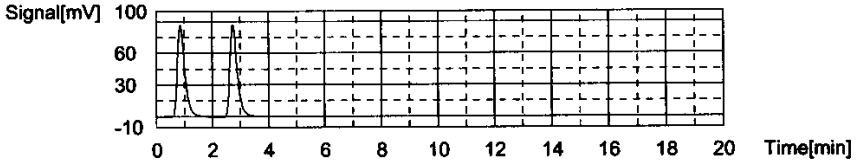
Acid Add. 10.00%
Mean Area 33.44



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	158.6	500uL	1	*******		7/9/2013 3:26:34 PM
2	158.4	500uL	1	*******		7/9/2013 3:31:09 PM

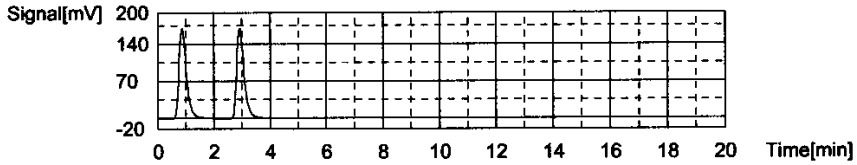
Acid Add. 10.00%
Mean Area 158.5



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	312.7	500uL	1	*******		7/9/2013 3:39:08 PM
2	313.0	500uL	1	*******		7/9/2013 3:44:01 PM

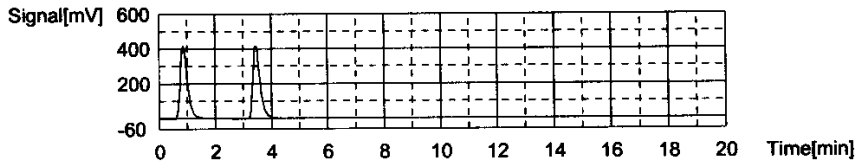
Acid Add. 10.00%
Mean Area 312.9



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	755.5	500uL	1	*******		7/9/2013 3:52:43 PM
2	755.7	500uL	1	*******		7/9/2013 3:58:05 PM

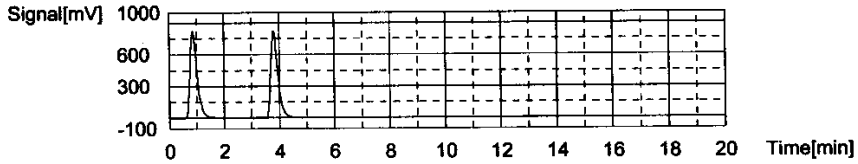
Acid Add. 10.00%
Mean Area 755.6



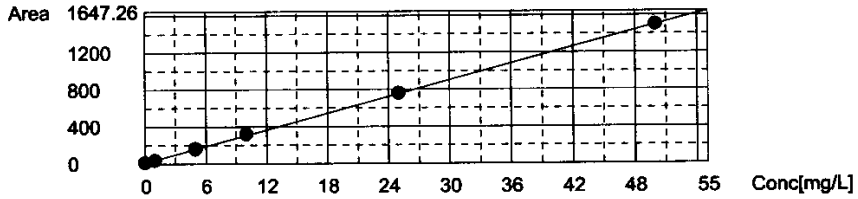
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1495	500uL	1	*******		7/9/2013 4:07:15 PM
2	1495	500uL	1	*******		7/9/2013 4:13:10 PM

Acid Add. 10.00%
Mean Area 1495



Slope: 29.78
Intercept 8.713
r^2 0.999949
Zero Shift No



Sample

Sample Name: TC ICV
Sample ID: Untitled
Origin: TCCURVE-07-09-2013.cal
Status Completed
Chk. Result

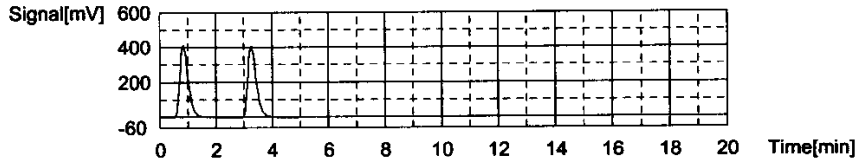
Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:23.67mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	868.0	23.80mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	7/9/2013 4:21:01 PM
2	858.5	23.54mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	7/9/2013 4:25:50 PM

Mean Area 863.3
Mean Conc. 23.67mg/L



Sample

Sample Name:	TIC ICV
Sample ID:	Untitled
Origin:	TICCURVE-07-09-2013.cal
Status	Completed
Chk. Result	

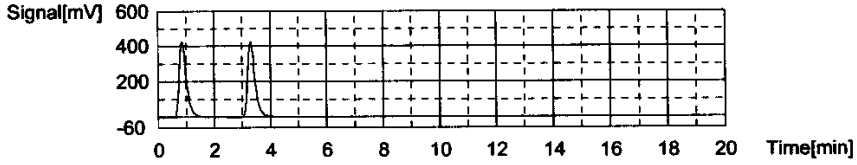
Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:25.62mg/L

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	769.8	25.56mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	7/9/2013 4:32:54 PM
2	773.1	25.67mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	7/9/2013 4:38:08 PM

Mean Area	771.5
Mean Conc.	25.62mg/L



WORKGROUP: WG451144

451156

Total Organic Carbon

(451158)

MAKE DAILY

CCV (TOC): Std 58866
(5/200)(1000) = 25mg/L

LCS (TOC): Std60155
(5/200)(1000) = 25mg/L

CCV (TIC): Std58878
(5/200)(1000) = 25mg/L

MS (TOC): Std60155
0.4/(1000) = 10
1/40

Calibration Curve Date: 7-9-2013

Reagent: RGT28376
RGT27681

☑ SM5310-C : Matrix 2 WG 451158
☑ EPA 415.1/9060A(mod): Matrix 1 WG 451144 SOP: K 4151 Rev. 15
WG 451156 Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full
☑ 3rd bottle full
☑ sufficient gas
☑ sufficient persulfate
☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution
1	TIC 25	
2	CCV 25	
3	Blk	
4	LCS 25	
5	LCSDUP	
6	10-1771-08	1/2
7	10-1810-01	1/2
8	03	1/2
9	10-1842-02	1/2
10	04	
11	06	1/25
12	MS 08	1/25
13	MSD 10	1/25
14	CCV	
15	CCB	
16	10-1842-12	1/2
17	10-1866-01	
18	10-1868-01	
19	02	
20	03	
21	04	
22	05	
23	~~10-1~~ 11-051-01	
24	02	
25	03	

Position	Sample ID	Dilution
26	CCV	
27	CCB	
28	11-051-04	
29	10-1821-02	1/50
30	DUP ↓	1/50
31	Blk	
32	LCS	
33	LCSDUP	
34	10-1821-03	1/2
35	04	
36	DUP 04	
37	MS 05	
38	CCV	
39	CCB	
40	10-1821-06 MSD	
41	11-052-02	
42	03	
43	04	
44	05	
45	06	
46	07	
47	08	
48	09	
49	MS 10	
50	CCV	

Position	Sample ID	Dilution
51	CCB	
52	11-052-11 MSD	
53	14	
54	11-053-02	
55	03	
56	04	
57	05	
58	06	
59	Blk	
60	LCS	
61	LCSDUP	
62	CCV	
63	CCB	
64	11-024-01	
65	11-025-01	
66	11-053-07	
67	08	
68	09	
~~69~~ 3	10	
~~70~~ 15	DUP 024-01	
~~71~~ 27	MS ↓	
72		
73		
~~74~~ 2	CCV	
~~75~~ 0	CCB	

Analyst: Brie Fenton

Date/Time: 11/1/13/1350

DCN#98585

	Analys	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC 25	TOC:1.733mg/L TC:26.99mg/L IC:25.26mg/L	Completed	11/1/2013 3:48:49	1
2	TOC	CCV 25	!!Error!! TOC:24.32mg/L TC:24.18mg/L IC:-0.1418m	Completed	11/1/2013 4:00:51	2
3	TOC	WG451144-01 BLK	!!Error!! TOC:0.2495mg/L TC:0.2229mg/L IC:-0.0265	Completed	11/1/2013 4:09:51	0
4	TOC	WG451144-02 LCS	!!Error!! TOC:24.64mg/L TC:24.49mg/L IC:-0.1516m	Completed	11/1/2013 4:21:57	4
5	TOC	WG451144-03 LCSDUP	!!Error!! TOC:24.89mg/L TC:24.73mg/L IC:-0.1509m	Completed	11/1/2013 4:33:53	5
6	TOC	L13101771-08 (2)	TOC:5.826mg/L TC:25.36mg/L IC:19.54mg/L	Completed	11/1/2013 4:46:50	6
7	TOC	L13101810-01 (2)	TOC:2.008mg/L TC:16.30mg/L IC:14.29mg/L	Completed	11/1/2013 4:59:48	7
8	TOC	L13101810-03 (2)	TOC:1.559mg/L TC:22.17mg/L IC:20.61mg/L	Completed	11/1/2013 5:13:28	8
9	TOC	L13101842-02 (2)	TOC:3.941mg/L TC:30.24mg/L IC:26.30mg/L	Completed	11/1/2013 5:27:06	9
10	TOC		TOC:16.09mg/L TC:71.18mg/L IC:55.09mg/L	Completed	11/1/2013 5:43:35	10
11	TOC	L13101842-06 (25)	TOC:22.96mg/L TC:26.07mg/L IC:3.113mg/L	Completed	11/1/2013 5:57:23	11
12	TOC	L13101842-08 (25) MS	TOC:22.27mg/L TC:24.23mg/L IC:1.967mg/L	Completed	11/1/2013 6:10:57	12
13	TOC	L13101842-10 (25) MSD	TOC:22.33mg/L TC:24.27mg/L IC:1.936mg/L	Completed	11/1/2013 6:24:29	13
14	TOC	CCV	!!Error!! TOC:25.14mg/L TC:25.04mg/L IC:-0.1018m	Completed	11/1/2013 6:36:42	14
15	TOC	CCB	!!Error!! TOC:0.2268mg/L TC:0.2027mg/L IC:-0.0240	Completed	11/1/2013 6:45:39	0
16	TOC	L13101842-12 (2)	TOC:12.63mg/L TC:36.48mg/L IC:23.85mg/L	Completed	11/1/2013 7:01:00	16
17	TOC	L13101866-01	TOC:2.101mg/L TC:15.45mg/L IC:13.35mg/L	Completed	11/1/2013 7:13:49	17
18	TOC	L13101868-01	TOC:1.323mg/L TC:8.497mg/L IC:7.173mg/L	Completed	11/1/2013 7:26:08	18
19	TOC	L13101868-02	TOC:1.179mg/L TC:8.621mg/L IC:7.442mg/L	Completed	11/1/2013 7:38:30	19
20	TOC	L13101868-03	TOC:1.102mg/L TC:9.602mg/L IC:8.500mg/L	Completed	11/1/2013 7:50:50	20
21	TOC	L13101868-04	TOC:1.413mg/L TC:11.30mg/L IC:9.890mg/L	Completed	11/1/2013 8:03:20	21
22	TOC	L13101868-05	TOC:1.273mg/L TC:9.165mg/L IC:7.892mg/L	Completed	11/1/2013 8:15:53	22
23	TOC	L13110051-01	TOC:1.918mg/L TC:10.04mg/L IC:8.120mg/L	Completed	11/1/2013 8:28:26	23
24	TOC	L13110051-02	TOC:1.622mg/L TC:11.72mg/L IC:10.10mg/L	Completed	11/1/2013 8:41:12	24
25	TOC	L13110051-03	TOC:1.505mg/L TC:7.751mg/L IC:6.246mg/L	Completed	11/1/2013 8:53:44	25
26	TOC	CCV	!!Error!! TOC:27.24mg/L TC:27.17mg/L IC:-0.07494	Completed	11/1/2013 9:07:43	26
27	TOC	CCB	!!Error!! TOC:0.1977mg/L TC:0.1814mg/L IC:-0.0163	Completed	11/1/2013 9:16:40	0
28	TOC	L13110051-04	TOC:1.639mg/L TC:7.113mg/L IC:5.474mg/L	Completed	11/1/2013 9:29:19	28
29	TOC	L13101821-02 (50)	TOC:23.92mg/L TC:24.66mg/L IC:0.7408mg/L	Completed	11/1/2013 9:41:28	29
30	TOC	WG451144-05 (50) DUP	TOC:24.82mg/L TC:25.50mg/L IC:0.6830mg/L	Completed	11/1/2013 9:54:11	30
31	TOC	WG451156-01 BLK	!!Error!! TOC:0.2034mg/L TC:0.1787mg/L IC:-0.0247	Completed	11/1/2013 10:03:0	0
32	TOC	WG451156-02 LCS	!!Error!! TOC:25.81mg/L TC:25.71mg/L IC:-0.1022m	Completed	11/1/2013 10:15:2	32
33	TOC	WG451156-03 LCSDUP	!!Error!! TOC:24.65mg/L TC:24.55mg/L IC:-0.1031m	Completed	11/1/2013 10:27:3	33
34	TOC	L13101821-03 (2)	TOC:7.496mg/L TC:24.19mg/L IC:16.69mg/L	Completed	11/1/2013 10:41:3	34
35	TOC	WG451156-04	TOC:23.31mg/L TC:71.68mg/L IC:48.37mg/L	Completed	11/1/2013 10:58:0	35
36	TOC	WG451156-05 DUP	TOC:23.95mg/L TC:70.24mg/L IC:46.29mg/L	Completed	11/1/2013 11:14:0	36
37	TOC	WG451156-06 MS	TOC:32.04mg/L TC:49.77mg/L IC:17.73mg/L	Completed	11/1/2013 11:29:4	37
38	TOC	CCV	!!Error!! TOC:26.03mg/L TC:26.02mg/L IC:-0.00918	Completed	11/1/2013 11:41:5	38
39	TOC	CCB	TOC:0.1849mg/L TC:0.1850mg/L IC:0.00015mg/L	Completed	11/1/2013 11:51:0	0
40	TOC		TOC:30.35mg/L TC:44.58mg/L IC:14.23mg/L	Completed	11/2/2013 12:05:1	40
41	TOC		TOC:5.688mg/L TC:79.25mg/L IC:73.56mg/L	Completed	11/2/2013 12:21:5	41
42	TOC		TOC:39.65mg/L TC:136.0mg/L IC:96.36mg/L	Completed	11/2/2013 12:38:2	42
43	TOC		TOC:17.90mg/L TC:62.20mg/L IC:44.31mg/L	Completed	11/2/2013 12:52:4	43
44	TOC		TOC:14.52mg/L TC:68.53mg/L IC:54.01mg/L	Completed	11/2/2013 1:09:10	44
45	TOC		TOC:9.131mg/L TC:76.21mg/L IC:67.08mg/L	Completed	11/2/2013 1:25:59	45
46	TOC	L13110052-07	TOC:5.893mg/L TC:24.43mg/L IC:18.53mg/L	Completed	11/2/2013 1:39:13	46
47	TOC	L13110052-08	TOC:3.398mg/L TC:12.19mg/L IC:8.792mg/L	Completed	11/2/2013 1:51:58	47
48	TOC		TOC:214.8mg/L TC:276.0mg/L IC:61.20mg/L	Completed	11/2/2013 2:09:14	48
49	TOC		TOC:243.3mg/L TC:276.0mg/L IC:32.70mg/L	Completed	11/2/2013 2:25:50	49
50	TOC	CCV	TOC:24.69mg/L TC:24.78mg/L IC:0.09728mg/L	Completed	11/2/2013 2:38:21	50
51	TOC	CCB	TOC:0.2474mg/L TC:0.2690mg/L IC:0.02165mg/L	Completed	11/2/2013 2:47:24	0
52	TOC		TOC:251.3mg/L TC:276.0mg/L IC:24.76mg/L	Completed	11/2/2013 3:03:28	52
53	TOC		TOC:259.9mg/L TC:276.0mg/L IC:16.13mg/L	Completed	11/2/2013 3:18:32	53
54	TOC		TOC:143.8mg/L TC:169.8mg/L IC:25.94mg/L	Completed	11/2/2013 3:33:44	54
55	TOC		TOC:174.6mg/L TC:197.4mg/L IC:22.81mg/L	Completed	11/2/2013 3:49:36	55
56	TOC		TOC:250.9mg/L TC:276.0mg/L IC:25.20mg/L	Completed	11/2/2013 4:05:44	56
57	TOC	L13110053-05	TOC:6.468mg/L TC:21.76mg/L IC:15.30mg/L	Completed	11/2/2013 4:19:18	57
58	TOC		TOC:15.10mg/L TC:60.38mg/L IC:45.28mg/L	Completed	11/2/2013 4:35:37	58
59	TOC	WG451158-01 BLK	TOC:0.2614mg/L TC:0.3389mg/L IC:0.07746mg/L	Completed	11/2/2013 4:52:20	0
60	TOC	WG451158-02 LCS	!!Error!! TOC:26.24mg/L TC:26.18mg/L IC:-0.05864	Completed	11/2/2013 5:14:32	60
61	TOC	WG451158-03 LCSDUP	!!Error!! TOC:26.40mg/L TC:26.33mg/L IC:-0.07540	Completed	11/2/2013 5:35:57	61
62	TOC	CCV	!!Error!! TOC:27.87mg/L TC:27.81mg/L IC:-0.05724	Completed	11/2/2013 5:50:24	62
63	TOC	CCB	!!Error!! TOC:0.1908mg/L TC:0.1751mg/L IC:-0.0157	Completed	11/2/2013 5:59:24	0
64	TOC	L13110024-01	TOC:7.042mg/L TC:9.104mg/L IC:2.063mg/L	Completed	11/2/2013 6:22:13	64
65	TOC	L13110025-01	TOC:7.176mg/L TC:9.271mg/L IC:2.095mg/L	Completed	11/2/2013 6:44:34	65
66	TOC	L13110053-07	TOC:5.545mg/L TC:23.71mg/L IC:18.16mg/L	Completed	11/2/2013 7:07:34	66
67	TOC	L13110053-08	TOC:2.531mg/L TC:7.118mg/L IC:4.587mg/L	Completed	11/2/2013 7:28:51	67

	Analysi	Sample Name	Result	Status	Date / Time	Vial
68	TOC	L13110053-09	TOC:9.902mg/L TC:33.29mg/L IC:23.39mg/L	Completed	11/2/2013 7:52:24	68
69	TOC	L13110053-10	TOC:4.935mg/L TC:14.34mg/L IC:9.401mg/L	Completed	11/2/2013 8:16:01	3
70	TOC	WG451158-05 DUP	TOC:6.999mg/L TC:8.372mg/L IC:1.373mg/L	Completed	11/2/2013 8:37:58	15
71	TOC	WG451158-06 MS	TOC:18.37mg/L TC:19.80mg/L IC:1.428mg/L	Completed	11/2/2013 9:02:13	27
72	TOC	CCV	!!Error!! TOC:25.78mg/L TC:25.76mg/L IC:-0.02504	Completed	11/2/2013 9:14:16	2
73	TOC	CCB	!!Error!! TOC:0.1883mg/L TC:0.1732mg/L IC:-0.0152	Completed	11/2/2013 9:23:16	0

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC 25
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

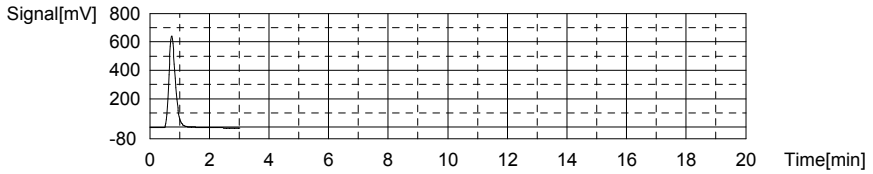
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.733mg/L TC:26.99mg/L IC:25.26mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	983.4	26.99mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 3:43:21 PM

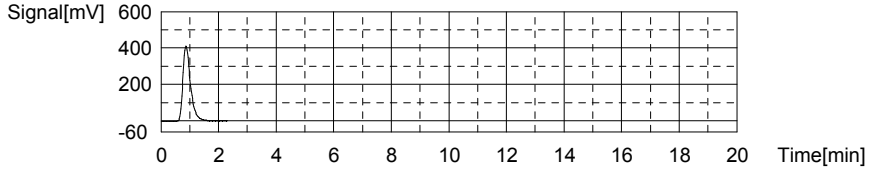
Mean Area 983.4
Mean Conc. 26.99mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	760.8	25.26mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 3:48:49 PM

Mean Area 760.8
Mean Conc. 25.26mg/L



Sample

Sample Name: CCV 25
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

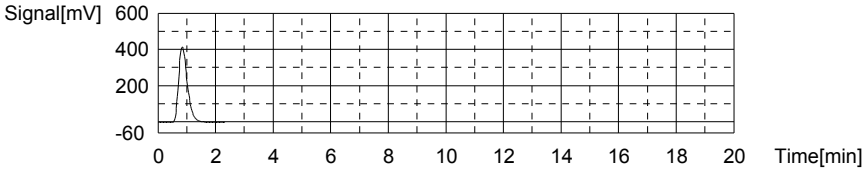
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.32mg/L TC:24.18mg/L IC:-0.1418mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	881.5	24.18mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 3:56:35 PM

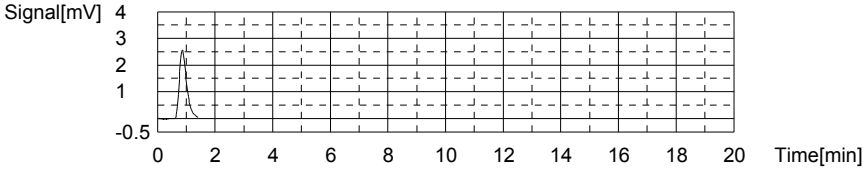
Mean Area 881.5
Mean Conc. 24.18mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.491	-0.1418mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 4:00:51 PM

Mean Area 4.491
Mean Conc. -0.1418mg/L



Sample

Sample Name: WG451144-01 BLK
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

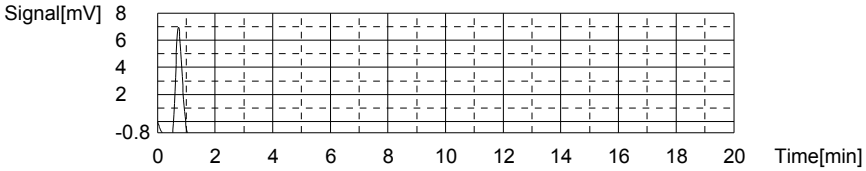
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.2495mg/L TC:0.2229mg/L IC:-0.02658mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.40	0.2229mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 4:05:55 PM

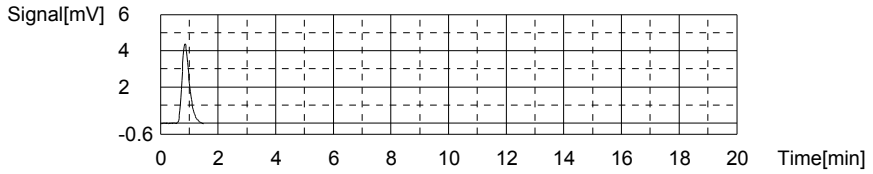
Mean Area 14.40
Mean Conc. 0.2229mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.922	-0.02658mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 4:09:51 PM

Mean Area 7.922
Mean Conc. -0.02658mg/L



Sample

Sample Name: WG451144-02 LCS
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

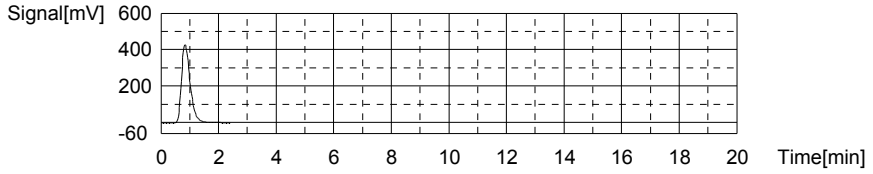
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.64mg/L TC:24.49mg/L IC:-0.1516mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	892.9	24.49mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 4:17:41 PM

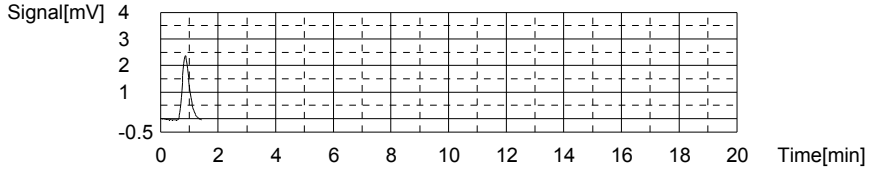
Mean Area 892.9
Mean Conc. 24.49mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.200	-0.1516mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 4:21:57 PM

Mean Area 4.200
Mean Conc. -0.1516mg/L



Sample

Sample Name: WG451144-03 LCSDUP
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

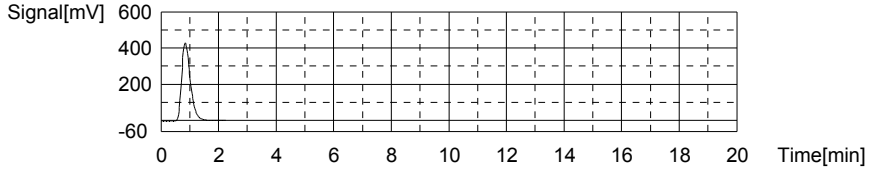
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.89mg/L TC:24.73mg/L IC:-0.1509mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	901.7	24.73mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 4:29:38 PM

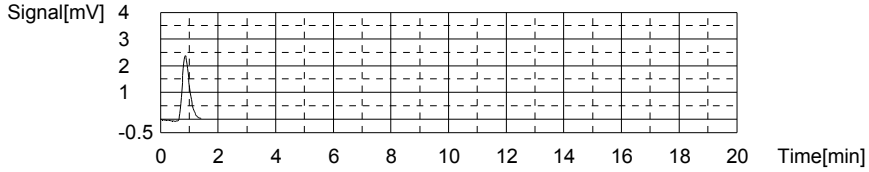
Mean Area 901.7
Mean Conc. 24.73mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.220	-0.1509mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 4:33:53 PM

Mean Area 4.220
Mean Conc. -0.1509mg/L



Sample

Sample Name: L13101771-08 (2)
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

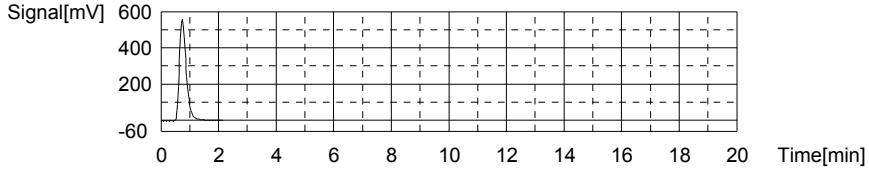
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.826mg/L TC:25.36mg/L IC:19.54mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	924.5	25.36mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 4:41:27 PM

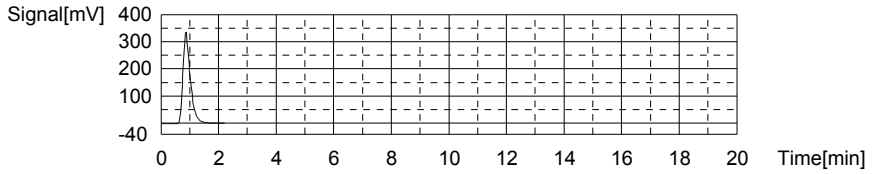
Mean Area 924.5
Mean Conc. 25.36mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	590.5	19.54mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 4:46:50 PM

Mean Area 590.5
Mean Conc. 19.54mg/L



Sample

Sample Name: L13101810-01 (2)
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

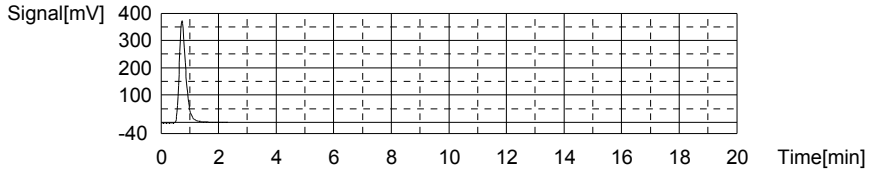
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.008mg/L TC:16.30mg/L IC:14.29mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	596.4	16.30mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 4:54:36 PM

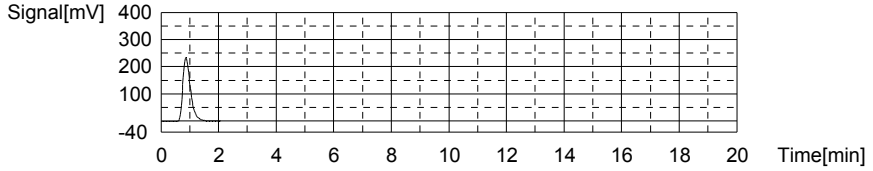
Mean Area 596.4
Mean Conc. 16.30mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	434.3	14.29mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 4:59:48 PM

Mean Area 434.3
Mean Conc. 14.29mg/L



Sample

Sample Name: L13101810-03 (2)
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

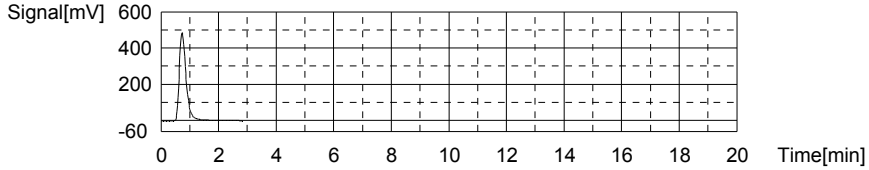
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.559mg/L TC:22.17mg/L IC:20.61mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	808.7	22.17mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 5:08:04 PM

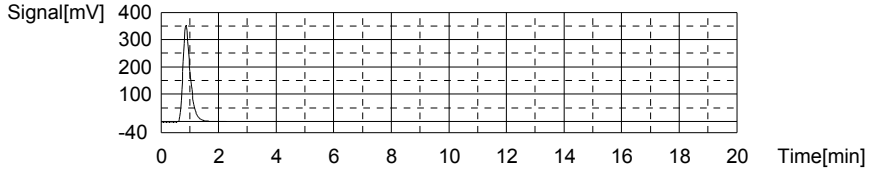
Mean Area 808.7
Mean Conc. 22.17mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	622.3	20.61mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 5:13:28 PM

Mean Area 622.3
Mean Conc. 20.61mg/L



Sample

Sample Name: L13101842-02 (2)
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

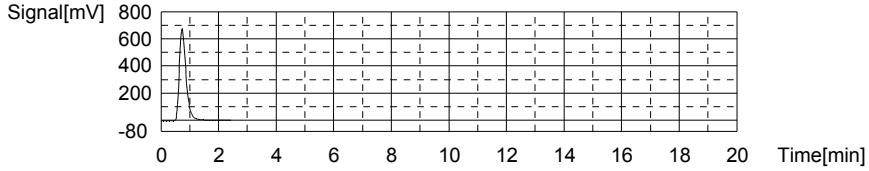
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.941mg/L TC:30.24mg/L IC:26.30mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1101	30.24mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 5:21:19 PM

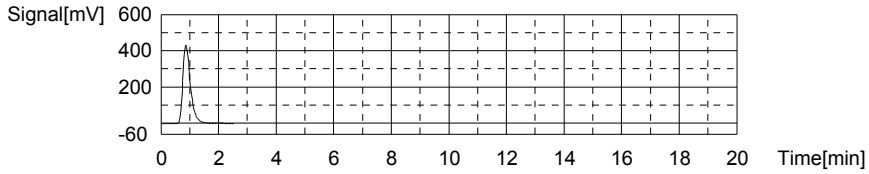
Mean Area 1101
Mean Conc. 30.24mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	791.8	26.30mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 5:27:06 PM

Mean Area 791.8
Mean Conc. 26.30mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

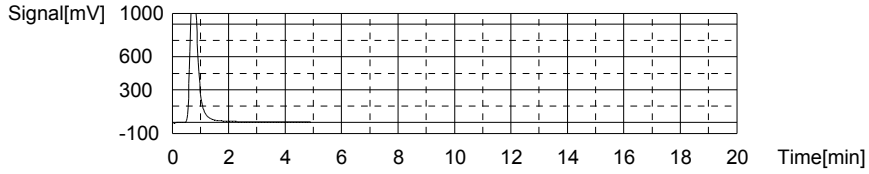
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:16.09mg/L TC:71.18mg/L IC:55.09mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2583	71.18mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 5:37:27 PM

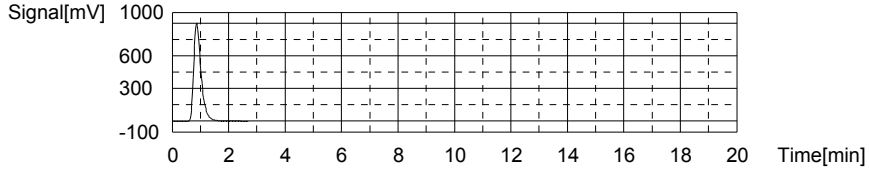
Mean Area 2583
Mean Conc. 71.18mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1649	55.09mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 5:43:35 PM

Mean Area 1649
Mean Conc. 55.09mg/L



Sample

Sample Name: L13101842-06 (25)
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

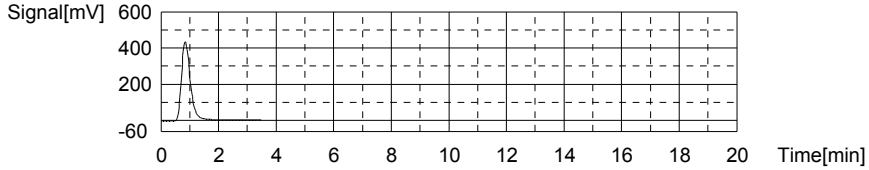
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:22.96mg/L TC:26.07mg/L IC:3.113mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	950.1	26.07mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 5:52:33 PM

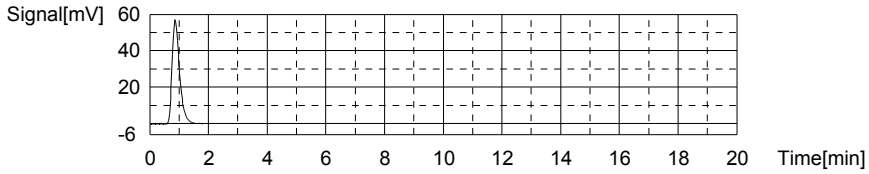
Mean Area 950.1
Mean Conc. 26.07mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	101.4	3.113mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 5:57:23 PM

Mean Area 101.4
Mean Conc. 3.113mg/L



Sample

Sample Name: L13101842-08 (25) MS
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

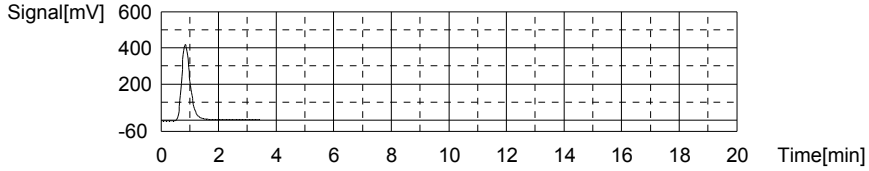
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:22.27mg/L TC:24.23mg/L IC:1.967mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	883.6	24.23mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 6:06:16 PM

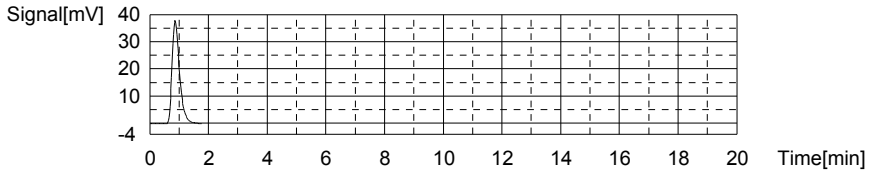
Mean Area 883.6
Mean Conc. 24.23mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	67.29	1.967mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 6:10:57 PM

Mean Area 67.29
Mean Conc. 1.967mg/L



Sample

Sample Name: L13101842-10 (25) MSD
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

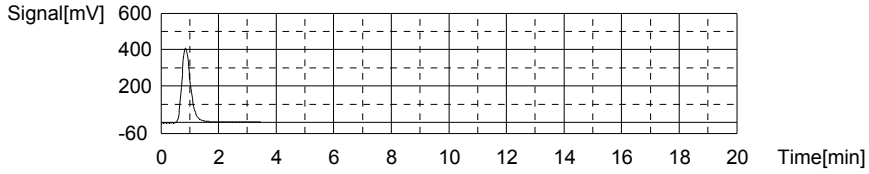
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:22.33mg/L TC:24.27mg/L IC:1.936mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	884.8	24.27mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 6:19:50 PM

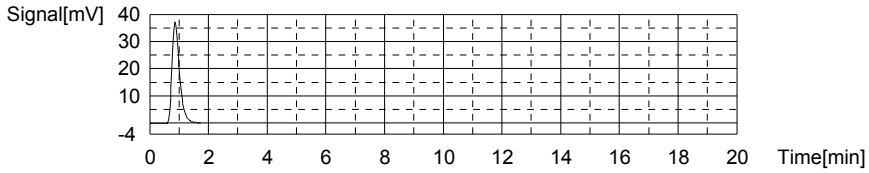
Mean Area 884.8
Mean Conc. 24.27mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	66.35	1.936mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 6:24:29 PM

Mean Area 66.35
Mean Conc. 1.936mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

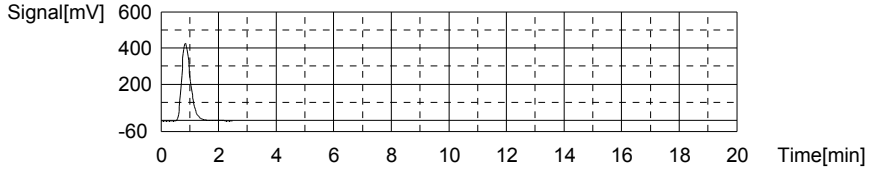
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.14mg/L TC:25.04mg/L IC:-0.1018mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	912.6	25.04mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 6:32:23 PM

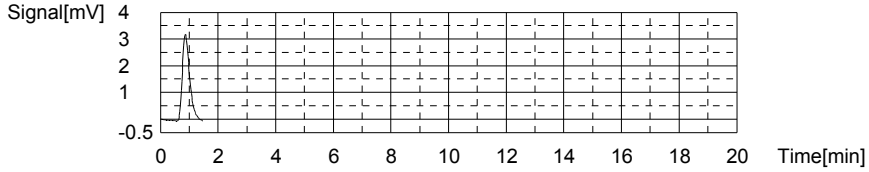
Mean Area 912.6
Mean Conc. 25.04mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.683	-0.1018mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 6:36:42 PM

Mean Area 5.683
Mean Conc. -0.1018mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

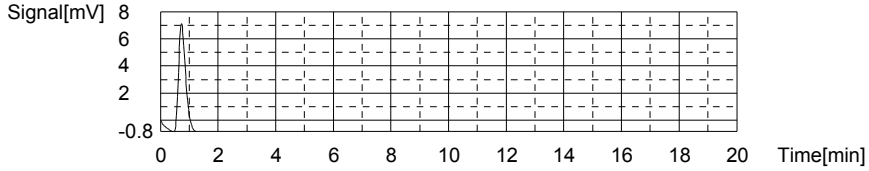
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.2268mg/L TC:0.2027mg/L IC:-0.02406mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.67	0.2027mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 6:41:44 PM

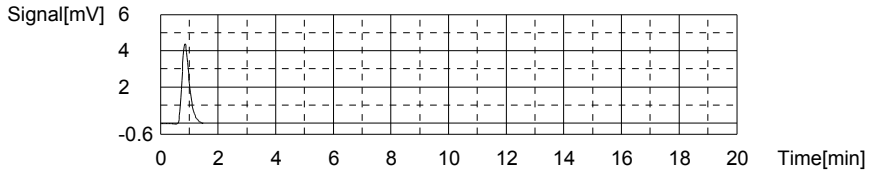
Mean Area 13.67
Mean Conc. 0.2027mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.997	-0.02406mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 6:45:39 PM

Mean Area 7.997
Mean Conc. -0.02406mg/L



Sample

Sample Name: L13101842-12 (2)
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

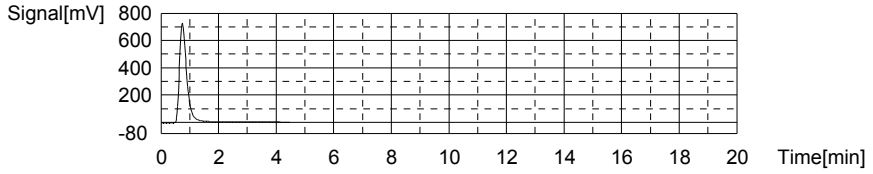
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.63mg/L TC:36.48mg/L IC:23.85mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1327	36.48mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 6:55:34 PM

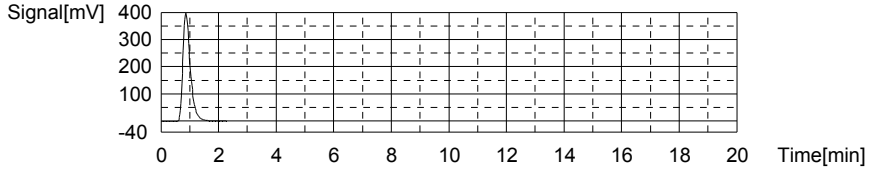
Mean Area 1327
Mean Conc. 36.48mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	719.0	23.85mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 7:01:00 PM

Mean Area 719.0
Mean Conc. 23.85mg/L



Sample

Sample Name: L13101866-01
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

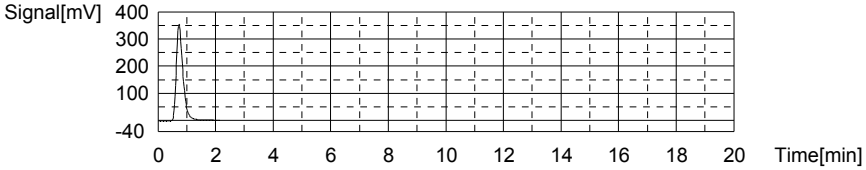
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.101mg/L TC:15.45mg/L IC:13.35mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	565.5	15.45mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 7:08:36 PM

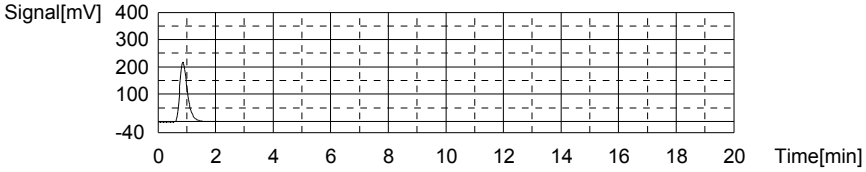
Mean Area 565.5
Mean Conc. 15.45mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	406.1	13.35mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 7:13:49 PM

Mean Area 406.1
Mean Conc. 13.35mg/L



Sample

Sample Name: L13101868-01
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

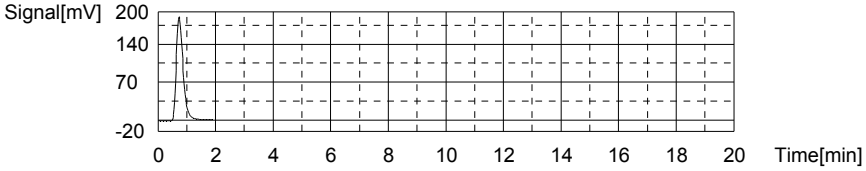
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.323mg/L TC:8.497mg/L IC:7.173mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	313.9	8.497mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 7:21:09 PM

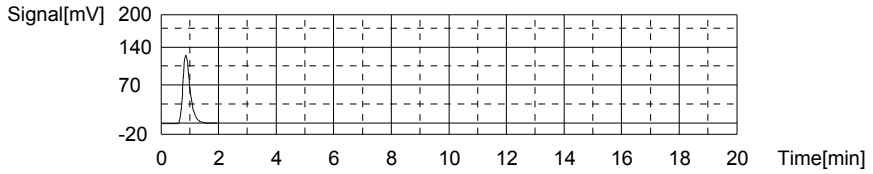
Mean Area 313.9
Mean Conc. 8.497mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	222.3	7.173mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 7:26:08 PM

Mean Area 222.3
Mean Conc. 7.173mg/L



Sample

Sample Name: L13101868-02
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

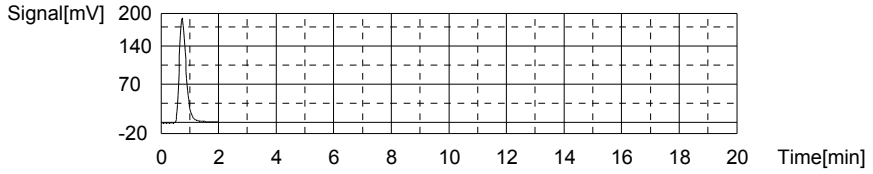
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.179mg/L TC:8.621mg/L IC:7.442mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	318.4	8.621mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 7:33:33 PM

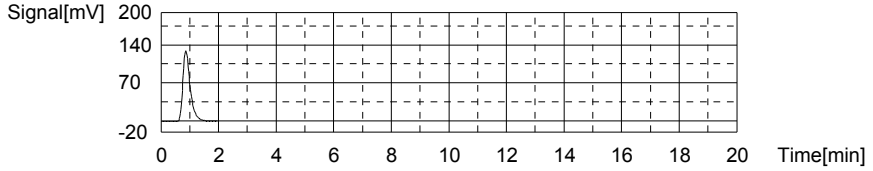
Mean Area 318.4
Mean Conc. 8.621mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	230.3	7.442mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 7:38:30 PM

Mean Area 230.3
Mean Conc. 7.442mg/L



Sample

Sample Name: L13101868-03
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

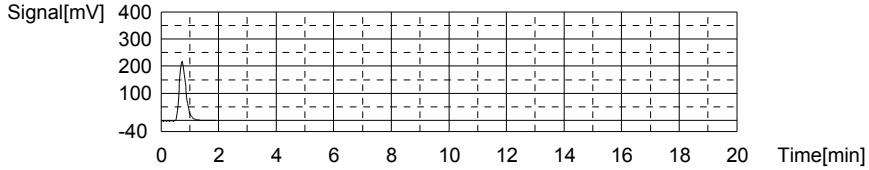
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.102mg/L TC:9.602mg/L IC:8.500mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	353.9	9.602mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 7:45:51 PM

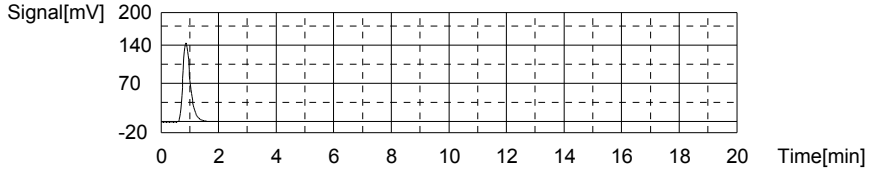
Mean Area 353.9
Mean Conc. 9.602mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	261.8	8.500mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 7:50:50 PM

Mean Area 261.8
Mean Conc. 8.500mg/L



Sample

Sample Name: L13101868-04
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

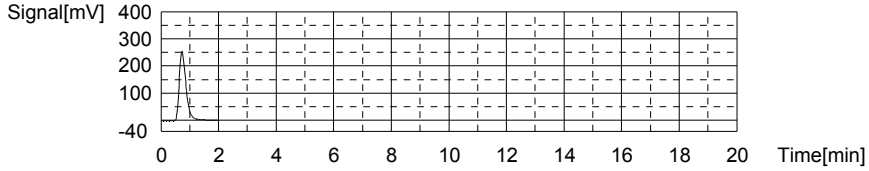
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.413mg/L TC:11.30mg/L IC:9.890mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	415.5	11.30mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 7:58:15 PM

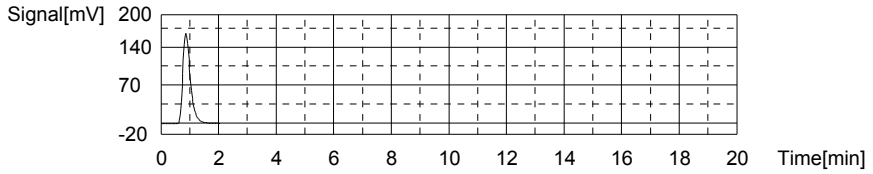
Mean Area 415.5
Mean Conc. 11.30mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	303.2	9.890mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 8:03:20 PM

Mean Area 303.2
Mean Conc. 9.890mg/L



Sample

Sample Name: L13101868-05
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

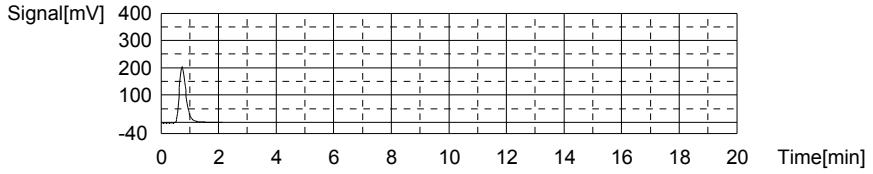
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.273mg/L TC:9.165mg/L IC:7.892mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	338.1	9.165mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 8:10:53 PM

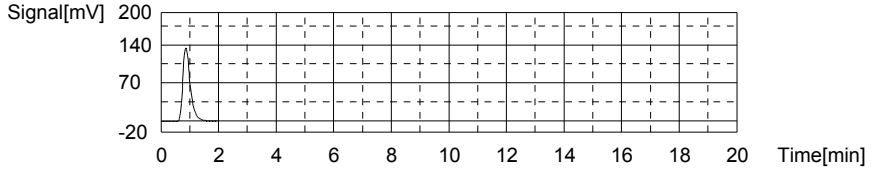
Mean Area 338.1
Mean Conc. 9.165mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	243.7	7.892mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 8:15:53 PM

Mean Area 243.7
Mean Conc. 7.892mg/L



Sample

Sample Name: L13110051-01
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

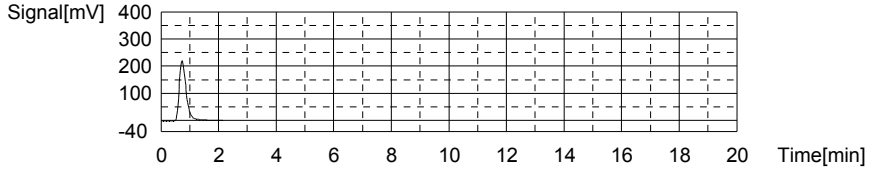
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.918mg/L TC:10.04mg/L IC:8.120mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	369.7	10.04mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 8:23:28 PM

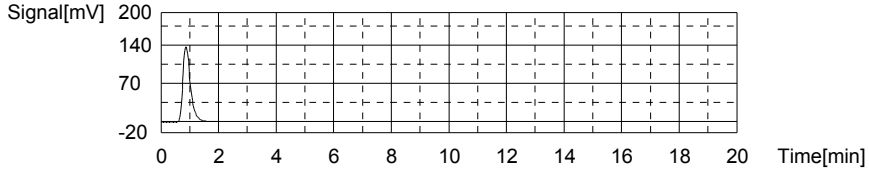
Mean Area 369.7
Mean Conc. 10.04mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	250.5	8.120mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 8:28:26 PM

Mean Area 250.5
Mean Conc. 8.120mg/L



Sample

Sample Name: L13110051-02
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

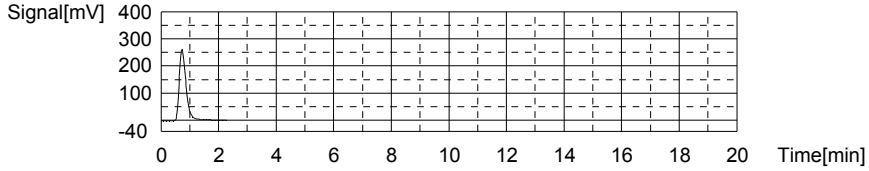
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.622mg/L TC:11.72mg/L IC:10.10mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	430.7	11.72mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 8:36:08 PM

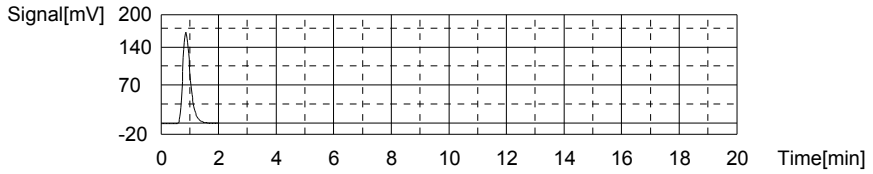
Mean Area 430.7
Mean Conc. 11.72mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	309.5	10.10mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 8:41:12 PM

Mean Area 309.5
Mean Conc. 10.10mg/L



Sample

Sample Name: L13110051-03
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

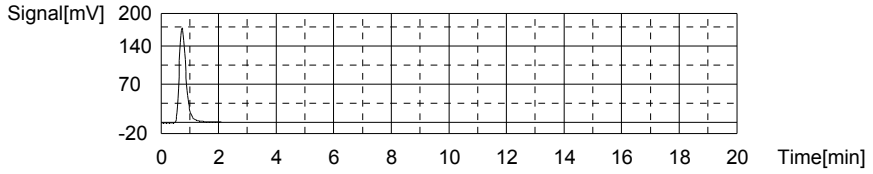
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.505mg/L TC:7.751mg/L IC:6.246mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	286.9	7.751mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 8:48:44 PM

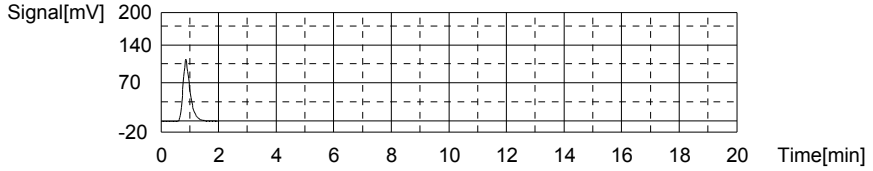
Mean Area 286.9
Mean Conc. 7.751mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	194.7	6.246mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 8:53:44 PM

Mean Area 194.7
Mean Conc. 6.246mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

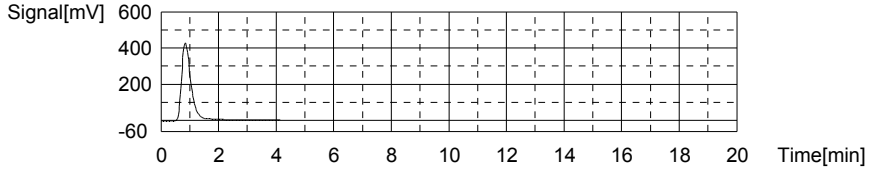
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:27.24mg/L TC:27.17mg/L IC:-0.07494mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	989.8	27.17mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 9:03:18 PM

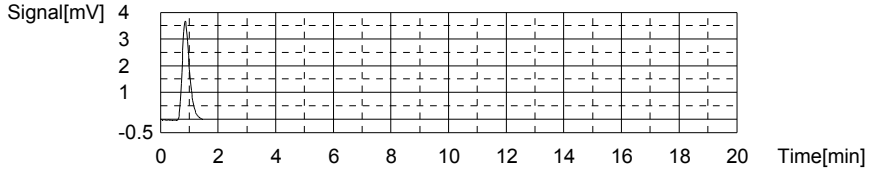
Mean Area 989.8
Mean Conc. 27.17mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.482	-0.07494mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 9:07:43 PM

Mean Area 6.482
Mean Conc. -0.07494mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

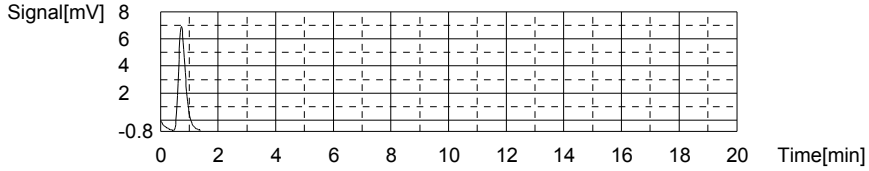
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1977mg/L TC:0.1814mg/L IC:-0.01630mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.90	0.1814mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 9:12:44 PM

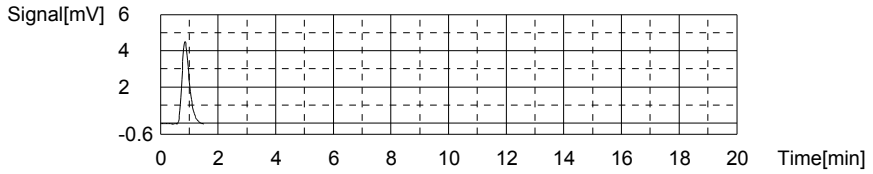
Mean Area 12.90
Mean Conc. 0.1814mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.228	-0.01630mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 9:16:40 PM

Mean Area 8.228
Mean Conc. -0.01630mg/L



Sample

Sample Name: L13110051-04
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

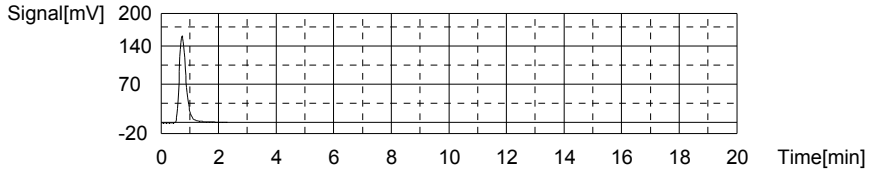
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.639mg/L TC:7.113mg/L IC:5.474mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	263.8	7.113mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 9:24:25 PM

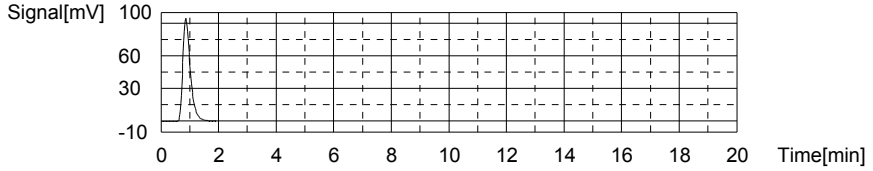
Mean Area 263.8
Mean Conc. 7.113mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	171.7	5.474mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 9:29:19 PM

Mean Area 171.7
Mean Conc. 5.474mg/L



Sample

Sample Name: L13101821-02 (50)
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

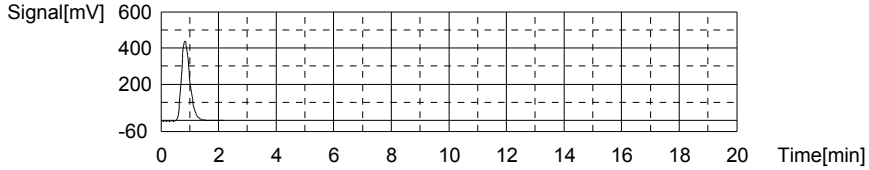
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.92mg/L TC:24.66mg/L IC:0.7408mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	899.0	24.66mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 9:36:57 PM

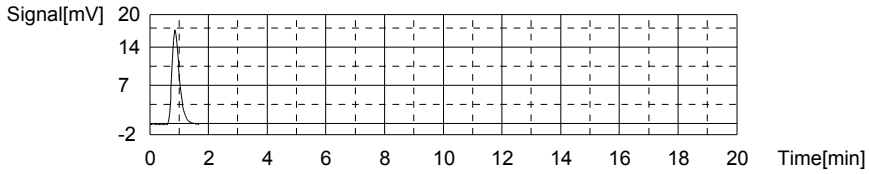
Mean Area 899.0
Mean Conc. 24.66mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	30.77	0.7408mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 9:41:28 PM

Mean Area 30.77
Mean Conc. 0.7408mg/L



Sample

Sample Name: WG451144-05 (50) DUP
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

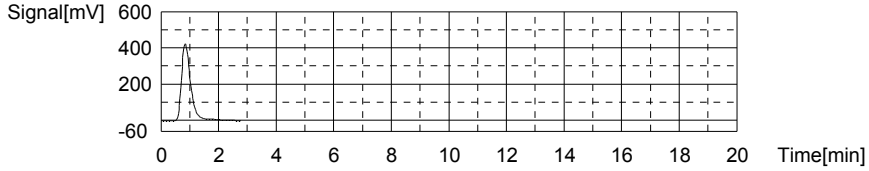
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:24.82mg/L TC:25.50mg/L IC:0.6830mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	929.5	25.50mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 9:49:41 PM

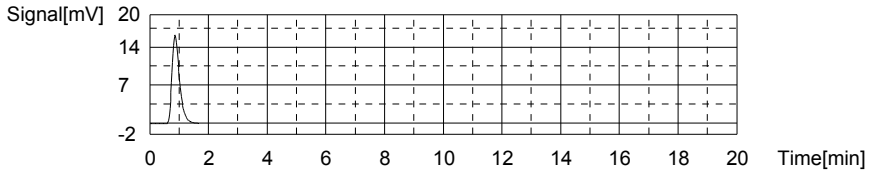
Mean Area 929.5
Mean Conc. 25.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	29.05	0.6830mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 9:54:11 PM

Mean Area 29.05
Mean Conc. 0.6830mg/L



Sample

Sample Name: WG451156-01 BLK
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

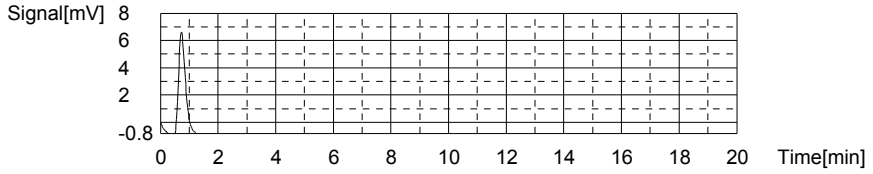
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.2034mg/L TC:0.1787mg/L IC:-0.02470mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.80	0.1787mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 9:59:14 PM

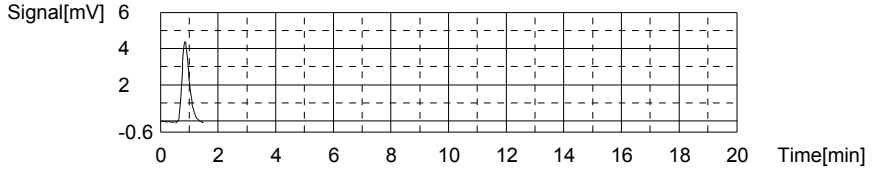
Mean Area 12.80
Mean Conc. 0.1787mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.978	-0.02470mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 10:03:08 PM

Mean Area 7.978
Mean Conc. -0.02470mg/L



Sample

Sample Name: WG451156-02 LCS
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

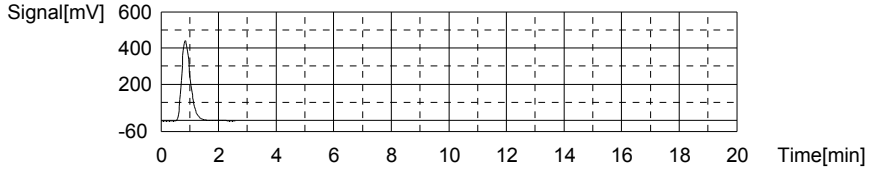
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.81mg/L TC:25.71mg/L IC:-0.1022mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	936.9	25.71mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 10:11:10 PM

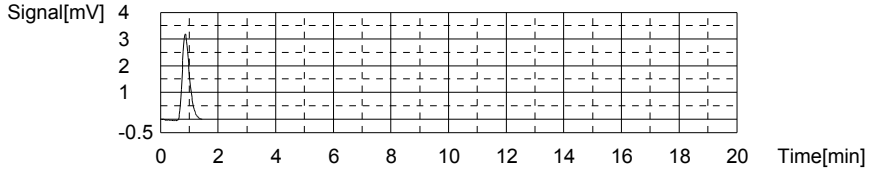
Mean Area 936.9
Mean Conc. 25.71mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.670	-0.1022mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 10:15:27 PM

Mean Area 5.670
Mean Conc. -0.1022mg/L



Sample

Sample Name: WG451156-03 LCSDUP
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

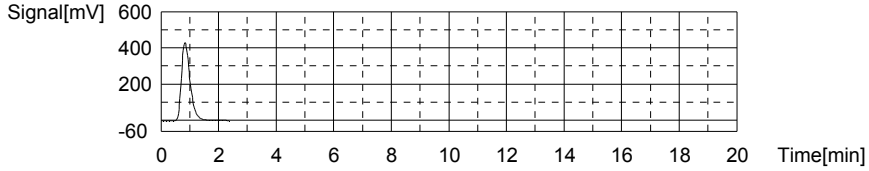
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:24.65mg/L TC:24.55mg/L IC:-0.1031mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	895.0	24.55mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 10:23:16 PM

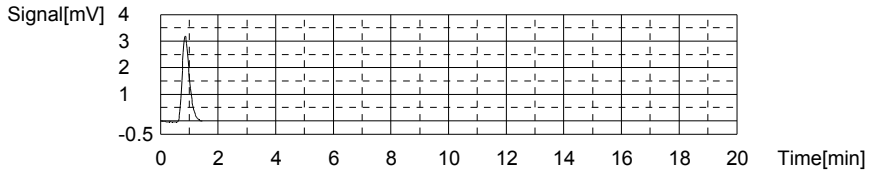
Mean Area 895.0
Mean Conc. 24.55mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.644	-0.1031mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 10:27:34 PM

Mean Area 5.644
Mean Conc. -0.1031mg/L



Sample

Sample Name: L13101821-03 (2)
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

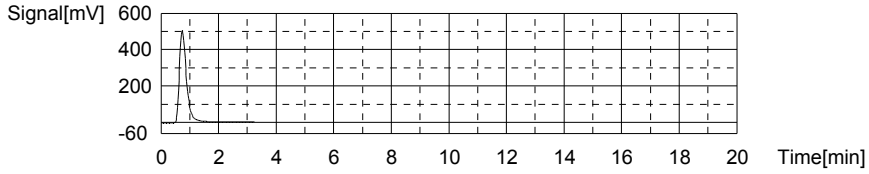
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.496mg/L TC:24.19mg/L IC:16.69mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	882.0	24.19mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 10:36:15 PM

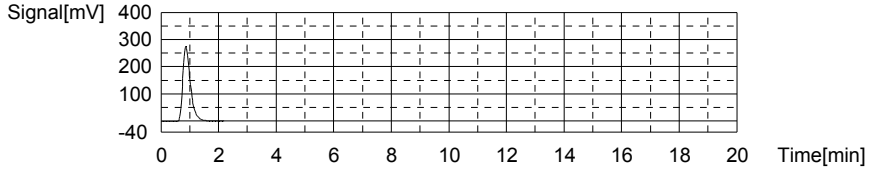
Mean Area 882.0
Mean Conc. 24.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	505.8	16.69mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 10:41:35 PM

Mean Area 505.8
Mean Conc. 16.69mg/L



Sample

Sample Name: WG451156-04
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

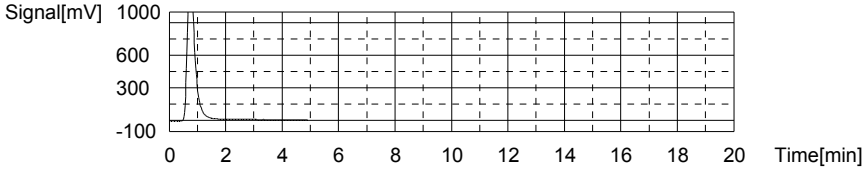
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.31mg/L TC:71.68mg/L IC:48.37mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2601	71.68mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 10:52:00 PM

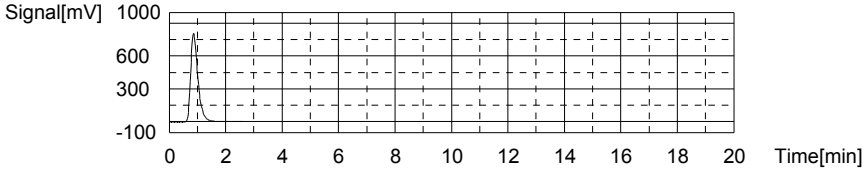
Mean Area 2601
Mean Conc. 71.68mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1449	48.37mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 10:58:01 PM

Mean Area 1449
Mean Conc. 48.37mg/L



Sample

Sample Name: WG451156-05 DUP
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

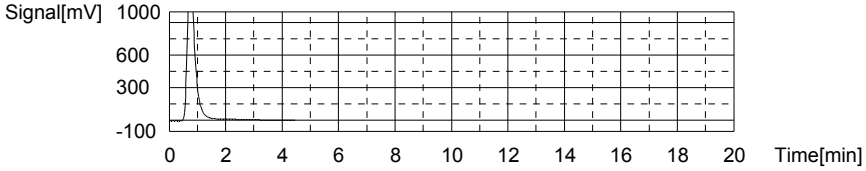
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:23.95mg/L TC:70.24mg/L IC:46.29mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2549	70.24mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 11:07:56 PM

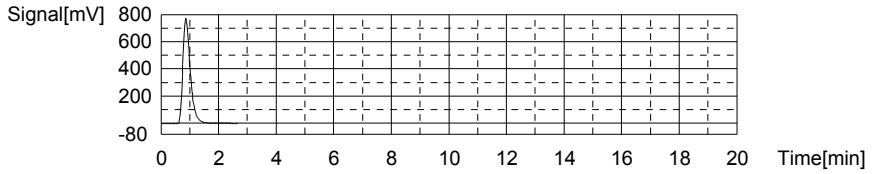
Mean Area 2549
Mean Conc. 70.24mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1387	46.29mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 11:14:01 PM

Mean Area 1387
Mean Conc. 46.29mg/L



Sample

Sample Name: WG451156-06 MS
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

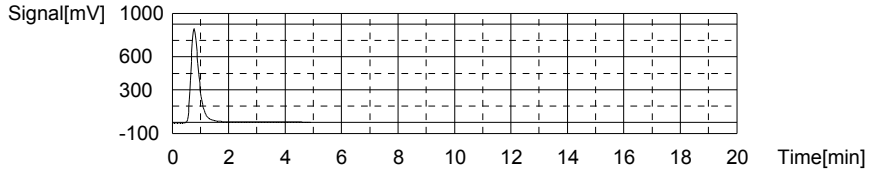
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:32.04mg/L TC:49.77mg/L IC:17.73mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1808	49.77mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 11:24:22 PM

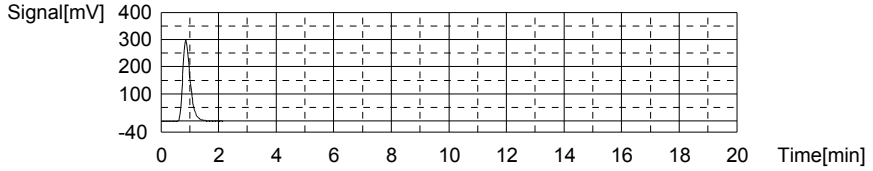
Mean Area 1808
Mean Conc. 49.77mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	536.7	17.73mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 11:29:41 PM

Mean Area 536.7
Mean Conc. 17.73mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

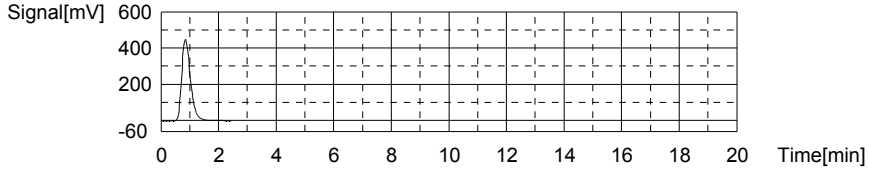
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:26.03mg/L TC:26.02mg/L IC:-0.00918mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	948.1	26.02mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 11:37:35 PM

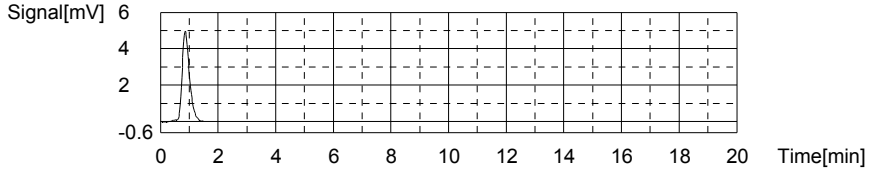
Mean Area 948.1
Mean Conc. 26.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.440	-0.00918mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 11:41:58 PM

Mean Area 8.440
Mean Conc. -0.00918mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

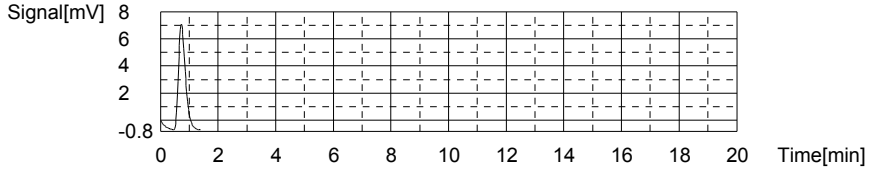
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.1849mg/L TC:0.1850mg/L IC:0.00015mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.03	0.1850mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/1/2013 11:46:59 PM

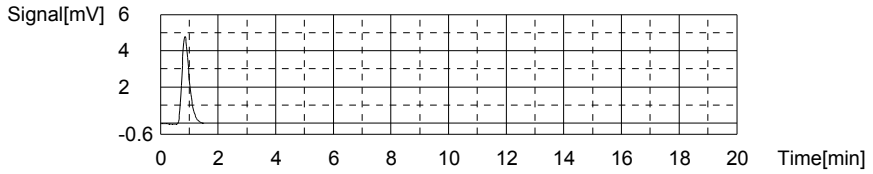
Mean Area 13.03
Mean Conc. 0.1850mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.718	0.00015mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/1/2013 11:51:00 PM

Mean Area 8.718
Mean Conc. 0.00015mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

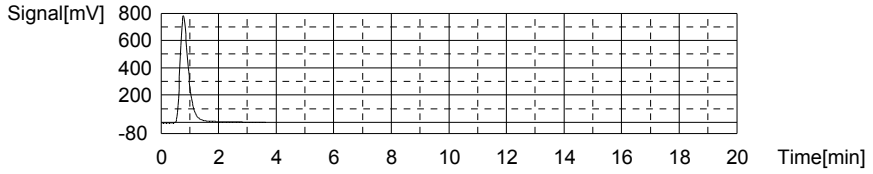
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:30.35mg/L TC:44.58mg/L IC:14.23mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1620	44.58mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 12:00:05 AM

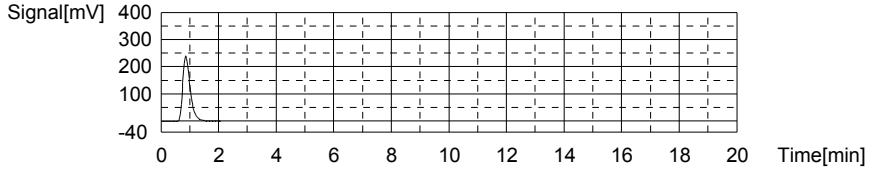
Mean Area 1620
Mean Conc. 44.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	432.4	14.23mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 12:05:11 AM

Mean Area 432.4
Mean Conc. 14.23mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

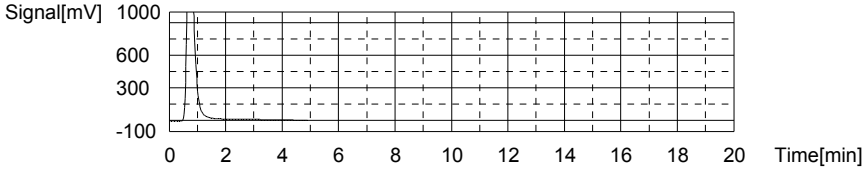
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.688mg/L TC:79.25mg/L IC:73.56mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2875	79.25mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 12:15:33 AM

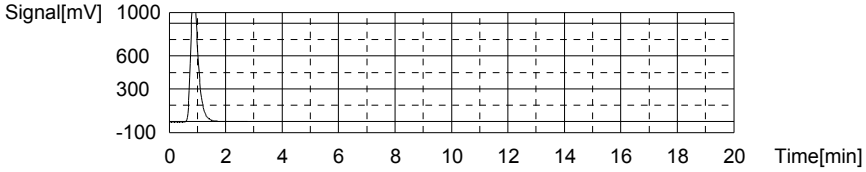
Mean Area 2875
Mean Conc. 79.25mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2199	73.56mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 12:21:57 AM

Mean Area 2199
Mean Conc. 73.56mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

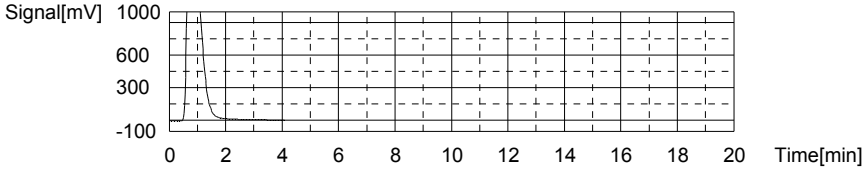
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:39.65mg/L TC:136.0mg/L IC:96.36mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4930	136.0mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 12:31:29 AM

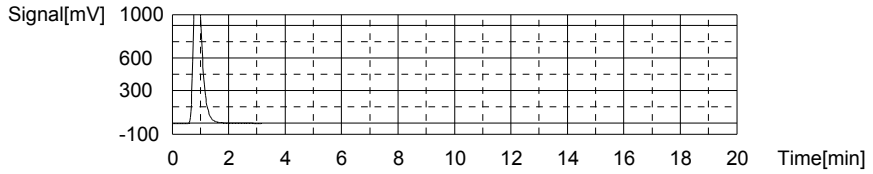
Mean Area 4930
Mean Conc. 136.0mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2878	96.36mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 12:38:21 AM

Mean Area 2878
Mean Conc. 96.36mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

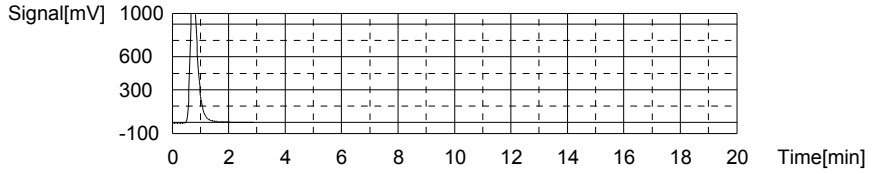
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:17.90mg/L TC:62.20mg/L IC:44.31mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2258	62.20mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 12:46:42 AM

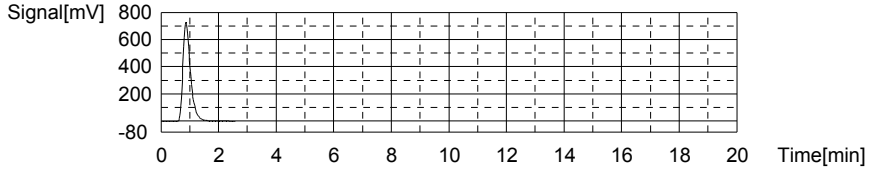
Mean Area 2258
Mean Conc. 62.20mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1328	44.31mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 12:52:43 AM

Mean Area 1328
Mean Conc. 44.31mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

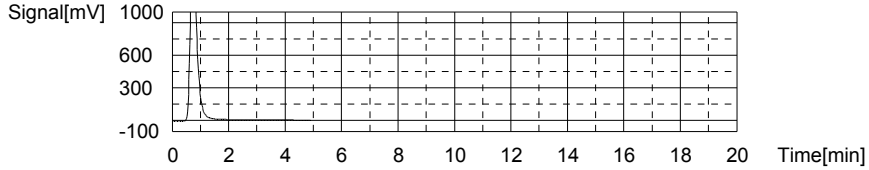
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.52mg/L TC:68.53mg/L IC:54.01mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2487	68.53mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 1:03:04 AM

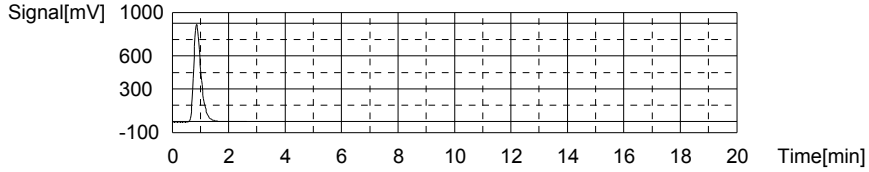
Mean Area 2487
Mean Conc. 68.53mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1617	54.01mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 1:09:10 AM

Mean Area 1617
Mean Conc. 54.01mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

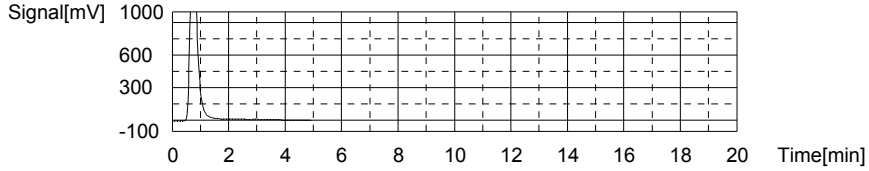
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:9.131mg/L TC:76.21mg/L IC:67.08mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2765	76.21mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 1:19:35 AM

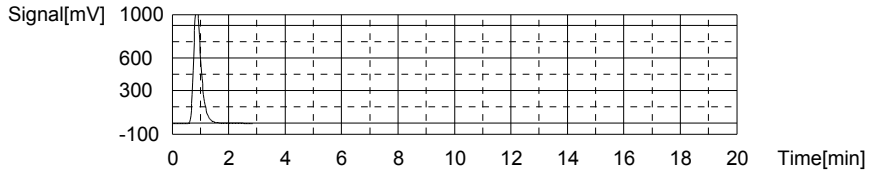
Mean Area 2765
Mean Conc. 76.21mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2006	67.08mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 1:25:59 AM

Mean Area 2006
Mean Conc. 67.08mg/L



Sample

Sample Name: L13110052-07
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

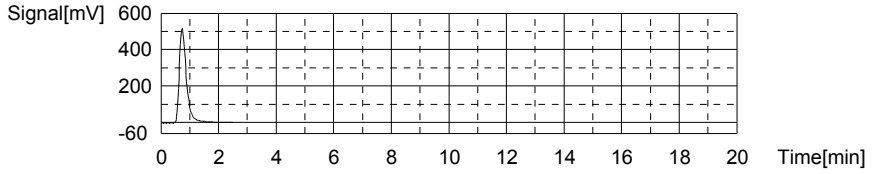
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.893mg/L TC:24.43mg/L IC:18.53mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	890.6	24.43mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 1:33:55 AM

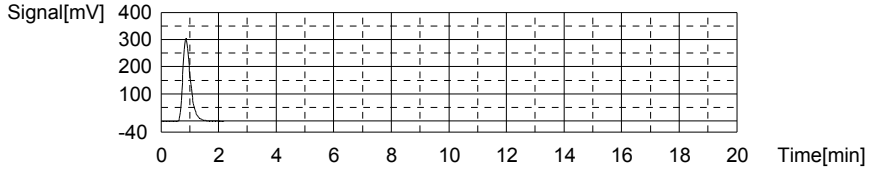
Mean Area 890.6
Mean Conc. 24.43mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	560.6	18.53mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 1:39:13 AM

Mean Area 560.6
Mean Conc. 18.53mg/L



Sample

Sample Name: L13110052-08
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

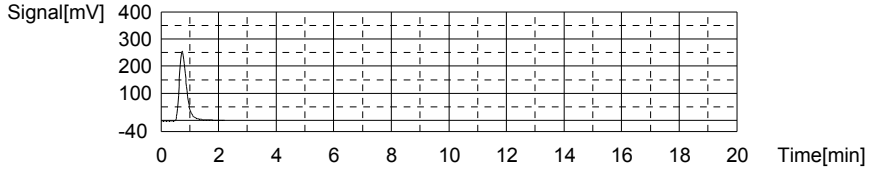
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.398mg/L TC:12.19mg/L IC:8.792mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	447.6	12.19mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 1:46:53 AM

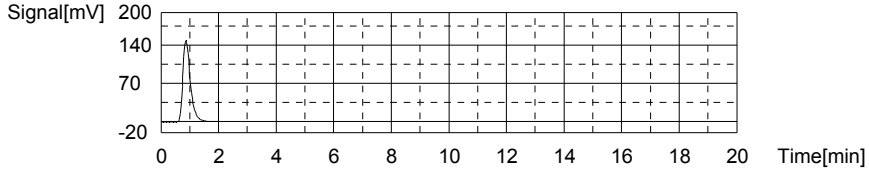
Mean Area 447.6
Mean Conc. 12.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	270.5	8.792mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 1:51:58 AM

Mean Area 270.5
Mean Conc. 8.792mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

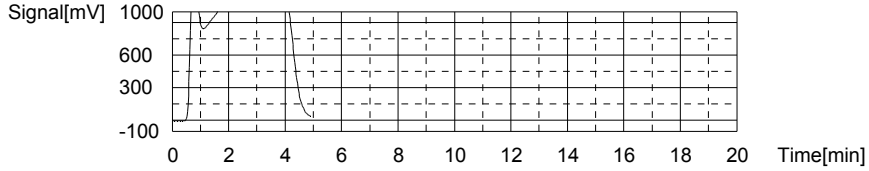
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:214.8mg/L TC:276.0mg/L IC:61.20mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9999	276.0mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 2:02:20 AM

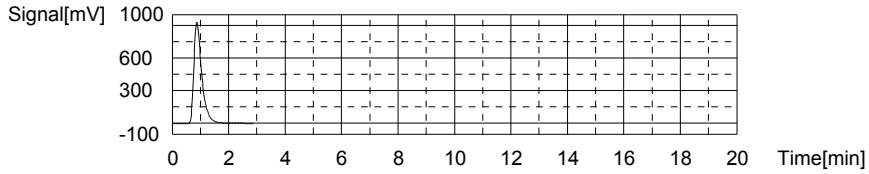
Mean Area 9999
Mean Conc. 276.0mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1831	61.20mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 2:09:14 AM

Mean Area 1831
Mean Conc. 61.20mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

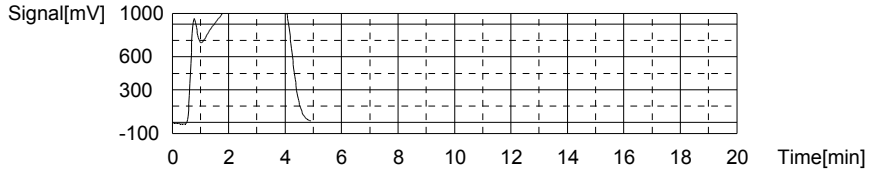
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:243.3mg/L TC:276.0mg/L IC:32.70mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9999	276.0mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 2:19:48 AM

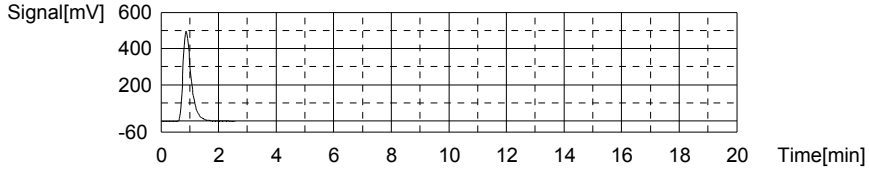
Mean Area 9999
Mean Conc. 276.0mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	982.5	32.70mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 2:25:50 AM

Mean Area 982.5
Mean Conc. 32.70mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

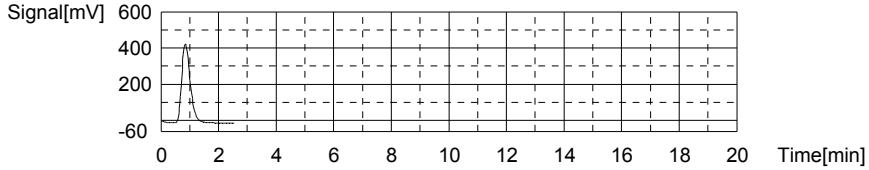
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:24.69mg/L TC:24.78mg/L IC:0.09728mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	903.5	24.78mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 2:33:50 AM

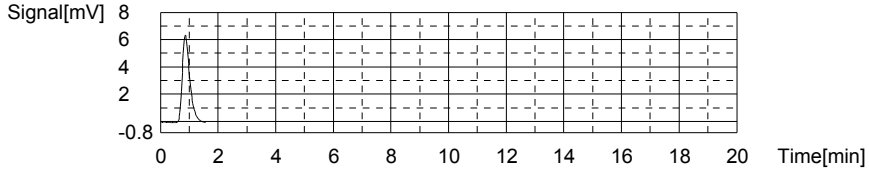
Mean Area 903.5
Mean Conc. 24.78mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.61	0.09728mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 2:38:21 AM

Mean Area 11.61
Mean Conc. 0.09728mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

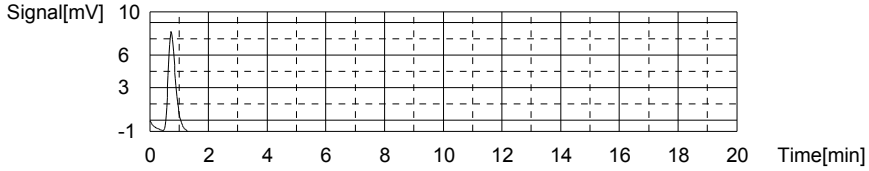
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2474mg/L TC:0.2690mg/L IC:0.02165mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.07	0.2690mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 2:43:27 AM

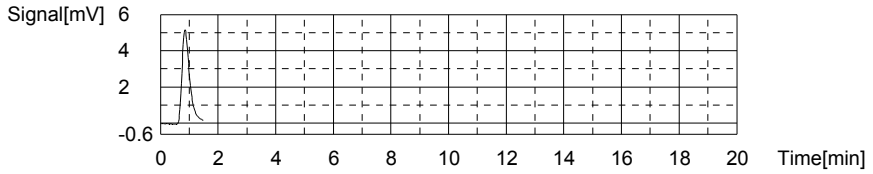
Mean Area 16.07
Mean Conc. 0.2690mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.358	0.02165mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 2:47:24 AM

Mean Area 9.358
Mean Conc. 0.02165mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

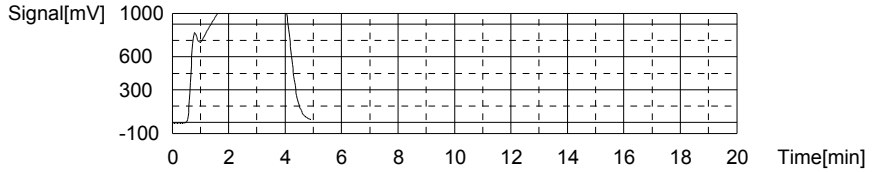
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:251.3mg/L TC:276.0mg/L IC:24.76mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9999	276.0mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 2:57:47 AM

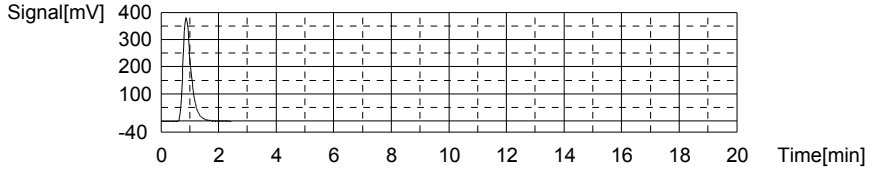
Mean Area 9999
Mean Conc. 276.0mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	745.9	24.76mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 3:03:28 AM

Mean Area 745.9
Mean Conc. 24.76mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

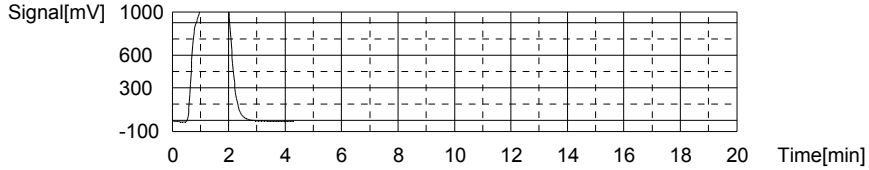
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:259.9mg/L TC:276.0mg/L IC:16.13mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9999	276.0mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 3:13:13 AM

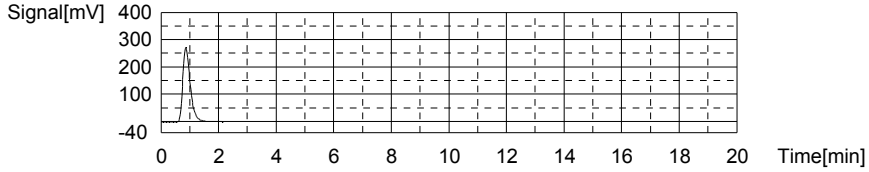
Mean Area 9999
Mean Conc. 276.0mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	489.0	16.13mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 3:18:32 AM

Mean Area 489.0
Mean Conc. 16.13mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

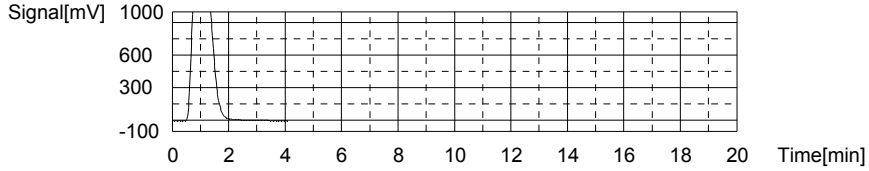
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:143.8mg/L TC:169.8mg/L IC:25.94mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6152	169.8mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 3:28:07 AM

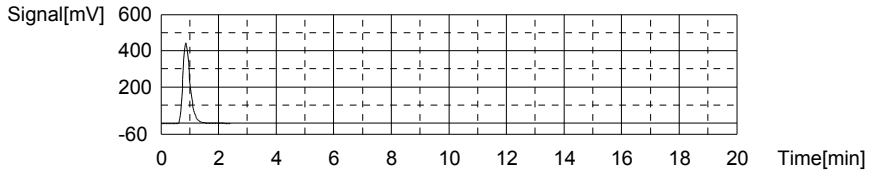
Mean Area 6152
Mean Conc. 169.8mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	781.0	25.94mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 3:33:44 AM

Mean Area 781.0
Mean Conc. 25.94mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

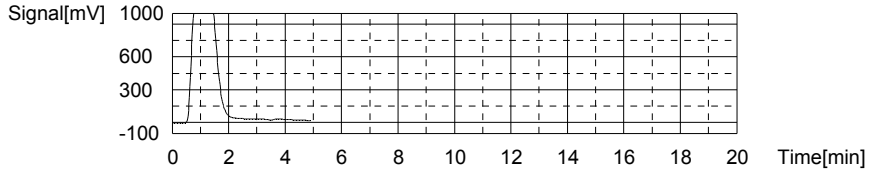
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:174.6mg/L TC:197.4mg/L IC:22.81mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7153	197.4mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 3:44:06 AM

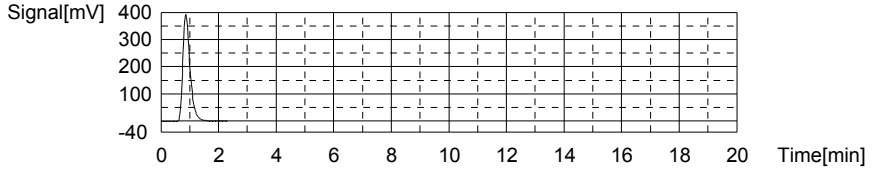
Mean Area 7153
Mean Conc. 197.4mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	688.0	22.81mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 3:49:36 AM

Mean Area 688.0
Mean Conc. 22.81mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

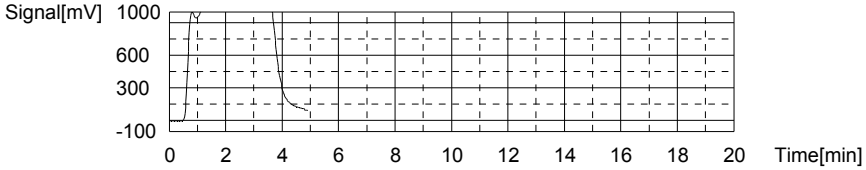
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:250.9mg/L TC:276.0mg/L IC:25.20mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9999	276.0mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 3:59:58 AM

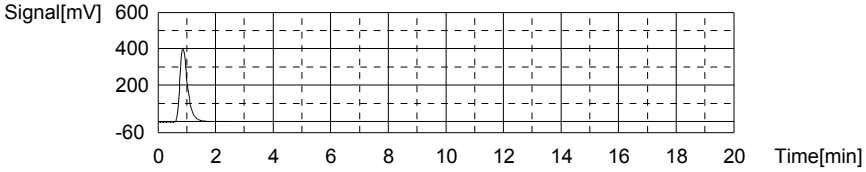
Mean Area 9999
Mean Conc. 276.0mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	759.0	25.20mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 4:05:44 AM

Mean Area 759.0
Mean Conc. 25.20mg/L



Sample

Sample Name: L13110053-05
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

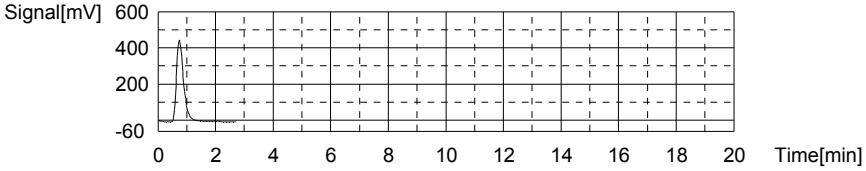
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.468mg/L TC:21.76mg/L IC:15.30mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	794.2	21.76mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 4:13:53 AM

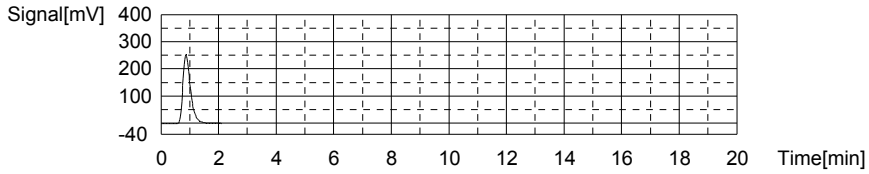
Mean Area 794.2
Mean Conc. 21.76mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	464.2	15.30mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 4:19:18 AM

Mean Area 464.2
Mean Conc. 15.30mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

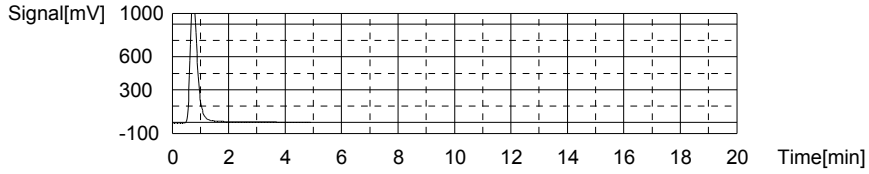
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:15.10mg/L TC:60.38mg/L IC:45.28mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2192	60.38mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 4:29:40 AM

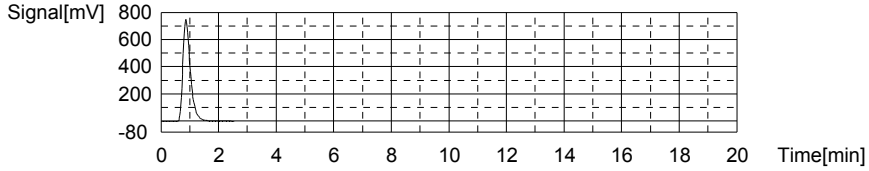
Mean Area 2192
Mean Conc. 60.38mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1357	45.28mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 4:35:37 AM

Mean Area 1357
Mean Conc. 45.28mg/L



Sample

Sample Name: WG451158-01 BLK
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

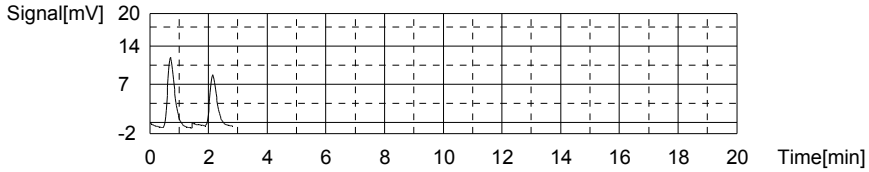
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2614mg/L TC:0.3389mg/L IC:0.07746mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	21.81	0.4276mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 4:40:43 AM
2	15.39	0.2502mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 4:44:15 AM

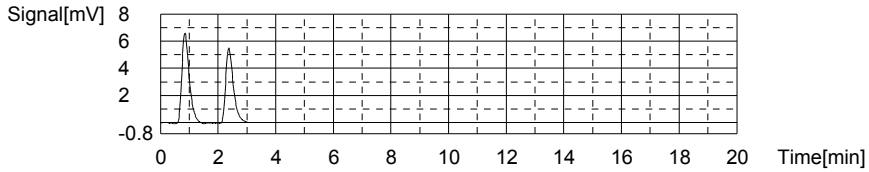
Mean Area 18.60
Mean Conc. 0.3389mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.99	0.1100mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 4:48:18 AM
2	10.05	0.04489mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 4:52:20 AM

Mean Area 11.02
Mean Conc. 0.07746mg/L



Sample

Sample Name: WG451158-02 LCS
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

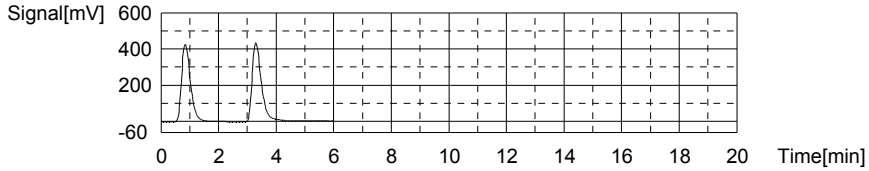
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:26.24mg/L TC:26.18mg/L IC:-0.05864mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	912.3	25.03mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 5:00:15 AM
2	995.8	27.33mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 5:06:04 AM

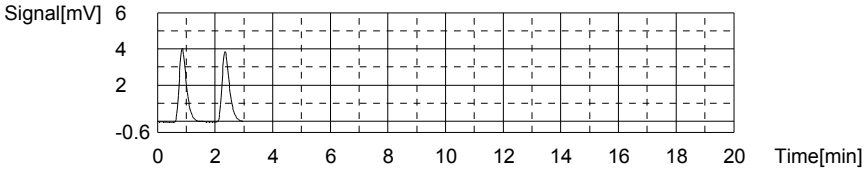
Mean Area 954.1
Mean Conc. 26.18mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.100	-0.05419mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 5:10:26 AM
2	6.835	-0.06309mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 5:14:32 AM

Mean Area 6.968
Mean Conc. -0.05864mg/L



Sample

Sample Name: WG451158-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

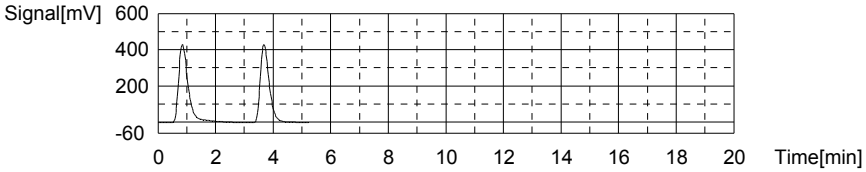
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:26.40mg/L TC:26.33mg/L IC:-0.07540mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	996.1	27.34mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 5:22:51 AM
2	922.5	25.31mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 5:27:31 AM

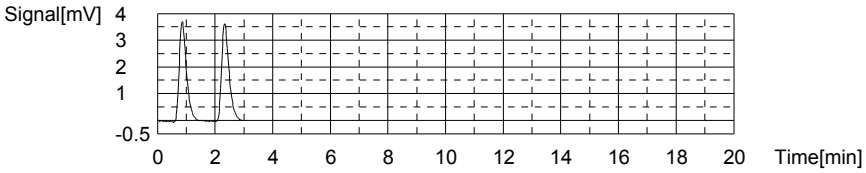
Mean Area 959.3
Mean Conc. 26.33mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.566	-0.07212mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 5:31:50 AM
2	6.371	-0.07867mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 5:35:57 AM

Mean Area 6.469
Mean Conc. -0.07540mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

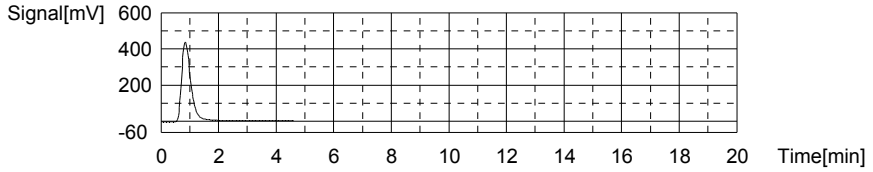
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:27.87mg/L TC:27.81mg/L IC:-0.05724mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	27.81mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 5:46:03 AM

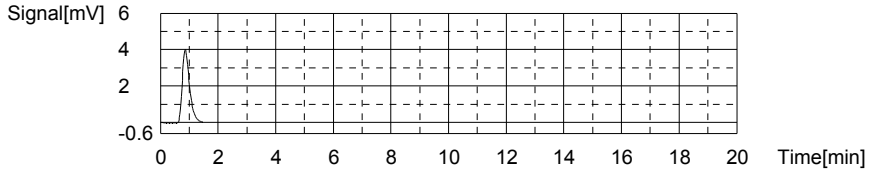
Mean Area 1013
Mean Conc. 27.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.009	-0.05724mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 5:50:24 AM

Mean Area 7.009
Mean Conc. -0.05724mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

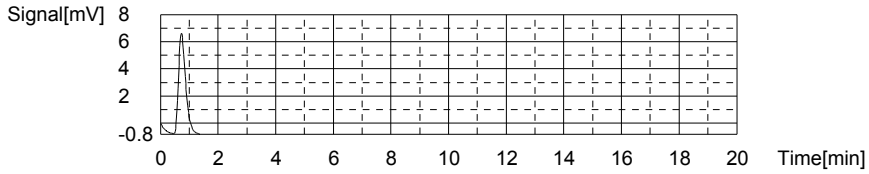
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1908mg/L TC:0.1751mg/L IC:-0.01573mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.67	0.1751mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 5:55:26 AM

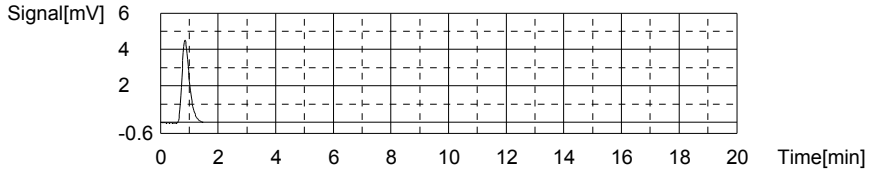
Mean Area 12.67
Mean Conc. 0.1751mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.245	-0.01573mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 5:59:24 AM

Mean Area 8.245
Mean Conc. -0.01573mg/L



Sample

Sample Name: L13110024-01
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

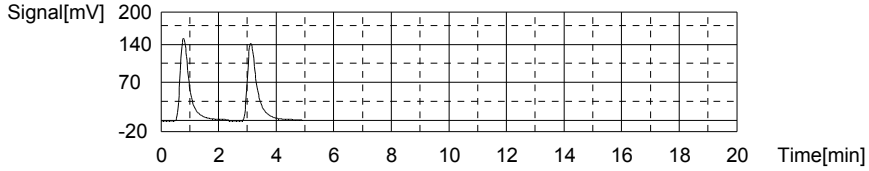
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.042mg/L TC:9.104mg/L IC:2.063mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	337.0	9.135mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 6:07:15 AM
2	334.8	9.074mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 6:13:02 AM

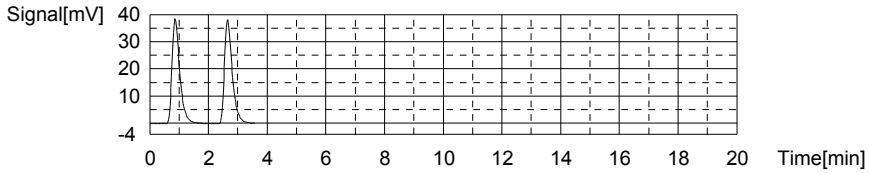
Mean Area 335.9
Mean Conc. 9.104mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	70.25	2.067mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 6:17:44 AM
2	70.02	2.059mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 6:22:13 AM

Mean Area 70.14
Mean Conc. 2.063mg/L



Sample

Sample Name: L13110025-01
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

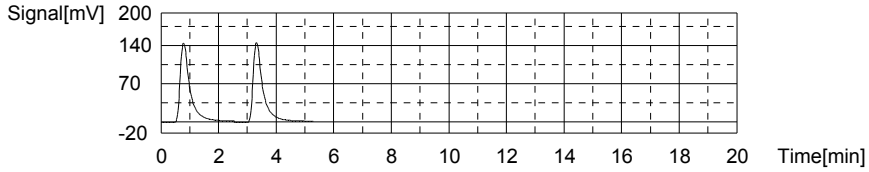
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.176mg/L TC:9.271mg/L IC:2.095mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	339.8	9.212mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 6:30:14 AM
2	344.1	9.331mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 6:35:24 AM

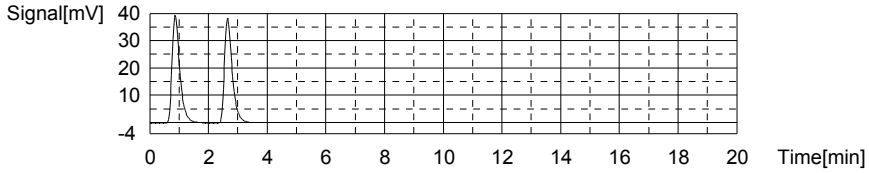
Mean Area 342.0
Mean Conc. 9.271mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	72.06	2.127mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 6:40:06 AM
2	70.13	2.063mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 6:44:34 AM

Mean Area 71.09
Mean Conc. 2.095mg/L



Sample

Sample Name: L13110053-07
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

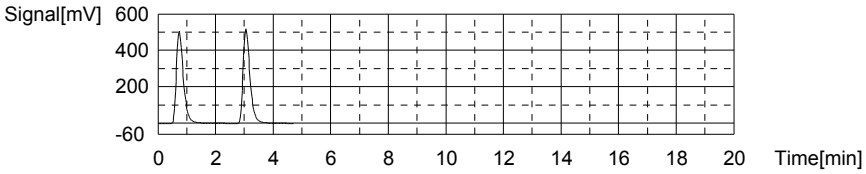
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.545mg/L TC:23.71mg/L IC:18.16mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	855.3	23.45mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 6:52:23 AM
2	873.7	23.96mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 6:57:04 AM

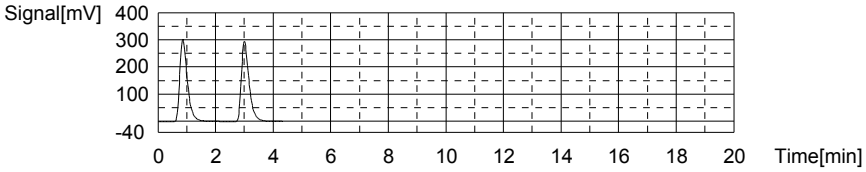
Mean Area 864.5
Mean Conc. 23.71mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	553.3	18.29mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 7:02:20 AM
2	545.7	18.03mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 7:07:34 AM

Mean Area 549.5
Mean Conc. 18.16mg/L



Sample

Sample Name: L13110053-08
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

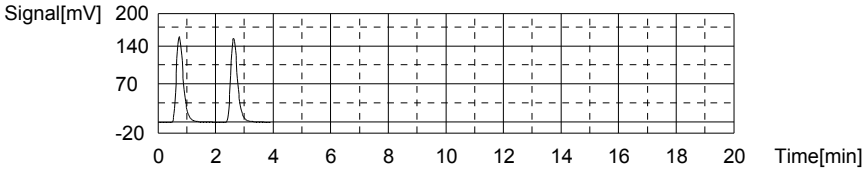
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.531mg/L TC:7.118mg/L IC:4.587mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	265.9	7.171mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 7:14:56 AM
2	262.1	7.066mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 7:19:13 AM

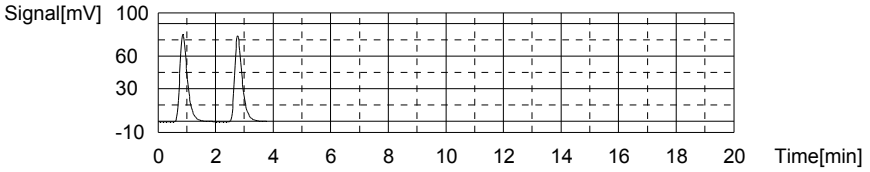
Mean Area 264.0
Mean Conc. 7.118mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	146.3	4.621mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 7:24:13 AM
2	144.3	4.554mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 7:28:51 AM

Mean Area 145.3
Mean Conc. 4.587mg/L



Sample

Sample Name: L13110053-09
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

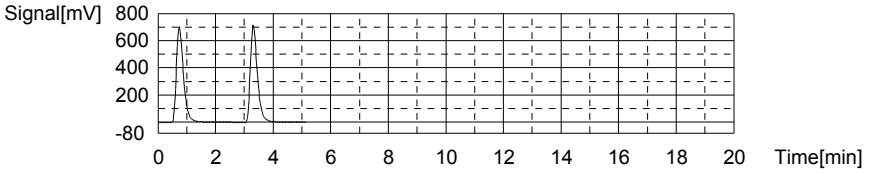
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:9.902mg/L TC:33.29mg/L IC:23.39mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1204	33.09mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 7:36:54 AM
2	1219	33.50mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 7:41:45 AM

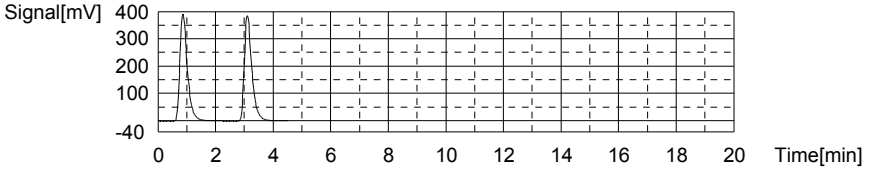
Mean Area 1212
Mean Conc. 33.29mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	708.2	23.49mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 7:47:09 AM
2	702.2	23.29mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 7:52:24 AM

Mean Area 705.2
Mean Conc. 23.39mg/L



Sample

Sample Name: L13110053-10
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

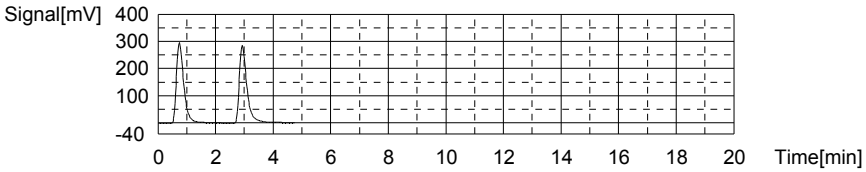
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.935mg/L TC:14.34mg/L IC:9.401mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	522.5	14.26mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 8:00:05 AM
2	528.1	14.41mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 8:06:03 AM

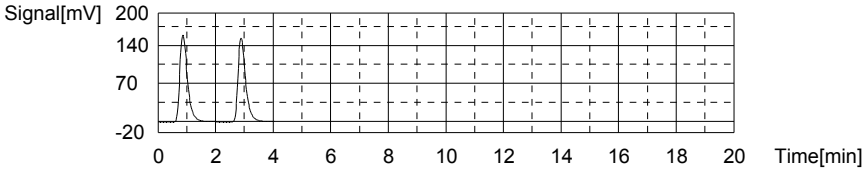
Mean Area 525.3
Mean Conc. 14.34mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	293.6	9.568mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 8:11:11 AM
2	283.7	9.235mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 8:16:01 AM

Mean Area 288.6
Mean Conc. 9.401mg/L



Sample

Sample Name: WG451158-05 DUP
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

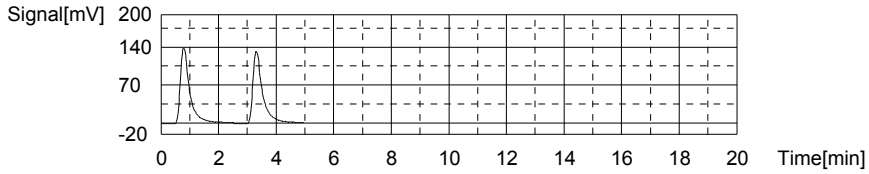
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.999mg/L TC:8.372mg/L IC:1.373mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	312.5	8.458mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 8:24:09 AM
2	306.3	8.287mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 8:28:51 AM

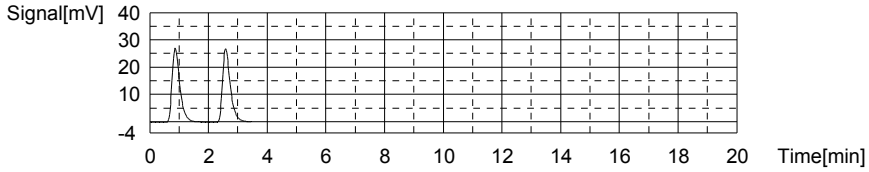
Mean Area 309.4
Mean Conc. 8.372mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	49.83	1.381mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 8:33:31 AM
2	49.37	1.365mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 8:37:58 AM

Mean Area 49.60
Mean Conc. 1.373mg/L



Sample

Sample Name: WG451158-06 MS
Sample ID: <Untitled>
Origin: TOC-07-09-2013A.met
Status Completed
Chk. Result

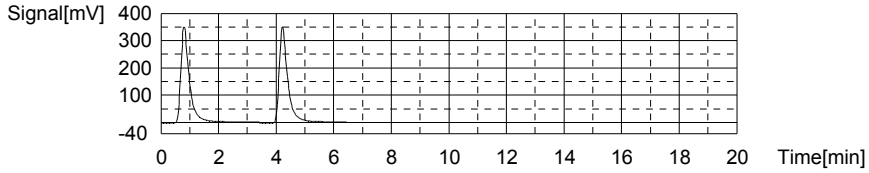
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:18.37mg/L TC:19.80mg/L IC:1.428mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	722.2	19.78mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 8:46:56 AM
2	723.7	19.82mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 8:53:07 AM

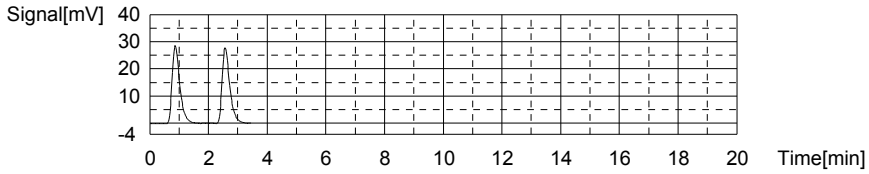
Mean Area 723.0
Mean Conc. 19.80mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	51.92	1.451mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 8:57:45 AM
2	50.56	1.405mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 9:02:13 AM

Mean Area 51.24
Mean Conc. 1.428mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

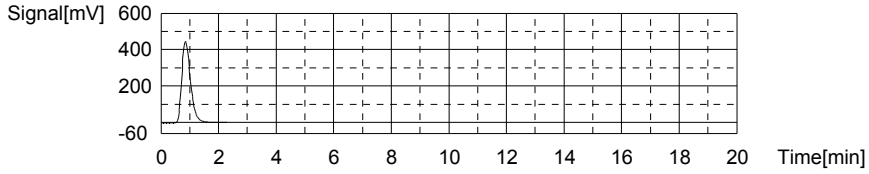
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:25.78mg/L TC:25.76mg/L IC:-0.02504mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	938.8	25.76mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 9:09:56 AM

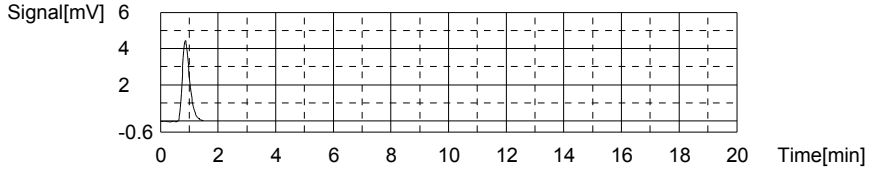
Mean Area 938.8
Mean Conc. 25.76mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.968	-0.02504mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 9:14:16 AM

Mean Area 7.968
Mean Conc. -0.02504mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-07-09-2013.met
Status Completed
Chk. Result

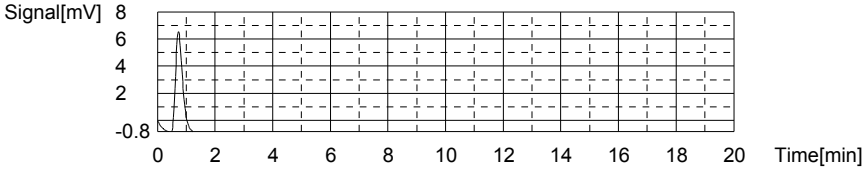
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:0.1883mg/L TC:0.1732mg/L IC:-0.01520mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.60	0.1732mg/L	500uL	1		TCCURVE-07-09-2013.2013_07_09_13_54_5	11/2/2013 9:19:17 AM

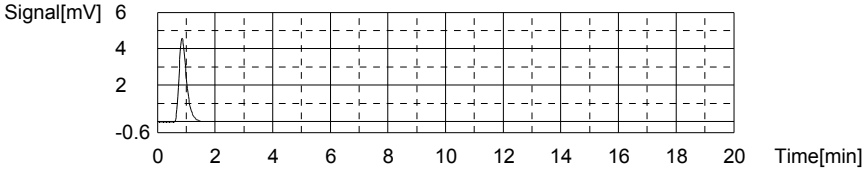
Mean Area 12.60
Mean Conc. 0.1732mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.261	-0.01520mg/L	500uL	1		TICCURVE-07-09-2013.2013_07_09_14_57_1	11/2/2013 9:23:16 AM

Mean Area 8.261
Mean Conc. -0.01520mg/L



2.2.11 Total Suspended Solids Data

2.2.11.1 Summary Data

Login Number: L13101868
Department: Conventionals
Analyst: April Greene

METHOD

Analysis EPA 160.2/SM2540 D (Total Suspended Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: The RPD for the LCS/LCS duplicate exceeded the advisory limits. Each LCS had an acceptable recovery.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG451099-03	Total Suspended Solids	2013-11-01 14:55:03	11.0		10	RPD

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 73921
Approved By: Deanna Hesson

Dannal Esson

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-01	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 13-1013-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451099	**Analyst:**	ADG	**Run Date:**	11/01/2013 14:55
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	EN.1311011455-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L13101868
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L13101868-02	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 13-1013-2	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451099	**Analyst:**	ADG	**Run Date:**	11/01/2013 14:55
Collect Date:	10/30/2013 09:45	**Dilution:**	1	**File ID:**	EN.1311011455-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-03	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 1-1013-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451099	**Analyst:**	ADG	**Run Date:**	11/01/2013 14:55
Collect Date:	10/30/2013 13:00	**Dilution:**	1	**File ID:**	EN.1311011455-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		132		5.00	2.50

Sample #:	L13101868-04	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 18-1013-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451320	**Analyst:**	ADG	**Run Date:**	11/04/2013 13:28
Collect Date:	10/30/2013 14:20	**Dilution:**	1	**File ID:**	EN.1311041328-04
Sample Tag:	1	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L13101868-05	**PrePrep Method:**	N/A	**Instrument:**	OVEN
Client ID:	MPL 6-1013-1	**Prep Method:**	160.2/SM2540D	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM2540-D-1997	**Cal Date:**	
Workgroup #:	WG451099	**Analyst:**	ADG	**Run Date:**	11/01/2013 14:55
Collect Date:	10/30/2013 15:35	**Dilution:**	1	**File ID:**	EN.1311011455-11
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

2.2.11.2 QC Summary Data

$$[(WT2 - WT1) * 1000000]/volume = mg/L$$

where:

WT1 = weight (grams) of empty container.
WT2 = weight (grams) of dried sample and container.
1000000 = factor to get to mg/L.
volume = mL of sample used.

Microbac Laboratories Inc.

Data Checklist

Date: 01-NOV-2013
Analyst: ADG
Analyst: HCB
Method: TSS
Instrument: OVEN
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451099

Calibration/Linearity	11/01/13
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	ADG
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
04-NOV-2013

April Greene

Secondary Reviewer:
05-NOV-2013

Dianna Hesson

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-05-2013 14:32:01

Microbac Laboratories Inc.

Data Checklist

Date: 04-NOV-2013
Analyst: ADG
Analyst: HCB
Method: TSS
Instrument: OVEN
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG451320

Calibration/Linearity	11/04/13
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	ADG
Secondary Reviewer	SAV
Comments	

Primary Reviewer:
06-NOV-2013
April Greene

Secondary Reviewer:
08-NOV-2013
Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-08-2013 16:50:55

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM2540-D-1997 AAB#: WG451099

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 13-1013-1	01	10/30/13					11/01/2013	2.2	7		11/01/13	2.2	7	
MPL 13-1013-2	02	10/30/13					11/01/2013	2.2	7		11/01/13	2.2	7	
MPL 1-1013-1	03	10/30/13					11/01/2013	2.1	7		11/01/13	2.1	7	
MPL 6-1013-1	05	10/30/13					11/01/2013	2	7		11/01/13	2	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3183224
Report generated 11/08/2013 16:48

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM2540-D-1997 AAB#: WG451320

Login Number: L13101868

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MPL 18-1013-1	04	10/30/13					11/04/2013	5	7		11/04/13	5	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 3183224
Report generated 11/08/2013 16:48

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: EN.1311011455-01
Prep Date: 11/01/13 14:55
Analyzed Date: 11/01/13 14:55
Analyst: ADG

Work Group: WG451099
Blank Sample ID: WG451099-01
Instrument ID: OVEN
Method: SM2540-D-1997

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451099-02	EN.1311011455-02	11/01/13 14:55	
LCS2	WG451099-03	EN.1311011455-03	11/01/13 14:55	
MPL 13-1013-1	L13101868-01	EN.1311011455-08	11/01/13 14:55	
MPL 13-1013-2	L13101868-02	EN.1311011455-09	11/01/13 14:55	
MPL 1-1013-1	L13101868-03	EN.1311011455-10	11/01/13 14:55	
MPL 6-1013-1	L13101868-05	EN.1311011455-11	11/01/13 14:55	
DUP	WG451099-07	EN.1311011455-24	11/01/13 14:55	
DUP	WG451099-05	EN.1311011455-25	11/01/13 14:55	

Report Name: BLANK_SUMMARY
PDF File ID: 3183225
Report generated 11/08/2013 16:48

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L13101868
Blank File ID: EN.1311041328-01
Prep Date: 11/04/13 13:28
Analyzed Date: 11/04/13 13:28
Analyst: ADG

Work Group: WG451320
Blank Sample ID: WG451320-01
Instrument ID: OVEN
Method: SM2540-D-1997

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG451320-02	EN.1311041328-02	11/04/13 13:28	1
LCS2	WG451320-03	EN.1311041328-03	11/04/13 13:28	1
MPL 18-1013-1	L13101868-04	EN.1311041328-04	11/04/13 13:28	1
DUP	WG451320-05	EN.1311041328-24	11/04/13 13:28	2
DUP	WG451320-07	EN.1311041328-25	11/04/13 13:28	3

Report Name: BLANK_SUMMARY
PDF File ID: 3183225
Report generated 11/08/2013 16:48

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/01/13 14:55 Sample ID: WG451099-01
Instrument ID: OVEN Run Date: 11/01/13 14:55 Prep Method: 160.2/SM2540D
File ID: EN.1311011455-01 Analyst: ADG Method: SM2540-D-1997
Workgroup (AAB#): WG451099 Matrix: Water Units: mg/L
Contract #: Cal ID: OVEN-

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Total Suspended Solids	2.50	5.00	2.50	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 3183226
08-NOV-2013 16:48

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L13101868 Prep Date: 11/04/13 13:28 Sample ID: WG451320-01
Instrument ID: OVEN Run Date: 11/04/13 13:28 Prep Method: 160.2/SM2540D
File ID: EN.1311041328-01 Analyst: ADG Method: SM2540-D-1997
Workgroup (AAB#): WG451320 Matrix: Water Units: mg/L
Contract #: Cal ID: OVEN-

Analytes	LOD	LOQ	Concentration	Dilution	Qualifier
Total Suspended Solids	2.50	5.00	2.50	1	U

LOD Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name: BLANK
PDF ID: 3183226
08-NOV-2013 16:48

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: ADG Prep Method: 160.2/SM2540D
Instrument ID: OVEN Matrix: Water Method: SM2540-D-1997
Workgroup (AAB#): WG451320 Units: mg/L
QC Key: DOD4 Lot #: STD61141

Sample ID: WG451320-02 LCS File ID: EN.1311041328-02 Run Date: 11/04/2013 13:28
Sample ID: WG451320-03 LCS2 File ID: EN.1311041328-03 Run Date: 11/04/2013 13:28

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Suspended Solids	50.0	43.0	86.0	50.0	45.0	90.0	4.55	75 - 125	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3183227
Report generated: 11/08/2013 16:48

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L13101868 Analyst: ADG Prep Method: 160.2/SM2540D
Instrument ID: OVEN Matrix: Water Method: SM2540-D-1997
Workgroup (AAB#): WG451099 Units: mg/L
QC Key: DOD4 Lot #: STD61100

Sample ID: WG451099-02 LCS File ID: EN.1311011455-02 Run Date: 11/01/2013 14:55
Sample ID: WG451099-03 LCS2 File ID: EN.1311011455-03 Run Date: 11/01/2013 14:55

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Suspended Solids	50.0	48.0	96.0	50.0	43.0	86.0	11.0	75 - 125	10	#

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 3183227
Report generated: 11/08/2013 16:48

2.2.11.3 Raw Data

Tray 5

WORKGROUP: WG451099

TOTAL SUSPENDED SOLIDS

(tss1)

Oven: TSS1 Other
Method: EPA 160.2 / SM2540D
LCS: STD61100
MS: _____ mL LCS & _____ mL sample

Balance: AND GR-202 / Other
SOP: K1602 Rev #: 14
Filter Lot #: 9517112

		On Temp/Time:	104 /16:50	104 /09:20	/	/
SAMPLE	#	VOLUME (mL)	INITIAL WEIGHT WT1 (g)	DRY WEIGHT WT2A (g)	DRY WEIGHT WT2B (g)	DRY WEIGHT WT2C (g)
BLANK	BLK	200				
LCS: mg/L	LCS1	100				
LCSDUP: mg/L	LCS2	100				
L13101851-01	1	200				
L13101851-03	2	200				
L13101851-05	3	200				
L13101865-01	4	200				
L13101868-01	5	200				
L13101868-02	6	200				
L13101868-03	7	200				
L13101868-05	8	200				
L13101869-02	9	200				
101817-04	10	1				
101817-06	11	20				
101826-01	12	200				
-03	13	200				
-05	14	200				
-07	15	200				
-09	16	200				
-13	17	200				
110017-01	18	200				
110017-02	19	200				
110045-01	20	200				
DUP: L13101868-05	Dup1	200				
DUP: 110017-02	Dup2	200				
		Off Temp/Time:	104 /09:50	104 /11:00	/	/

ANALYST: April Greene

* Duplicate required on 10% of samples

Heidi Brown

DATE/TIME: (on) 11/1/13 @ 1455
DATE/TIME: (off) 11/04/13
DATE/TIME: (off)
DATE/TIME: (off)

DCN#98575

Tray 5

WORKGROUP: WG451320

TOTAL SUSPENDED SOLIDS

(tss1)

Oven: TSS1 Other
Method: EPA 160.2 / SM2540D
LCS: STD61141
MS: _____ mL LCS & _____ mL sample

Balance: AND GR-202 / Other
SOP: K1602 Rev #: 14
Filter Lot #: 4489222

104 1414:46

			On Temp/Time:	104 1515:35	~~104 1642~~	/	/
SAMPLE	#	VOLUME (mL)	INITIAL WEIGHT WT1 (g)	DRY WEIGHT WT2A (g)	DRY WEIGHT WT2B (g)	DRY WEIGHT WT2C (g)
BLANK	BLK	200				
LCS: mg/L	LCS1	100				
LCSDUP: mg/L	LCS2	100				
L13101868-04	1	200				
L13110023-01	2	200				
L13110031-01	3	200				
L13110036-01	4	200				
L13110036-03	5	200				
L13110036-05	6	200				
L13110039-04	7	10	0.0881			
L13110057-08	8	200	0.0891			
L13110057-10	9	200				
L13110059-01	10	200				
L13110059-03	11	200				
L13110059-05	12	200				
L13110059-07	13	200				
L13110155-01 ~~L13110065-01~~	14	200	0.0874	0.0875		
03 ~~L13110065-03~~	15	200	0.0873	0.0876		
05 ~~L13110065-05~~	16	200	0.0879	0.0895		
AG 11/14/13 08 ~~L13110068-02~~	17	200	~~0.0884~~	0.0878 AG 11/5/13	0.0878	
10 ~~L13110068-04~~	18	200	0.0884	0.0886		
L13110159-01 ~~L13110094-01~~	19	200	0.0880	0.0879		
L13110094-02	20	50				
DUP: L13110036-05	Dup1	200				
DUP: L13110094-02	Dup2	50				
			Off Temp/Time:	~~104 1075~~ 104 1045		/	/

ANALYST: Anni Greene 104 1315 AG 11/5/13

* Duplicate required on 10% of samples

Heidi Brown

DATE/TIME: (on) 11-4-13 @ 1328
DATE/TIME: (off) 11-5-13
DATE/TIME: (off) 11-6-13
DATE/TIME: (off)

DCN#98609

Microbac Laboratories Inc.
GRAVIMETRIC REPORT

Workgroup (AAB#): WG451099
Analyst: ADG
Analyte: TOTAL SUSPENDED SOLIDS
Balance: BAL018
Instrument: OVEN

Method: 160.2/SM2540D
SOP: K1602 Revison 14
Spike Solution: STD61100
Daily Dilution:

SAMPLE NUMBER		INITIAL VOL	INITIAL WT	DRY WT A	DRY WT B	DRY WT C	Anal. Conc	Rep. Conc.	Units
WG451099-01	BLK	200	0.0889	0.0888	0.0888		-0.5000	-0.5000	mg/L
WG451099-02	LCS	100	0.0887	0.0938	0.0935		48.00	48.00	mg/L
WG451099-03	LCS2	100	0.0894	0.0942	0.0937		43.00	43.00	mg/L
L13101851-01	1	200	0.0896	0.0895	0.0895		-0.5000	ND	mg/L
L13101851-03	2	200	0.0889	0.0884	0.0884		-2.500	ND	mg/L
L13101851-05	3	200	0.0897	0.0895	0.0894		-1.500	ND	mg/L
L13101865-01	4	200	0.0904	0.0901	0.0901		-1.500	ND	mg/L
L13101868-01	5	200	0.0895	0.0891	0.0889		-3.000	ND	mg/L
L13101868-02	6	200	0.0892	0.0892	0.089		-1.000	ND	mg/L
L13101868-03	7	200	0.089	0.1157	0.1154		132.0	132.0	mg/L
L13101868-05	8	200	0.09	0.09	0.09		0	ND	mg/L
WG451099-04	8	200	0.09	0.09	0.09		0	0	mg/L
L13101869-02	9	200	0.0894	0.0903	0.09		3.000	3.000	mg/L
L13101817-04	10	1	0.0901	0.117	0.1169		26800	26800	mg/L
L13101817-06	11	20	0.0892	0.094	0.094		240.0	240.0	mg/L
L13101826-01	12	200	0.0891	0.0898	0.0898		3.500	3.500	mg/L
L13101826-03	13	200	0.0895	0.0903	0.0902		3.500	3.500	mg/L
L13101826-05	14	200	0.0889	0.0893	0.0892		1.500	ND	mg/L
L13101826-07	15	200	0.0901	0.0909	0.0908		3.500	3.500	mg/L
L13101826-09	16	200	0.088	0.089	0.089		5.000	5.000	mg/L
L13101826-13	17	200	0.0888	0.0889	0.0889		0.5000	ND	mg/L
L13110017-01	18	200	0.0879	0.0881	0.0881		1.000	ND	mg/L
L13110017-02	19	200	0.0886	0.0883	0.0885		-0.5000	ND	mg/L
WG451099-06	19	200	0.0886	0.0883	0.0885		-0.5000	-0.5000	mg/L
L13110045-01	20	200	0.0886	0.0886	0.0886		0	ND	mg/L
WG451099-05	DUP	200	0.0885	0.0884	0.0885		0	0	mg/L
WG451099-05	DUP2	200	0.0876	0.0874	0.0874		-1.000	-1.000	mg/L

Analyst: April Greene

*Duplicate required on 10% of samples

Date/Time (on) : 11/01/2013 14:55
Date/Time (off): 11/04/2013 09:18
Date/Time (off): 11/04/2013 11:49
Date/Time (off):

CONT_GRAV_REPORT - Modified 02/18/2011
PDF ID: 3180361
Report generated: 11/04/2013 11:59

Microbac

Microbac Laboratories Inc.
GRAVIMETRIC REPORT

Workgroup (AAB#): WG451320
Analyst: ADG
Analyte: TOTAL SUSPENDED SOLIDS
Balance: BAL018
Instrument#: OVEN

Method: 160.2/SM2540D
SOP: K1602 Revison 14
Spike Solution: STD61141
Daily Dilution:

SAMPLE NUMBER		INITIAL VOL	INITIAL WT	DRY WT A	DRY WT B	DRY WT C	Anal. Conc	Rep. Conc.	Units
WG451320-01	BLK	200	0.0875	0.0874	0.0873		-1.000	-1.000	mg/L
WG451320-02	LCS	100	0.0877	0.092	0.092		43.00	43.00	mg/L
WG451320-03	LCS2	100	0.0875	0.0918	0.092		45.00	45.00	mg/L
L13101868-04	1	200	0.0882	0.088	0.0879		-1.500	ND	mg/L
L13110023-01	2	200	0.0879	0.0889	0.0889		5.000	5.000	mg/L
L13110031-01	3	200	0.0878	0.0911	0.0909		15.50	15.50	mg/L
L13110036-01	4	200	0.0872	0.0882	0.0881		4.500	ND	mg/L
L13110036-03	5	200	0.0878	0.0881	0.0878		0	ND	mg/L
L13110036-05	6	200	0.0876	0.0876	0.0875		-0.5000	ND	mg/L
WG451320-04	6	200	0.0876	0.0876	0.0875		-0.5000	-0.5000	mg/L
L13110039-04	7	10	0.0881	0.1228	0.1227		3460	3460	mg/L
L13110057-08	8	200	0.0891	0.0885	0.0884		-3.500	ND	mg/L
L13110057-10	9	200	0.0871	0.0875	0.0874		1.500	ND	mg/L
L13110059-01	10	200	0.0885	0.0896	0.0895		5.000	5.000	mg/L
L13110059-03	11	200	0.0882	0.0883	0.0884		1.000	ND	mg/L
L13110059-05	12	200	0.0872	0.0869	0.0871		-0.5000	ND	mg/L
L13110059-07	13	200	0.0877	0.088	0.0878		0.5000	ND	mg/L
L13110155-01	14	200	0.0874	0.0875	0.0873		-0.5000	ND	mg/L
L13110155-03	15	200	0.0873	0.0876	0.0874		0.5000	ND	mg/L
L13110155-05	16	200	0.0879	0.0894	0.0893		7.000	7.000	mg/L
L13110155-08	17	200	0.0878	0.0876	0.0876		-1.000	ND	mg/L
L13110155-10	18	200	0.0884	0.0885	0.0884		0	ND	mg/L
L13110159-01	19	200	0.088	0.0879	0.0878		-1.000	ND	mg/L
L13110094-02	20	50	0.088	0.1076	0.1077		394.0	394.0	mg/L
WG451320-06	20	50	0.088	0.1076	0.1077		394.0	394.0	mg/L
WG451320-05	DUP	200	0.0873	0.0872	0.0871		-1.000	-1.000	mg/L
WG451320-07	DUP2	50	0.0872	0.1069	0.1067		390.0	390.0	mg/L

Analyst: April Greene

*Duplicate required on 10% of samples

Date/Time (on) : 11/04/2013 13:28
Date/Time (off): 11/05/2013 14:36
Date/Time (off): 11/06/2013 08:28
Date/Time (off):

CONT_GRAV_REPORT - Modified 02/18/2011
PDF ID: 3182619
Report generated: 11/08/2013 13:45

Microbac

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
November 14, 2013

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
ADC - ANTHONY D. CANTER	ADG - APRIL D. GREENE
AJF - AMANDA J. FICKIESEN	AML - TONY M. LONG
AZH - AFTER HOURS	BAF - BRICE A. FENTON
BJO - BRIAN J. OGDEN	BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD	CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CRW - CHRISTINA R. WILSON	CSH - CHRIS S. HILL
CTB - CHRIS T. BUCINA	DAK - DEAN A. K
DCM - DAVID C. MERCKLE	DDE - DEBRA D. ELLIOTT
DEV - DAVID E. VANDENBERG	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH	DSM - DAVID S. MOSSOR
ECL - ERIC C. LAWSON	EDL - ERIN D. LONG
ENY - EMILY N. YOAK	EPT - ETHAN P. TIDD
ERP - ERIN R. PORTER	FJB - FRANCES J. BOLDEN
HJR - HOLLY J. REED	JBK - JEREMY B. KINNEY
JDH - JUSTIN D. HESSON	JKS - JANE K. SCHAAD
JLL - JOHN L. LENT	JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES	JYH - JI Y. HU
KDW - KATHRYN D. WELCH	KEB - KATIE E. BARNES
KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON
KRB - KAELY R. BECKER	KSC - KELLY S. CUNNINGHAM
LKN - LINDA K. NEDEFF	LLS - LARRY L. STEPHENS
LSB - LESLIE S. BUCINA	MBK - MORGAN B. KNOWLTON
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING	MLW - MATTHEW L. WARREN
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS
PIT - MICROBAC WARRENDALE	PSW - PEGGY S. WEBB
QX - QIN XU	RAH - ROY A. HALSTEAD
REK - BOB E. KYER	RLB - BOB BUCHANAN
RM - RAYMOND MALEKE	RNP - RICK N. PETTY
RS - ROSEMARY SCOTT	RWC - RODNEY W. CAMPBELL
SAV - SARAH A. VANDENBERG	SEP - SUZANNE J. PAUGH
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF
TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
TPA - TYLER P. AMRINE	VC - VICKI COLLIER
WJB - WILL J. BEASLEY	WTD - WADE T. DELONG
XXX - UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
November 14, 2013

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL/MDL).
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, H1	Not detected; Sample analysis performed past holding time.
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Analyte was not detected. The concentration is below the reported LOD.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

COC No. A 38151

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: C B & I

Project Contact: Mark Lyon

Contact Phone #: 505-262-8920

Turn Around Requirements: Normal

Location: WSMR STP

Project ID: WSMR STP

Sampler (print): Bradley T. Davis

Signature: Brad T. Davis

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other _____

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	CN-Total	CN-Amenable	CN-Free	metals=Sb, As, Ba, Be, Cd,	Cr, Co, Cu, Pb, Ni, Se,	Ag, Tl, Sn, V, Zn, Hg	Chloride, Fluoride, Sulfate	Ammonia-N	Nitrate + Nitrite-N	pH, Spec. Conductance	TDS, TSS, TOC	Alkalinity	PO4	Na, K, Mg, Mn		TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
MPL 13-1013-1		X	10-30-13	0945	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			
MPL 13-1013-2		X	10-30-13	0945	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			
MPL 1-1013-1		X	10-30-13	1300	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			
MPL 18-1013-1		X	10-30-13	1420	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			
MPL 6-1013-1		X	10-30-13	1535	W	8		X	X	X	X	X	X	X	X	X	X	X	X	X	X			

Microbac OVD
Received: 10/31/2013 10:44
By: ROSEMARY SCOTT 221000044477

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Brad T. Davis	10-30-13	1700			
Relinquished by: (Signature)	Date	Time	Remarks:		

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page 1 of 1

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-01	270629	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:39	JBK	CLS	

Samplenum	Container ID	Products
L13101868-01	270630	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

Samplenum	Container ID	Products
L13101868-01	270631	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum	Container ID	Products
L13101868-01	270632	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 08:26	ADG	RS	
3	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

Samplenum	Container ID	Products
L13101868-01	270633	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:47	RS	BAF	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-01	270634	K MG MN-MS NA NI-MS PB-MS SB-MS SE-MS SN TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L13101868-01	270635	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

Samplenum	Container ID	Products
L13101868-02	270636	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:39	JBK	CLS	

Samplenum	Container ID	Products
L13101868-02	270637	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-02	270638	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum	Container ID	Products
L13101868-02	270639	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

Samplenum	Container ID	Products
L13101868-02	270640	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:43	RS	BAF	

Samplenum	Container ID	Products
L13101868-02	270641	AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS (

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-02	270642	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

Samplenum	Container ID	Products
L13101868-03	270643	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:39	JBK	CLS	

Samplenum	Container ID	Products
L13101868-03	270644	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

Samplenum	Container ID	Products
L13101868-03	270645	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum	Container ID	Products
L13101868-03	270646	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 08:26	ADG	RS	
3	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-03	270647	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:44	RS	BAF	

Samplenum	Container ID	Products
L13101868-03	270648	AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS (

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L13101868-03	270649	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

Samplenum	Container ID	Products
L13101868-04	270650	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:38	JBK	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-04	270651	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

Samplenum	Container ID	Products
L13101868-04	270652	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum	Container ID	Products
L13101868-04	270653	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 08:26	ADG	RS	
3	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

Samplenum	Container ID	Products
L13101868-04	270654	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:43	RS	BAF	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-04	270655	AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS (

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L13101868-04	270656	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

Samplenum	Container ID	Products
L13101868-05	270657	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:39	JBK	CLS	

Samplenum	Container ID	Products
L13101868-05	270658	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-05	270659	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum	Container ID	Products
L13101868-05	270660	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 08:26	ADG	RS	
3	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

Samplenum	Container ID	Products
L13101868-05	270661	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:47	RS	BAF	

Samplenum	Container ID	Products
L13101868-05	270662	AG-MS HG K MG MN-MS NA NI-MS PB-MS SB-MS SE-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L13101868
Account: 3005
Project: 3005.011
Samples: 5
Due Date: 11-NOV-2013

Samplenum	Container ID	Products
L13101868-05	270663	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login